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**July 2004**

**EPPI-Centre**

**HIV health promotion and men who  
have sex with men (MSM):  
A systematic review of research relevant to  
the development and implementation of  
effective and appropriate interventions**



**Evidence for Policy and Practice  
*Information and Co-ordinating Centre***

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A searchable database which includes the studies reviewed in this report is available on the EPPI-Centre website (<http://eppi.ioe.ac.uk>).

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# EXECUTIVE SUMMARY

## **Background and aims**

This is the first review of which we are aware that analyses and synthesises in a systematic way the findings from studies of men who have sex with men (MSM)'s views and experiences of HIV-related sexual health, and integrates these with findings from effectiveness studies. It is also the first review to synthesise outcome data on levels of sero-discordant / unknown status UAI.

It advances systematic review methodology in two ways: by synthesizing 'qualitative' and 'quantitative' research within a single review; and by developing the review methods in consultation with key potential review users.

This study is an up-to-date synthesis of research evidence on effective and appropriate approaches for increasing the HIV-related sexual health of men who have sex with men (MSM). It builds on and extends previous work at the EPPI-Centre on the effectiveness of sexual health promotion in this area (Oakley *et al.*, 1996), to produce a comprehensive synthesis of a wider range of evidence relevant to current policy concerns. Previous comprehensive systematic reviews of sexual health interventions for MSM are limited to studies conducted before 1996 and these reviews have identified few effective interventions. The systematic review will:

- help policy-makers, practitioners, and MSM identify interventions which are supported by reliable evidence of effectiveness and appropriateness for improving the HIV-related sexual health of MSM;
- help policy-makers, practitioners, MSM and researchers to identify promising interventions which need to be further developed and evaluated for improving the HIV-related sexual health of MSM.

The broad question the review addresses is: **What are the barriers to, or facilitators of, HIV-related sexual health for MSM and what are MSM's perceptions and experiences of sexual health in the light of HIV?**

This research was commissioned by the Department of Health (England) against a background where MSM remain the group at greatest risk of acquiring HIV infection in the UK and where initial behaviour changes to reduce the risk of HIV are not being maintained. The review takes a broad view of sexual health which incorporates positively valued physical, psychological and social aspects of sex, as well as focusing on the prevention of sexually related diseases. It acknowledges the central role that MSM have to play in reducing HIV incidence but also recognises the need for action amongst constituencies other than MSM, including other members of the community, service personnel and policy makers. A central theme, taken from the Community HIV and AIDS Prevention Strategy (CHAPS) collaborative framework, is the importance of MSM having control over HIV if they are to participate in reducing HIV incidence (Hickson *et al.*, 2003a). It focuses on particular sub-groups of MSM who could be considered to be vulnerable to reduced control over HIV and other aspects of their sexual health. The review also attempts to take into account the appropriateness to, and acceptability of, interventions to MSM. This is an important ethical dimension of HIV prevention activity.

## **Methods**

The review had two stages: an initial mapping exercise, based on extensive and systematic searches, to describe the range of studies available and relevant to illuminating HIV health promotion for MSM; and an in-depth review focusing on a sub-set of these studies, chosen in consultation with an advisory group drawn from a range of potential users of the review.

Consultation with policy-makers, practitioners, and researchers suggested that the in-depth review should focus on: outcome evaluations employing a control or comparison group, and evaluating an intervention delivered during or after 1996; and studies which described the views of particular sub-groups on HIV-related sexual health, especially young men (aged 16-25) and HIV positive men. This group also prioritised outcomes for the synthesis of intervention effectiveness. The outcome of most importance to the group was sero-discordant or unknown status unprotected anal intercourse (sdUAI).

The in-depth review was carried out in three stages for each study type respectively: (i) application of inclusion and exclusion criteria; (ii) data extraction and quality assessment; and (iii) synthesising the findings of studies. Statistical meta-analysis was used to pool the effect sizes from outcome evaluations (narrative synthesis was used where this was not possible) and qualitative analysis techniques were used to synthesise the findings of studies of MSM's perspectives and experiences.

A final stage of the in-depth review involved a cross-study synthesis to integrate the findings from outcome evaluations with the findings from studies of MSM's views.

## **Findings**

### **Mapping exercise**

The mapping exercise identified one hundred and eighty-four studies. Ninety of these were UK non-intervention studies. Just under a third (64) were outcome evaluations. Twelve UK process only evaluations and 18 systematic reviews were also identified. None of these reviews had exactly the same population and topic scope of this review.

### **In-depth review**

Twenty-six studies met the inclusion criteria for in-depth review: 14 studies focused on the views of specified groups of vulnerable men with data collected in or after 1996; 12 outcome evaluations of interventions delivered in or after 1996 were found that used a comparison group design, six of which were conducted in the UK. Eight outcome evaluations and 10 views studies were judged to be of sufficient methodological quality to go forward into the reviews syntheses. Only four outcome evaluations provided data in a suitable form for statistical meta-analysis.

### **Effectiveness synthesis**

One meta-analysis of two studies, one conducted in the UK, the other in the USA, found that counselling or workshops based on cognitive-behavioural techniques for MSM who are at high risk appears to be effective in reducing the number of men reporting sero-discordant or unknown status unprotected anal intercourse (sdUAI) when compared with standard counselling. Broadly based on the techniques of cognitive-behavioural psychology, the cognitive-behavioural

techniques in these interventions are based on the individual analysing and challenging their current thoughts, and how these thoughts affect their emotions and sexual behaviour. Individuals construct for themselves a more realistic, 'healthier' internal model of their world and this, it is argued, leads them to healthier sexual behaviours. In terms of risk, the men recruited for these studies either reported sdUAI in the previous 12 months, had an acute STI or expressed concern about their sexual practices. One study from this meta-analysis found a potentially harmful effect on the incidence of sexually transmitted infections (STIs). One possible explanation for this is that where men had identified that they and their partner were sero-concordant they were choosing to engage in UAI and were therefore more at risk of contracting other STIs.

In a second meta-analysis of two studies conducted in the USA of counselling or workshops that contextualised sexual risks, no evidence of effect was found on casual unprotected anal intercourse. The men in these studies were recruited by adverts or outreach, as opposed to being selected from clinic attendance lists.

The narrative synthesis found no evidence of effect for any of the evaluated interventions on casual UAI, on HIV testing or on practical skills. Due to limitations in reporting, the effect of various interventions on knowledge/awareness and attitudes/beliefs were all deemed to be unclear. None of the evaluations measured interpersonal skills, structural outcomes or HIV incidence as an outcome.

No evidence of the effect of UK peer-delivered community-based interventions was found for any of the prioritised outcomes. The 'diffusion of innovation' that underpins some of these interventions may not always have occurred as planned. It is also possible that structural and cultural barriers exist to such interventions in some situations in the UK.

### ***Views synthesis***

The synthesis of findings on the views of MSM was generated from ten studies involving 706 MSM living in England, Scotland or Wales. Five studies were focused solely on HIV positive MSM, three on MSM who sell sex, one on working class MSM and one on young MSM. Nine descriptive themes emerged across the study findings. These were: the value of sex; understandings of sexual health and HIV; sex as a social activity; perceptions of self at risk; assessing risk; communicating over risk; strategies for sex and risk; services and resources; informal support, advice and information. The nine themes fell into three broad categories: 'perceptions of sex, self and others in a risky world', 'engaging with sex and HIV' and 'experiences of support, advice and information'. All of these studies except the one reporting the views of working class men had something to say about barriers and facilitators. In all, 33 needs for appropriate and effective interventions were identified in these studies.

### ***Barriers and facilitators identified by MSM who sell sex***

Men who sell sex identified a number of barriers to, and facilitators of, their HIV-related sexual health. Danger and the risk of violence were identified as issues compounded by the illegal status of the work that men who sell sex to other men do. Powerlessness was a factor cited by street working MSM. Some men described how they had experienced rape, assault, coercion, forced UAI, and not being paid by clients. These experiences left the men fearful that violence might occur again. However, a lack of trust, fear of arrest and of not being believed left many men unable to approach the police to report incidences of violence against them. Lack of contact with other gay men was cited as a reason why some young

men decided to start selling sex. The need for money to buy drugs was cited by many of the men as their motivation for selling sex and some of the men said that they would not use condoms during sex if paid more by clients. Difficult interactions (communication problems and underlying prejudice) with doctors were described by some of the men as influencing their experiences of treatment.

The men said that they needed accessible and non-judgemental places to go for information, advice and social support that were not necessarily linked to sexual health services. They expressed the need for outreach and counselling services and a befriending network. Men who sold sex on the streets identified an immediate need for free condoms. Some men expressed the need for places to go to meet other gay men. Some of the men said that they needed their work to be legalised and / or unionised as a means of creating a safer work environment.

### ***Barriers and facilitators identified by young MSM***

Many young MSM identified condom use as problematic for a variety of reasons. Some said that their lack of knowledge about risks of oral sex led to anxiety. Perceptions of gay identity (as necessarily involving anal sex) left some men questioning their own identity and feeling anxious or worried when they had stopped or declined anal sex. A small number expressed fears about confidentiality over test results and about indiscrete information leading to anxiety around testing decisions. Young MSM expressed the view that informal conversations led to more opportunities for raised awareness than did more formal interactions with services.

### ***Barriers and facilitators identified by HIV positive MSM***

The lives of MSM living with HIV were complicated by knowledge of their status and their need for a sexually healthy life, including an enjoyable sex life. Negotiating condom use and disclosure were particularly problematic for HIV positive men, requiring communication skills that many felt they were lacking. The negative responses of HIV negative men to disclosure and condom use often made negotiating these issues more difficult for HIV positive men. Men felt strongly that they would never want to infect an HIV negative man and took measures to avoid doing so. However, some men felt that the issue of responsibility for sexual safety should be shared, and that negative men did not take enough responsibility for their own safety. Some men who found disclosure particularly difficult used non-verbal signs and signals to decide on the HIV status of a potential partner (and subsequent sexual behaviour). These strategies varied and were not always reliable indicators of HIV status.

In terms of their use of services and support, HIV positive MSM noted that: variation in, and multiple sources for, advice on the risks of viral load and re-infection caused confusion; lack of time for consultations with health professionals and use of confusing terminology meant that some men left clinic sessions without finding out what they needed; drop-in centres could provide resources in useful formats (workshops) but could also be 'cliquey, sources of inaccurate, speculative information and anti-sex'. Some complementary therapies were particularly valued. While gay doctors were highly regarded as sources of advice and practical information, some men talked of their experience of homophobic and hostile attitudes with some non HIV specialists. Social networks were considered useful for advice and support on practical and personal issues but had limitations as sources of accurate information and support.

### ***Cross study synthesis***

The cross study synthesis brought the findings of the intervention and views studies together, examining matches and mismatches between evaluated



interventions and the needs expressed by these groups of vulnerable MSM. Full matches between intervention needs and evaluations were found for only two of the 33 intervention needs identified from the views of MSM. A further six needs were partially matched by intervention evaluations. This lack of matches was largely explained by most of the interventions not being aimed at the vulnerable groups of MSM focused upon in this review.

Several matches were with soundly evaluated interventions found to be effective in reducing sero-discordant / unknown status UAI. However, there was also evidence of harm in terms of increasing STI incidence. In other cases the matches were with interventions judged to have no evidence of effect or judged as unclear.

For 19 of the 33 intervention needs identified in the views studies, no evaluated interventions were found. Notably, none of the needs that were derived from barriers and facilitators inherent to the community, services or policy makers were matched fully or partially by any of the interventions included in the in-depth review. Few evaluated interventions fully matched the needs identified from the views of MSM. However there are promising interventions which partially matched the views of MSM that should be evaluated further.

### ***Principal recommendations***

The principal recommendations from this review for policy and practice are:

#### *Reducing sero-discordant / unknown UAI*

Policy makers should consider implementing counselling based upon cognitive-behavioural techniques, or workshops using these techniques, in place of standard counselling for MSM at high risk of engaging in UAI with partners of unknown or sero-discordant HIV status, because it is likely to decrease the proportion of MSM reporting this activity. Any implementation of these interventions should be accompanied by consideration of addressing STIs in the intervention and sound evaluation of impact on sdUAI and STI incidence.

#### *Community peer delivered interventions*

There is no evidence to support discontinuing community peer delivered interventions. Instead, further work on evaluation is strongly recommended. This needs to include initial, further development that tailors such interventions to different post 1996 UK contexts, sufficient piloting to ensure interventions are implementable and evaluation of implementation and acceptability alongside rigorous outcome evaluation.

The main recommendation for future research are that further rigorously conducted and reported research (primary and secondary) is required on the views of all groups of MSM. Research is needed, in particular on young MSM, working class MSM, black and ethnic minority MSM, disabled MSM and other groups of MSM who are vulnerable to reduced control over HIV-related sexual health. Work is required to synthesise studies of the views of these men and to put the views of especially vulnerable MSM in the context of other MSM's views.

Further rigorous research (conducted using guidance such as that outlined in section 7.2.3 of this report) is particularly needed:

- To explore the comparative effectiveness of individual versus group level interventions based on cognitive-behavioural techniques;
- to explore the effectiveness of interventions which address the complexity of the competing risks that MSM have to balance when making decisions about their HIV-related sexual health; and
- to explore the effectiveness of interventions which aim to inform MSM of the various markers that they or their sexual partners might be using to determine HIV status, and the extent to which these can be relied upon.

Interventions that call for further evaluation include the following:

- interventions for young MSM to take into consideration the complicating factors surrounding condom use and the impact of condoms on sexual pleasure;
- interventions specifically for young MSM to support inclusive conceptualisations of MSM identity(s);
- interventions for HIV positive MSM to address the communication and strategic skills needed to deal with situations HIV positive MSM find difficult (e.g. disclosure, condom use);
- interventions targeting HIV positive MSM relating to the conflicts inherent in balancing sexual intimacy and pleasure with condom use and communication about HIV; and
- interventions to help men deal with the psychological impact of HIV diagnosis and subsequent life as a sexual being.

Intervention areas that call for evaluation since they are lacking in sound evaluations and yet match needs identified by particular groups of vulnerable MSM, include:

- interventions aimed at young MSM to address gaps in their knowledge about the HIV risks of oral sex and to support their testing decisions;
- interventions aimed at all MSM that develop understanding of the way lives vary with HIV status, understanding of the range of approaches men have to disclosing status, shared responsibility for sexual safety between positive, negative and untested MSM, and communication about HIV status;
- interventions aimed at family and friends of MSM that enable them to support their HIV information and other support needs;
- interventions aimed at the gay community and at society in general to reduce the stigma of HIV and attributions of blame for HIV;
- interventions aimed at society in general that enable development of an understanding of the HIV sexual health needs of MSM, the means to address these and to provide knowledge about where to go for further information on the HIV sexual health needs of MSM;
- interventions aimed at health professionals to provide training in HIV specific communication skills;
- support for drop-in centres to develop inclusive, relevant and non-judgemental services;
- support for specialist HIV services to provide personally relevant information and advice that is accessible and understandable and to ensure the necessary time is spent on HIV positive MSM's information needs;
- accessible provision of free condoms for MSM who sell sex; and
- provision of resources for meeting places and befriending networks for young MSM.

## AIMS

This study is an up-to-date synthesis of research evidence on effective and appropriate approaches for increasing the HIV-related sexual health of MSM. It builds on and extends previous work at the EPPI-Centre on the effectiveness of sexual health promotion in this area (Oakley *et al.*, 1996). While the earlier review addressed a single question regarding the effectiveness of sexual health promotion for MSM, the current review addresses a wider range of questions and includes a wider range of study types. Through a systematic analysis of the findings of both qualitative and quantitative studies, the review will:

- help policy-makers, practitioners, and MSM identify interventions which are supported by reliable evidence of effectiveness and appropriateness for improving the HIV-related sexual health of MSM.
- help policy-makers, practitioners, MSM and researchers to identify promising interventions which need to be further developed and evaluated for improving the HIV-related sexual health of MSM.

In addition to producing substantive findings, this review also advances methodology for integrating diverse study types, including 'qualitative' research, within systematic reviews of social interventions. A framework for achieving this has been developed over a recently completed series of reviews focused on young people and children (Brunton *et al.*, 2003; Harden *et al.*, 2001a; Harden *et al.*, In press; Oliver *et al.*, submitted; Rees *et al.*, 2001; Shepherd *et al.*, 2001; Thomas *et al.*, 2004; Thomas *et al.*, 2003). This series builds on our previous attempts to include non-experimental studies in systematic reviews (Harden *et al.*, 2001b; Oliver and Peersman, 2001).

# 1. BACKGROUND

## *Outline of Chapter*

*This chapter sets out the context for the review, and it lays out the scope and approach taken. This chapter will therefore be of interest to **all readers** of this report.*

## *Key Messages*

- *Men who have sex with men (MSM) are the group at greatest risk of acquiring HIV infection in the UK.*
- *Initial behaviour changes to reduce the risk of HIV are not being maintained..*
- *MSM adopt different strategies for balancing risk and pleasure in casual and regular sexual partnerships.*
- *Statutory and voluntary sector strategic alliances emphasise the ethical dimensions of HIV prevention activity, especially taking into account the acceptability of interventions to MSM.*
- *Sexual health incorporates positively valued physical, psychological and social aspects of sex, as well as focusing on the prevention of sexually related diseases and illnesses. MSM's control over HIV is key*
- *This review is restricted to those aspects of sexual health affected by the risk of HIV infection through sex: HIV-related sexual health.*
- *Previous systematic reviews have identified few effective interventions.*
- *This review incorporates research evaluating interventions and research about the views of MSM.*

## 1.1 HIV infection amongst men who have sex with men

Men who have sex with men (MSM) are the group at greatest risk of acquiring HIV infection in the UK. Out of a total of over 48,000 individuals diagnosed as infected with HIV-1 at the end of 2001, an estimated 27,000 (56%) are men who probably acquired infection through sex with other men. Despite initiatives to counter new infections, the rate is not falling. Over 1,676 new HIV diagnoses were reported for this group to the UK's Health Protection Agency (HPA) in 2000 (HPA, 2003). Latest figures suggest that, after remaining stable for over a decade at approximately 1,500 a year, new HIV diagnoses in gay men are expected to have reached a record 2,000 in 2003 (HPA, 2004). Furthermore these figures only represent individuals who are aware of their infection as a result of HIV antibody testing. Recent unlinked anonymous testing data indicates that over a third of those infected are unaware of their infection (PHLS, 2001).

Early research indicated that men who have sex with men were changing the kinds of sex they had so as to reduce HIV risk. However, research carried out in the late 1980s and early 1990s noted an increase in higher risk sexual behaviour

commonly, but controversially, referred to as 'relapse' (Davies *et al.*, 1992; Dewit *et al.*, 1993). More recent studies suggest that initial behavioural changes are not being maintained and that 'lapses' in risk behaviour are a continuing trend. It is widely felt that the advent of Highly Active Anti Retroviral Treatment (HAART) since 1996 has changed attitude to HIV. Bacterial sexually transmitted infection (STI) incidence among MSM (particularly gonorrhoea, often taken as a proxy measure for unprotected anal intercourse) has increased significantly since 1995 (Nicholl *et al.*, 2001) as have self-reports of risky sexual behaviour (Dodds *et al.*, 2000; Johnson *et al.*, 2001).

Over recent years the socio-cultural phenomenon of 'bareback' sex (actively seeking out unprotected anal intercourse) has been on the HIV health promotion agenda. It is suggested that barebacking is becoming increasingly accepted, and some men have described their active resistance to intervention in this respect, affirming their right to choose whether or not to use condoms (Goodroad *et al.*, 2000; Mansergh *et al.*, 2002). HIV health promotion has also had to address the complexities of casual and regular sexual partnerships, particularly the strategies put into place by some men to balance the pleasure and intimacy associated with unprotected sex alongside the potential risk.

Risk reduction strategies such as 'negotiated safety' (e.g. non use of condoms within regular sexual partnerships) have recently gained attention, yet there has been debate and controversy over how to intervene, or whether to recognise this phenomenon at all (Crawford *et al.*, 2001; Davidovich *et al.*, 2000; Elford *et al.*, 1999). Nevertheless, it has become apparent that the message 'use a condom every time', as advocated during the early years of the epidemic, is not appropriate. All of this suggests that HIV health promotion efforts need to be maintained in the long term to support MSM in sustaining safer practices, as well as to support those making their sexual debut, primarily younger men, in adopting risk reduction strategies. The greatest challenges are addressing complexity, and the growing resistance amongst some men to intervention.

Collaborative strategic work on HIV health promotion for gay and bisexual men is highly advanced. In 1996, funded by the Department of Health and co-ordinated by the Terrence Higgins Trust, a number of agencies came together to form the CHAPS (Community HIV and AIDS Prevention Strategy) partnership. The partnership has developed and published *Making It Count* (Hickson *et al.*, 2003a), a framework for collaboration in HIV prevention aimed at increasing collective capacity to reduce HIV incidence. The document is a formal statement of the common aims of the agencies involved. It presents models for HIV infection among MSM and types of interventions, targets for prevention activity and recommendations for the evaluation of interventions. The ethical dimension of HIV prevention activity is stressed throughout. It is recognised, for example, that 'even when an outcome is universally regarded as desirable, influencing social processes to achieve that outcome must be guided by ethical principles...'. The way in which we attempt to change the factors contributing to incidence is as important as successfully altering them' (Hickson *et al.*, 2003a: p. 4). One of the immediate implications of this approach is the need to take into account the acceptability of interventions to the men they are trying to influence.

As *Making It Count* acknowledges, HIV exposure and infection are influenced by behavioural and biological factors but, fundamentally, these factors involve people and are determined by social processes. If behavioural and biological factors are to be influenced, these social processes need addressing. The social taboo of homosexuality generally, discrimination against gay men in particular, and discrimination against people with diagnosed HIV infection, all act to reduce

the control MSM have over their own lives and reduce capacity to minimise involvement in sexual HIV exposure. This review uses this 'bio-psycho-social' model of HIV incidence, but also focuses more broadly on the HIV-related sexual health of MSM, which also takes into account the emotional and social aspects of health (see section 1.2 below and appendix J).

Certain MSM will be especially vulnerable to reduced control over their sexual health due to their experience of more than one of the social processes mentioned above. Two groups could be identified as being particularly vulnerable in this way: HIV positive MSM and young MSM. Men with HIV infection are clearly more likely to be involved in sexual HIV exposure. Men with undiagnosed HIV infection tend to go unaddressed in prevention programmes. However men with diagnosed infection are also clearly disadvantaged. While they are more likely to be in contact with HIV services and so more knowledgeable about HIV and other STIs, they consistently show higher levels of unmet need, particularly around negotiation and control over the sex they have (Hickson *et al.*, 2003a). Data from the annual Gay Men's Sex Surveys suggests that MSM in their teens or twenties are more likely to be involved in sexual HIV exposure without knowing it and more likely to experience discrimination and abuse (Hickson *et al.*, 2003b). *Making It Count* also points out that young MSM are more likely to have health promotion needs than older men partly because interactions with community, services, and policy increase with time. Other MSM will experience further discrimination as a result of their ethnicity, others as a result of their social class. The potential vulnerability of certain groups of MSM was recognised in initial commissioning documents for this review from the Department of Health who requested that the review team focus, when possible, on the following groups: MSM who are sero-positive for HIV; younger men (16 - 25); men from black and minority ethnic groups; men with lower educational achievement; and homosexually active men who do not identify as gay or bisexual. As is discussed in section 2.1 of this report, advice on selecting sub-groups was also sought from the review's Advisory Group.

## **1.2 HIV health promotion and HIV-related sexual health**

The definition of HIV health promotion used in this review builds on the conceptual framework for factors influencing sexual behaviour and types of interventions outlined in the Health Development Agency's recent review of HIV effectiveness reviews (Ellis *et al.*, 2003). We have defined HIV health promotion as consisting of formal interventions which have as their ultimate aim the reduction or prevention of new cases of HIV infection.

HIV health promotion interventions are likely to differ in various ways, including the level at which they are delivered, the population or entity that they target, the methods by which they attempt to have influence, the setting/s and media through which they act, and the constituencies involved in their development and delivery. They may include, for example, individual level interventions (e.g. voluntary counselling and testing; other types of advice and counselling); group level interventions (e.g. group counselling in mainstream clinics); community level interventions (e.g. recruiting gay men to deliver interventions in settings used by other gay men); and structural or societal level interventions (e.g. anti-discriminatory policies, increasing access to resources or services, modifying the organisation of services). These interventions may be initiated, developed and delivered by professionals, by men who have sex with men themselves, or as a collaborative effort.

This review is set within the broad scope of sexual health for MSM so as to reflect the need for individual and societal responses to HIV risk to be framed within a broad conceptualisation of health. Sexual health has been defined in various ways (e.g. World Health Organisation, 1975). Common to these definitions is an understanding that conceptions of sexual health should incorporate positively valued physical, psychological and social aspects of sex, as well as focusing on the prevention of sexually related diseases.

This review builds upon a definition of sexual health provided by Robinson *et al.* (2002), who argue that it:

- involves an ability to be intimate with a partner, to communicate explicitly about sexual needs and desires, to be sexually functional (to have desire, become aroused and obtain sexual fulfilment), to act intentionally and responsibly and to set appropriate sexual boundaries;
- has a communal aspect, reflecting not only self-acceptance and respect, but also respect and appreciation for individual differences and diversity, as well as a feeling of belonging to and involvement in one's sexual culture(s); and
- includes a sense of self-esteem, personal attractiveness and competence, as well as freedom from sexual dysfunction, sexually transmitted diseases, and sexual assault and coercion.

Along with psychosocial and physical components of health this definition includes reference to individual actions or behaviours. For the purposes of this review we are also considering the control individual men have over the sexual risks of HIV to be one potential component of sexual health.

The review is restricted to HIV-related sexual health. This is defined here as those aspects of sexual health affected by the risk of HIV infection through sex, be it the risk of becoming infected or the risk of passing the virus on to someone else (see Appendix J for a full definition of HIV-related sexual health as used in this review). While other means of HIV transmission affect the lives of some MSM, in particular, infection through intravenous drug use, this review centres on factors influencing sexual transmission.

We are also using the terms 'barriers' and 'facilitators' to refer to factors influencing HIV-related sexual health among MSM. Research findings about these barriers and facilitators can help in the development of potentially effective intervention strategies. Interventions can aim to modify or remove barriers and use or build upon existing facilitators.

### **1.3 Developing relevant, effective and acceptable interventions**

In response to rising concerns about sexual ill-health in all population groups, the Department of Health published its National Strategy for Sexual Health and HIV for England in July 2001 (Department of Health, 2001). A previous Government document *HIV and AIDS Health Promotion: An evolving strategy* (Department of Health, 1995) included MSM as a target group, but the 2001 strategy was the first to integrate proposals for HIV with sexual health more generally. Following consultation, an implementation action plan was published in 2002 (Department of Health, 2002). The National Strategy's aims include reduced transmission of HIV and STIs and a reduction in the prevalence of undiagnosed HIV and STIs.

Central to the Strategy is recognition of the need for service users and voluntary organisations to have a real say in the planning and provision of NHS services. In terms of research, the strategy emphasises the need for a sound evidence base for effective local HIV/STI prevention, describing the current state of the evidence base as dispersed and unsystematic.

Previous systematic reviews of the effectiveness of sexual health interventions for MSM have shown that few high quality evaluations have been conducted. Oakley *et al.* (1996), the EPPI-Centre's previous review, identified five such evaluations that were considered to have sufficient methodological strength to generate reliable conclusions about effectiveness. All five were conducted in North America. On the basis of three of these evaluations the review's authors concluded that relatively brief interventions consisting of small group sessions with some individual counselling, and which have some credibility in the gay community, can be an effective way to reduce higher risk behaviour, at least in the short term. From the other two evaluations, the authors also concluded that community peer led interventions could be effective in reducing rates of unprotected anal intercourse (including receptive UAI), number of sexual partners and increased condom use.

Johnson *et al.* (2003) published a Cochrane systematic review and meta-analysis of evaluations of behavioural interventions for MSM. The criteria used to appraise quality were similar to those used by the 1996 Oakley *et al.*, review and searches were conducted of the literature up to and including June 1998. These authors found 13 high quality evaluations, including the five synthesised in the Oakley *et al.*, review. They concluded that the combined study results indicated potential for a 23% reduction in the proportion of men engaging in unprotected sex. The included studies were three community level interventions, seven small group interventions and two individual level interventions. They also concluded that effects were slightly more favourable for interventions that promoted interpersonal skills, were delivered in community-level formats, or focused on younger populations. These differences reflected a trend and were not statistically significant.

A review of a sub-set of the studies found for the Cochrane review (those also published or distributed in the USA) has also been published as Johnson *et al.* (2002). The authors included nine high quality interventions in their syntheses and concluded that the combined study results indicated a 26% reduction in the proportion of men engaging in UAI. The nine included studies were a mix of individual, small group and community interventions. The authors again report a trend towards more favourable effects in community level interventions or those that focused on younger or higher risk populations, or promoted interpersonal skills. Again, these differences were not statistically significant.

While further effectiveness reviews have been conducted that focus at least in part on interventions for MSM (e.g. Kegeles and Hart, 1998), we are aware of no others that have taken a systematic approach to identifying relevant studies while also attempting to give weight to those that provide the most reliable evidence. This is supported by a recent 'review of reviews' conducted by the Health Development Agency (Ellis *et al.*, 2003), which identified no additional systematic reviews. We know of at least one UK-based evaluation of a sexual health intervention for MSM that has been reported since 1998 (the date of the latest search conducted in any review). This review therefore responds to the need to conduct an update of the 1996 EPPI-Centre review in order to take into account the findings of this and other more recent evaluations.



## 1.4 Approach taken in this review

This review was commissioned by the Department of Health (England) and conducted over a period of sixteen months. All previous systematic reviews in the area of MSM's sexual health have been restricted to synthesising findings about the impact of interventions on sexual health-related outcomes. This review integrates a synthesis of findings about effectiveness with synthesis of other aspects of the evidence base for developing and evaluating interventions, in particular research that identifies and describes 'felt need' and the context of sexual behaviour.

To answer questions of context and felt need alongside questions of effectiveness, a review needs to synthesise both studies of intervention effects and other, 'qualitative', kinds of research. Evidence about intervention effects can be gleaned from trials of interventions. 'Qualitative research' can be found both within and independently of trials. Within trials, 'qualitative research' (often referred to as 'process evaluations') can be used to examine people's responses to and experiences of an intervention (Bonell *et al.*, 2003; Strange *et al.*, 2001). Outside of trials, similar approaches can be used to help us understand more about any kind of factor that people consider to be an important influence in their lives (Popay *et al.*, 1998).

This review juxtaposes and compares the findings on effectiveness from trials with 'qualitative' research examining the views of MSM. Contrasting the findings of research based on people's own descriptions of their lives with those from more 'expert-driven' research can raise important issues for policy, practice and research. Such a review is able to look beyond the mainly quantitative approach of trials and epidemiological work on risk factors to start to explore why interventions do or do not work and to suggest ways of developing more promising interventions to test in the future. This approach represents a new model of research synthesis for public health, developed in previous EPPI-Centre reviews concerned with different health promotion topics (Harden *et al.*, 2001a; Harden *et al.*, 2001b; Rees *et al.*, 2001; Shepherd *et al.*, 2001).

## 1.5 Review questions

The broad question for the review is:

**What are the barriers to, or facilitators of, HIV-related sexual health for MSM and what are MSM's perceptions and experiences of sexual health in the light of HIV?**

The specific review sub-questions are outlined below:

1. what perceptions or experiences of HIV-related sexual health are reported by different groups of MSM?
2. what barriers to, or facilitators of, HIV-related sexual health do MSM identify?
3. what do MSM think is needed to promote HIV-related sexual health? What do they think should not be done?
4. which HIV health promotion interventions are effective for sexual health outcomes (and for which sub-groups of MSM)? Which interventions show no effects, and which are harmful?

5. which factors relate to the effectiveness (or otherwise) of these interventions for different sub-groups of MSM? (e.g. intervention type, duration, basis in theory); and
6. which interventions evaluated for their effectiveness address or build upon the views of MSM and which do not?

Specific sub-groups of interest include:

- men who are sero-positive for HIV;
- younger men (aged 16-25);
- men from black and minority ethnic groups;
- men with lower educational achievement;
- homosexually active men who do not identify as gay or bisexual;
- sex workers; and
- injecting drug users.

## 2. METHODS

### *Outline of Chapter*

*This chapter describes the methods used in the review. The review had two stages:*

- *an initial mapping exercise to describe the range of studies available and relevant to illuminating HIV health promotion for MSM;*
- *an in-depth review focusing on a sub-set of these studies, chosen in consultation with a range of potential users of the review.*

*The mapping exercise was carried out in three stages: (i) defining the scope of the mapping and developing inclusion and exclusion criteria; (ii) identifying studies falling within that scope; and (iii) describing these studies. Two broad types of studies were included:*

- *evaluations of health promotion interventions ('intervention studies') aimed at promoting HIV-related sexual health for MSM; and*
- *other types of studies ('non-intervention studies' e.g. cohort studies, surveys) examining barriers and facilitators relating to HIV-related sexual health).*

*While intervention studies carried out in any country are included in the review, we restricted non-intervention studies to those reporting UK research.*

*Consultation with policy-makers, practitioners, and researchers suggested that the in-depth review should focus on:*

- *outcome evaluations employing a control or comparison group, and evaluating an intervention delivered during or after 1996; and*
- *Studies which described the views of particular 'vulnerable' sub-groups' on HIV-related sexual health, especially young men, and HIV positive men.*

*The in-depth review was carried out in three stages for each study type respectively: (i) application of inclusion and exclusion criteria; (ii) data extraction and quality assessment; and (iii) synthesising the findings of studies. Statistical meta-analysis was used to pool the effect sizes from outcome evaluations and qualitative analysis techniques were used to synthesise the findings of studies of MSM perspectives and experiences.*

*A final stage of the in-depth review involved a cross-study synthesis to integrate the findings from outcome evaluations with the findings from studies of MSM views.*

*Readers who are primarily interested in the findings of the review may skip this chapter, but it might be of interest to:*

- *any readers who want to check how the review was conducted; and*
- *researchers and information specialists or others interested in carrying out systematic reviews, especially those who want to read about how different types of research can be included in a systematic review, in particular research that is 'qualitative' in nature.*

## **2.1 User involvement**

An advisory group was set up to inform the scope and development of the review and to increase its relevance to policy and practice.

The group included people with interests in many different aspects of HIV/AIDS in order to obtain a balance of views. Group membership comprised a mixture of researchers/academics, policy specialists, voluntary sector workers, and a practitioner, representing a number of organisations as listed in the acknowledgments. Observers on the group included two representatives from the funding body for the review, the Department of Health.

The specific tasks for the group included:

- advising on the most appropriate terminology relevant to the subject area;
- identifying the literature, particularly unpublished reports;
- identifying and prioritising *a priori* outcomes for analysis;
- informing decisions the review team had to make at key stages of the review; and
- helping to disseminate the work through incorporating its findings into members' respective areas of work, and publicising the review to colleagues and associates.

The Advisory Group met three times over the course of the review. The first meeting was in October 2002, at the start of the review. The group was presented with background information about the proposed review; its scope, conceptual basis, aims, research questions, stages, and methods. Advice was sought on the inclusion criteria for the map, dissemination strategies and timescales for the work.

The second meeting was in July 2003 and presented the results of the literature search and the descriptive map. Explicit consensus development methods were employed to facilitate discussion (Murphy *et al.*, 1998). Discussion focused on the inclusion criteria for the in-depth review (interventions, outcomes, sub-groups of MSM). Two rounds of voting identified and prioritised outcomes for analysis. Open discussion identified sub-groups of MSM and intervention types that were of interest.

The third and final meeting was in November 2003, presenting preliminary findings from the in-depth review. Discussion focused on the relevance of the syntheses, timescales and mechanisms for the dissemination of the review findings.

## **2.2 Mapping exercise**

### **2.2.1 Inclusion and exclusion criteria**

Studies were eligible for inclusion in the map if they:

- i. Focused on HIV/AIDS;
- ii. Focused on HIV health promotion, or barriers to, or facilitators of, or perceptions/experiences of sexual health, or sexual risk-reduction in the context of HIV;
- iii. Focused on MSM with men;
- iv. Reported an outcome evaluation (with or without integral process evaluation), a process only evaluation, a non-intervention study or a systematic review of evaluations or non-intervention studies;
- v. Were conducted in the UK (for non-intervention studies or process only evaluations;)
- vi. Were published in the English language; and
- vii. Were reported in or after 1992.

We took the decision to restrict non-intervention studies by location because the main strength of such studies lies in their ability to describe the specific contextual factors influencing MSM and these are likely to vary from place to place.

The full set of pre-defined exclusion criteria to screen studies for inclusion in the mapping exercise can be found in Appendix A.

### **2.2.2 Identification of studies**

The validity of a systematic review is directly related to the comprehensiveness of its literature search (Kahn *et al.*, 2001). In addition to database searches, attempts were made to retrieve reports for the map by handsearching a book series and searching reference lists.

Systematic searches were conducted in 13 databases/registers (details are given in Appendix B). A highly sensitive database search strategy was devised, using controlled vocabulary and free-text terms and combining three conceptual components (MSM; health promotion/sexual health promotion; sexual health - conceptualised around HIV/AIDS). Searches were conducted in February and March 2003. Methodological filters for study design were not used, as these reduce the sensitivity of searches (Harden *et al.*, 1999; Kahn *et al.*, 2001).

Handsearching was done of the following editions of the *Social Aspects of AIDS* book series: 1993, 1995, 1997, and 2000 (Aggleton and Homans, 1988). Bibliographies of systematic reviews were scanned. All citations identified by the above searches were downloaded into a RefMan (RefMan 10) database and scanned for relevance against the review's exclusion criteria.

The above strategy was devised so as to identify a range of different types of studies and publications, within our time and resource limits. Databases were selected in order to cover a range of disciplines, including health care, education, social sciences, psychology and health promotion. It was anticipated that the specialist registers, handsearching and bibliography searching would help to

identify unpublished studies and those published outside of journals. Resources were not sufficient to undertake searches of foreign language databases or journals, or to translate non-English language publications. We recognise that we may have missed important studies because of this limitation.

### **2.2.3 Classification of studies**

Full reports of relevant studies were obtained and classified according to a standardised keywording system developed by the EPPI-Centre (Peersman and Oliver, 1997). This classifies reports in terms of the type of study (e.g. outcome evaluation, survey, case control study); the country where the study was carried out; the health focus of the study; the study population; and, for reports describing or evaluating interventions, the intervention site, intervention provider and intervention type.

In order to gain a more detailed description, reports were also classified according to an additional standardised keywording system, which was developed specifically for this review. This keywording system (details of which can be obtained from the EPPI-Centre on request) used three tools, one which was applied to outcome and process evaluations, one to non-intervention studies and one to reviews. Because of the review's focus on 'vulnerable' groups of MSM, a large number of the terms applied to these studies aimed to identify the extent to which they involved MSM with specific characteristics. In addition, the tool for outcome and process evaluations characterised reports in terms of their intervention design and type; the outcomes and processes measured, and whether MSM's views were obtained. This tool also included a broad classification of intervention type that was used in the second edition of *Making It Count*, produced by the CHAPS partnership (Hickson *et al.*, 2000). This categorises interventions into the following five groups:

1. direct contact intervention (all interventions directly targeting MSM);
2. community intervention (targeting social networks of MSM; aiming to build community infrastructure; training MSM to assist in intervention delivery);
3. organisational intervention (aims to increase the ability of organisations to contribute to HIV health promotion);
4. facilitation intervention (aims to help HIV health promotion professionals to plan and deliver interventions); and
5. equality intervention (aimed at discriminatory policy and those engaged in discriminatory practices which make HIV prevention interventions with or about MSM less possible).

The tool for non-intervention studies further characterised reports in terms of study type and focus; and whether MSM's views were obtained. The tool for reviews characterised reports in terms of the review question and review quality.

## **2.3 From mapping to in-depth review**

The mapping exercise identified many studies which evaluated interventions or described factors influencing HIV-related sexual health promotion. This provided a basis for deciding on the most appropriate types of studies to include in the in-depth review. As mentioned above, we took advice on how to focus the in-depth review from the project's Advisory Group.

This group agreed the following at its second meeting:

- outcome evaluations should only be included if they employed a control or comparison group;
- interventions whose delivery/implementation was completed during or after 1996 were a priority. This was because of the announcement at the XI International Conference on AIDS in Vancouver that year of breakthroughs in Highly Active Anti Retroviral Treatment (HAART). This date was considered to be a key turning point not only for the treatment of HIV/AIDS, but also for its effects on prevention and men's views of HIV/AIDS and sexual health promotion;
- that we should focus on those 'non-intervention' studies which sought MSM's own views as to what helps and hinders them in relation to sexual health and about their perceptions about HIV-related sexual health. The 1996 'watershed' was again considered important. It was suggested that only studies where data were collected during or after 1996 should be included; and
- that the in-depth review should concentrate on those views studies that focused solely on MSM from particular 'vulnerable' subgroups. HIV positive and young MSM (aged 16-25) were identified as particularly relevant because there was a lot of interest from health promotion practitioners in working with these groups.

The Advisory Group also prioritised the following outcomes for the synthesis stage of the review:

Primary outcome:

- sero-discordant/ unknown status UAI (sdUAI).

Secondary outcomes:

- casual UAI;
- interpersonal skills;
- knowledge/awareness;
- HIV incidence;
- structural outcomes;
- attitudes/beliefs;
- practical skills;
- HIV test use; and
- STD incidence.

All reports included in the map were screened again for possible inclusion in the in-depth review (see 2.4.1 and 2.5.1). In addition, the following methods were used to supplement these papers:

- making further attempts to retrieve reports not retrieved in time to be included in the map;
- identifying potentially relevant unpublished reports held by SIGMA research;
- contacting authors of studies included in the in-depth review with requests for additional reports that might be relevant;
- identifying additional citations from the reference lists of reports included in the in-depth review;
- website searches (Metromate - which linked to the following websites: Camden & Islington Health Promotion; Gay Men Fighting AIDS; Health First; Healthy Gay Living Centre; PACE; SIGMA; Terrence Higgins Trust); International AIDS Society; UCSF AIDS Research Institute; CDC/PRS; RAPID; hivaidsta.org);

## **2.4 In-depth review methods for outcome evaluations**

### **2.4.1 Inclusion and exclusion criteria**

Two reviewers independently screened: i) the studies keyworded as outcome evaluations in the descriptive map and; ii) all studies identified after the map, as described in 2.3. Studies were excluded if they:

- did not meet the criteria for the map;
- were not a randomised control trial (RCT) or a controlled trial (CT);
- had completed intervention delivery prior to 1996 (reports were excluded immediately if the publication date was earlier than 1996 or if it was possible to identify from that report that the intervention delivery was completed prior to 1996; when this information was not available in the report, attempts were made to obtain this information from authors); and
- studies were also excluded if this requested information was not received in time for inclusion.

All remaining outcome evaluations went on to the quality assessment and data extraction phase of the review.

### **2.4.2 Quality assessment and data extraction**

A standardised framework was used to extract data on the development and content of the intervention evaluated, the population involved, the design, implementation, and quality of the outcome evaluation; and the details of any integral process evaluation (Peersman *et al.*, 1997). Reviewers also used this framework to record authors' and their own conclusions about the effects of the intervention.

The procedures and criteria used for assessing methodological quality built on those described in previous EPPI-centre health promotion reviews (see e.g. Oakley *et al.*, 1996; Peersman *et al.*, 1996; Peersman *et al.*, 1998). We used four 'core' methodological criteria to identify three different levels of study quality. 'Sound' outcome evaluations were those deemed to meet the four criteria of:

- i. providing pre-intervention data for all individuals in each group;
- ii. providing post-intervention data for each group;
- iii. reporting findings for each outcome measure indicated in the aims of the study; and
- iv. employing a control/comparison group equivalent to the intervention group on socio-demographic and outcome variables.

Recognising that these criteria a) only capture some of the known sources of bias in outcome evaluations; b) do not distinguish between randomised and non-randomised trials; and c) do not distinguish between quality of method and quality of reporting, studies could also be classified as 'sound despite discrepancies'. The remaining studies were classified as 'not sound'; in this case reviewers also recorded their justification for making this decision.

Data were extracted on prioritised outcomes (section 2.3) when this was available. The lead author for all included studies was contacted and asked for



further reports and for further outcomes data or information about the study where this was needed.

The researchers carried out all of the procedures described in this section independently. Data were entered onto our specialised computer database (EPIC). The researchers then met to compare their assessments and to resolve any differences.

### **2.4.3 Synthesis methods**

Statistical methods were employed to pool the results of the outcome evaluations. Studies addressing the same outcomes were identified (e.g. knowledge, attitudes, behavioural measures) and, if statistical tests revealed no significant heterogeneity, their data were pooled and an overall effect size calculated. Where the data were complete enough (i.e., containing sample size, effect size and standard deviation), effect sizes were calculated for all studies rated 'sound' and 'sound despite discrepancies'. Effect sizes were then combined using their standardised weighted mean differences or combined odds ratios in a random effects model. In keeping with previous systematic reviews in this field, reviewers aimed to pool data from studies only when those studies were considered to have similar populations, interventions and outcomes. When pooling data from trials with more than two comparison groups, reviewers selected the interventions that would be the most similar to interventions in other studies in the synthesis.

Standardising the data for meta-analysis can change the apparent effect size and confidence intervals of individual studies. In one case we used a different denominator than the authors. In Imrie *et al.* (2001c) the number of men reporting sero-discordant/unknown status UAI is included in the meta-analysis as a proportion of all men in the study, not as a proportion of men reporting UAI (as the authors calculated).

Pre-specified plans for the meta-analysis also included the following:

- where statistical heterogeneity existed, pre-determined potential sources of heterogeneity would be examined. These consisted of: differences in study populations (socio-economic/educational status (high versus low), age (all ages versus those 25 years and under), HIV status (positive versus negative) country (UK versus non-UK), differences in the intervention intensity (frequency, length and duration), and setting (community versus all others); and
- sensitivity analyses would be carried out to examine bias due to the methods undertaken in the primary studies study type (RCT versus other design), study quality ('sound' versus 'sound despite discrepancies'), publication bias (using funnel plots).

A combination of narrative and statistical synthesis was used to examine aspects of reporting quality / comprehensiveness, bias in extracting data, and whether or not questionable studies (those rated as 'sound despite discrepancies') should be included in the effectiveness synthesis.

## **2.5 In-depth review methods for MSM views studies**

### **2.5.1 Inclusion and exclusion criteria**

Two reviewers independently screened: i) the studies keyworded as reporting MSM's views in the descriptive map and; ii) all studies identified after the map, as described in 2.3. Studies needed to:

- meet the criteria for the map;
- include data collected during or after 1996; and
- focus solely on one of the following vulnerable MSM subgroups: Young MSM (16-25 years); MSM not identifying as gay/bisexual; Black or ethnic minority MSM; MSM with lower educational achievement; MSM who are HIV positive; MSM who sell sex; MSM who inject drugs; Low income MSM; Homeless MSM; MSM with learning disabilities; MSM diagnosed or labelled as having a mental illness or mental health problems; MSM diagnosed or labelled as having a physical illness or disability (excluding HIV/AIDS); MSM offenders (convicted by criminal justice system); MSM from lower social classes or lower occupational groups; Unemployed MSM.

The lead author for all included studies was contacted and asked for further reports and for further outcomes data or information about the study where this was needed. Studies were excluded if additional information requested was not received in time for inclusion.

### **2.5.2 Quality assessment and data extraction**

All studies meeting the above inclusion criteria were examined in-depth. A standardised data extraction and quality assessment framework was used. This has been adapted from a tool used in previous reviews. The framework enabled reviewers to extract data on many methodological and substantive details of studies, including the findings.

The procedures and the criteria used for assessing methodological quality built on those used in earlier EPPI-Centre reviews (e.g. Brunton *et al.*, 2003; Harden *et al.*, 2004; Thomas *et al.*, 2003). Studies were assessed according to 12 criteria. These covered three main quality issues. Five related to the quality of the *reporting* of a study's aims, context, rationale, methods and findings. Each study was assessed according to whether:

1. the aims and objectives were clearly reported;
2. there was an adequate description of the context in which the research was carried out (including a rationale for why the study was undertaken);
3. there was an adequate description of the sample used and the methods for how the sample was identified and recruited;
4. there was an adequate description of the methods used to collect data; and
5. there was adequate description of the methods used to analyse data.

A further four criteria related to the sufficiency of the *strategies* reported for establishing the reliability and validity of data collection tools and methods of analysis, and hence the validity of the findings. Studies were assessed according to whether there had been 'no attempt', a 'minimal attempt', 'some attempt', or a 'good attempt' to establish the following:

6. the reliability of data collection tools;
7. the validity of data collection tools;
8. the reliability of the data analysis methods; and
9. the validity of the data analysis methods.

The final three criteria related to the assessment of the *appropriateness* of the reported study methods for ensuring that findings were rooted in MSM's own perspectives. In relation to this, reviewers were asked to judge studies according to whether they:

10. used appropriate data collection methods for helping MSM to express their views;
11. used appropriate methods for ensuring the data analysis was grounded in the views of MSM; and
12. actively involved MSM in the design and conduct of the study.

Examples of markers that reviewers used for judging appropriateness included: the use of open-ended questions or response categories informed by pilot work; avoiding the use of pre-defined coding strategies for analysing the data from interviews or focus groups; and involving MSM in project steering or advisory groups.

Taken together, these 12 criteria provide a measure of the extent to which we can be confident that a particular study's findings can make a valuable contribution to this review. For each study, reviewers were asked to make an overall judgement on its quality, taking into account their answers on the 12 criteria. Reviewers rated each study as having either a 'high', 'medium' or low' weight of evidence in terms of whether their findings were really rooted in the perspectives of MSM. In making this judgement they were asked to think about whether the study's reported methods could have distorted, misrepresented or simply failed to pick up the views of MSM.

Two researchers carried out the procedures in this section independently, and then met to compare their assessments and resolve any differences. Data were entered onto our specialised computer database, EPIC (Thomas, 2002).

### **2.5.3 Synthesis methods**

The methods used for synthesis of views studies in this review are presented in full as appendix J. The findings and conclusions of each study were copied verbatim as reported by study authors into the review-specific data extraction tool described above. This tool asked reviewers to group findings according to their ability to illuminate the following questions:

- What are MSM's views on what they think are the barriers to, of facilitators of, their own or others' HIV-related sexual health?
- What are MSM's views on what they think should or could be done to promote HIV-related sexual health?
- What other views are presented for MSM on aspects of HIV-related sexual health?

The study findings and conclusions were exported to NVivo (Version 2.0) from QSR Software, a specialist software package for undertaking qualitative analysis of textual data (QSR International).

Synthesis methods broadly followed guidelines for thematic analysis of textual data collected in the context of primary research. In this case the textual data were study authors' descriptions of their findings. A framework for narrative synthesis was developed iteratively over a five-week period as findings emerged from the review of individual studies.

## **2.6 In-depth review methods for cross-study synthesis**

A methodological and conceptual matrix developed in earlier reviews was used to juxtapose the findings of views studies against the findings of outcome evaluations (Oliver *et al.*, submitted; Thomas *et al.*, 2004).

Three questions guided the cross-study synthesis:

- i. Which interventions to promote HIV-related sexual health match intervention needs derived from MSM's views and experiences of HIV-related sexual health?
- ii. Do those interventions which match MSM's views show bigger effect sizes in their evaluations and/or explain heterogeneity between studies than those which do not?
- iii. Which intervention needs derived from MSM's views have yet to be addressed by interventions evaluated by outcome studies?

The synthesis of the findings of MSM's views studies was used as the starting point for the cross-study synthesis. The findings were listed in the left-hand column of a conceptual and methodological matrix.

Each intervention implication was taken in turn to find matches in the interventions evaluated by the outcome studies. Matching interventions were sought from our pool of outcome evaluations that were 'sound' or 'sound with discrepancies' first of all. If no or few matches were found, matching interventions were sought from our pool of other outcome evaluations of a lower methodological quality. Matches and gaps were noted in the right hand columns of the matrix.

### 3. RESULTS: IDENTIFICATION AND DESCRIPTION OF STUDIES

#### *Outline of Chapter*

*This chapter presents:*

- *a description of the flow of studies through different stages of the review, including brief details of the studies included in the map but eventually excluded from the in-depth review;*
- *a description of the outcome evaluations that met our inclusion criteria for the in-depth review and the results of the assessment of their methodological quality; and*
- *a description of the studies of MSM's views that met our inclusion criteria for the in-depth review and the results of the assessment of their methodological quality.*

*A searchable database of all the studies identified for this review is available on-line at <http://eppi.ioe.ac.uk>.*

*This chapter will be of interest to:*

- **researchers or commissioners of research** wishing to set an agenda for future inquiry, or considering conducting a similar mapping exercise.
- **practitioners, policy specialists and MSM** interested in the types of research conducted.

#### *Key Messages*

- *one-hundred and eighty-four studies were identified in the mapping exercise. Ninety of these were UK non-intervention studies. Just under a third (64) were outcome evaluations. We also identified 12 UK process only evaluations and 18 systematic reviews. None of these reviews had the same population and topic scope as this review.*
- *a relatively large number of the non-intervention studies accessed MSM's perspectives and experiences of the various aspects of HIV-related sexual health but far fewer focused solely on MSM identified as vulnerable for the purposes of this review's systematic map.*
- *twenty-six studies met the inclusion criteria for in-depth review: 14 studies focused on the views of specified groups of vulnerable men with data collected in 1996 or after; 12 outcome evaluations of interventions delivered in or after 1996 were found that used a comparison group design.*
- *half of the 12 outcome evaluations were of UK interventions, four were conducted in the USA and one each was located in Canada and Australia. Generally, these interventions involved multiple components and were delivered by more than one type of provider. All were direct-contact interventions (according to the CHAPS framework) and three were also community interventions.*
- *only three of the 12 interventions were based on 'felt need' and only one had been piloted with MSM from the target population. Only two involved members of the target population in intervention development. Half the outcome evaluations included an integral process evaluation.*

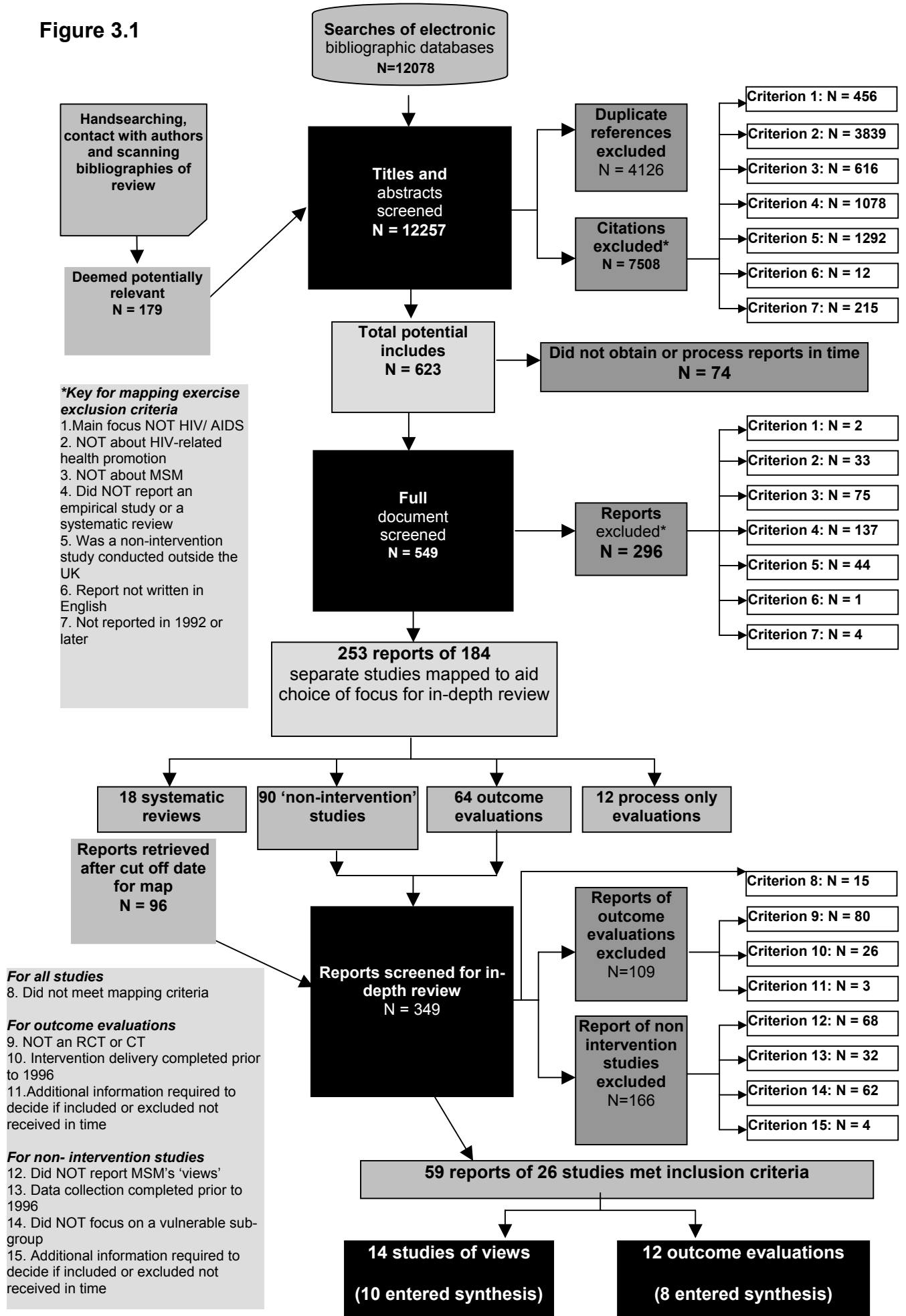
- *eight outcome evaluations were judged to be of sufficient methodological quality to go forward into the effectiveness synthesis.*
- *seven of the views studies focused solely on MSM living with HIV, three on sex workers and one each on MSM with disabilities (deaf MSM), young MSM, working class MSM and ethnic minority MSM (South Asian MSM).*
- *three views studies were rated as having a high weight of evidence, seven as medium and four as low. The ten 'high' and 'medium' quality studies went forward to the synthesis.*

### **3.1 Overall flow of literature through the review**

Figure 3.1 describes the flow of literature through each stage of the review. Our comprehensive searches of bibliographic databases identified a total of 12257 citations. After removing duplicates (n=4126), 7508 of these were excluded. The majority of these (n=3839) were excluded because they were not about HIV-related health promotion. A small number (n=12) were excluded because they were citations for reports not published in the English language. Half of the 12 were reported in Spanish, the remainder being in Dutch, French, Italian, Portuguese or Russian

A total of 623 reports were identified as being potentially relevant for inclusion in the mapping exercise. Full reports were obtained and processed for 549 (88%) of these within the time scale for this review. After screening of the full reports had taken place, a further 296 were excluded from the review. At this stage, the single most important reason for excluding full reports was because they did not describe a piece of primary research or a systematic review of primary research (n=137). A total of 253 reports of 184 separate studies were available for inclusion in the mapping exercise.

Figure 3.1



## **3.2 Results of the mapping exercise**

Of the 184 studies, 64 were outcome evaluations; 90 were UK non-intervention studies (i.e., case control, cohort, survey or needs assessment), 12 were UK process evaluations (with no linked outcome evaluation) and 18 were potentially systematic reviews of a high quality. Further details of the outcome evaluations, UK non-intervention studies and reviews are provided below. Relevant tables displaying the proportions of studies with different characteristics are given in Appendix C.

### **3.2.1 Outcome evaluations**

#### **a) Country and groups of MSM studied**

Almost half of the 64 outcome evaluations were carried out in the USA (n=31); 19 were based in the UK. The remainder were carried out in other European countries, Canada, Australia, or South America (see table C1 in Appendix C). These figures may reflect bias towards studies published in the USA within the bibliographic sources searched. There is also a potential for bias as a result of our inclusion criteria restricting studies to those written in the English language.

Many studies provided scant information on the characteristics of the MSM participating in the studies (see tables C2a-i in Appendix C). For example, just under half of the study reports did not provide information on the ethnicity of participants (n=27) or their age (n=29), and half did not report on their educational status (n=32). Even when the characteristics of study participants were reported, these were rarely used in the analysis. For example, although 20 studies provided information on the HIV status of MSM, only three of these used this information in the analysis of their data. A small proportion of studies (n=16) did however solely focus on the groups of 'vulnerable' MSM prioritised by this review. Of the 16 studies, six focused on HIV positive men, three focused solely on black and ethnic minority MSM; two focused on MSM sex workers; and one study each focused on young men, MSM who injected illegal drugs, MSM on a low income, MSM with lower educational achievement, and MSM from an 'other' vulnerable group.

#### **b) Characteristics of interventions evaluated**

Community sites were the most frequent sites for interventions (n=26). Twenty-two of these community-sited interventions were in gay-identified sites (e.g. gay bars); six utilised non-gay identified sites and two did not specify whether community sites were gay-identified or not (four interventions utilised both gay-identified and non-gay identified sites). One fifth of studies (n=14) did not specify where the intervention took place (see table C3 in Appendix C).

Perhaps not surprisingly, almost all the interventions (n=62) involved direct contact with MSM (classified according to the CHAPS intervention type definitions described in 2.2). Sixteen were 'community' interventions, e.g. targeting social networks. Only three were 'organisation' or 'equality' interventions (see table C4 in Appendix C). One third (n=23) of the interventions were provided at least in part by peers and one fifth (n=12) by health professionals (see table C5 in Appendix C).

Two-thirds of the interventions (n=42) did not name a theoretical model on which their intervention was based. The 'Model of Relapse Prevention' was most frequently named (n=6), followed by the 'AIDS Risk Reduction Model', and the



'Health Belief Model' and 'Social Learning Theory' (n=3 for each). Ten study reports referred to a variety of other named theoretical models (see table C6 in Appendix C).

### **c) Outcomes measured and evaluation methods**

The most frequently measured outcome was the occurrence of unprotected anal intercourse (UAI) (n=38), followed by other sexual practices (n=23) and attitudes/motivations/intentions (n=21). Other frequently measured outcomes were beliefs/perceptions (n=20), occurrence of anal intercourse (n=20) and knowledge/awareness (n=18) (see table C7 in Appendix C).

Of the 64 outcome evaluations, 15 were randomised controlled trials, 14 were non-randomised trials and 35 employed other evaluation designs (e.g. pre-post test designs with no control or comparison group). Almost half (n=30) of the outcome evaluations sought the views of MSM. Twenty-eight of the outcome evaluations had an integral process evaluation.

## **3.2.2 UK non-intervention studies**

### **a) Groups of MSM studied**

Like the outcome evaluations, many of the 90 non-intervention studies were reported with scant information on the characteristics of the MSM participating in them (see tables C8a-i in Appendix C). For example, just under half of the studies did not provide information on the ethnicity of MSM (n=43), two thirds did not report on the educational status of MSM (n=60). Even when the characteristics of study participants were reported, these were less frequently used in analyses. For example, although 38 studies report that some or all of their participants were HIV positive, only 28 of these used this information in the analysis of their data. A small proportion of studies (n=13) did however solely focus on the 'vulnerable' sub-groups of MSM prioritised by this review. Of the 13 studies, five focused on HIV positive men; four on young MSM; two on MSM sex workers; and one study each on Black and ethnic minority MSM and MSM from an 'other' vulnerable group.

### **b) Focus of studies**

In terms of the aspects of sexual health and HIV-risk reduction studied, 72 studies investigated sexual activity, 54 examined psychosocial aspects of sex, 35 looked at HIV test and other service use and 28 looked at equity and access. (see tables C9 in Appendix C). Almost all the non-intervention studies (n=85) were not testing, or based explicitly on, a theoretical model. Two studies tested the Health Belief Model, one tested the AIDS Risk Reduction Model and two tested other models (see table C10 in Appendix C).

Of the 90 non-intervention studies located in the mapping exercise, 68 described the perspectives and experiences of MSM.

## **3.2.3 Systematic reviews**

Thirteen of the 18 systematic reviews focused on HIV health promotion in a variety of populations groups (including MSM) and five focused specifically on MSM. We included our own previous systematic review (Oakley *et al.*, 1996) in the map in order to compare its methods and findings with those of other reviews.

Twelve were reviews of effectiveness and six were reviews examining other types of questions.

### **a) Scope of effectiveness reviews**

Four of the 12 effectiveness reviews focused solely on MSM (Johnson *et al.*, 2002; Johnson *et al.*, 2003; Kegeles and Hart, 1998; Oakley *et al.*, 1996). The other eight examined the effectiveness of HIV health promotion amongst a variety of other groups (e.g. young people, 'street youth', heterosexual men and women, clinic attendees) alongside MSM. All but two of the reviews focused on a range of intervention types for HIV health promotion. These two reviews looked at the effectiveness of counselling and testing (Weinhardt *et al.*, 1999; Wolitski *et al.*, 1997).

There was considerable overlap between the four effectiveness reviews focused solely on MSM. The review by Johnson *et al.*, (2002) included evaluation reports published or distributed in the USA and included nine studies in its synthesis. All nine of these studies, plus an additional four studies were synthesised in a Cochrane review by the same lead author (Johnson *et al.*, 2003) which did not restrict studies by country of origin. The review by Oakley *et al.*, (1996) included five studies in its synthesis, all of which were also contained within the Cochrane review. The Kegeles and Hart review (1998) presented the findings of five completed evaluations, all of which were contained in one or more of the other three reviews. All of the 13 studies synthesised by these reviews were of interventions delivered in 1995 or before.

### **b) Scope of 'other' reviews**

Examples of the six reviews examining other types of questions were a descriptive map of trials from the USA of behavioural and social interventions for HIV-risk reduction (Semaan *et al.*, 2002) and a review of studies examining predictors of condom use (Sheeran and Taylor, 1999). One of these six reviews focused solely on MSM (Flowers *et al.*, 1997) This review did not set out to examine the perspectives and experiences of MSM, but pooled together 36 studies which had examined statistical associations between psychosocial factors (e.g. attitudes, relationship status) and HIV risk reduction behaviours in gay and bisexual men.

### **c) Reporting quality and methods**

All review reports contained a clear statement of the inclusion criteria used, all but three a clear statement of aims, and all but two a clear description of the searches used. Only half of the review reports (n=9), however, gave a clear statement of their quality assessment procedures and only a third (n=6) gave any detail of their data extraction process. Five review reports gave clear details on all of the above methods (Johnson *et al.*, 2002; Oakley *et al.*, 1994; Oakley *et al.*, 1996; Schrappe and Lauterbach, 1998; Semaan *et al.*, 2002). Seven of the reviews undertook statistical meta-analysis, whilst all of the others employed narrative synthesis methods only. None of the reviews included 'qualitative' research.

Of the four effectiveness reviews focused solely on MSM, two pooled data from studies using numerical meta-analysis (Johnson *et al.*, 2002; Johnson *et al.*, 2003). The other two restricted their syntheses to narrative accounts of intervention effects (Kegeles and Hart, 1998; Oakley *et al.*, 1996). The review by

Kegeles and Hart gave no detail of its quality assessment or synthesis procedures.

The most recent search period for any of these reviews was up to 1998. The bibliographies of all reviews were screened to check that we had not missed any relevant studies.

### **3.3 From mapping to in-depth review**

An additional 96 reports were identified after the mapping exercise was conducted (see Figure 3.1). This, added to the 253 reports from the map, made a total of 349 reports, which were then screened for in-depth review.

Fifteen of the reports located after the mapping exercise would have been excluded from the map if they had been received earlier (criterion eight). Eighty reports were excluded because the studies did not use a comparison group (criterion nine). Twenty-six reports of studies with such designs were excluded because their intervention delivery was prior to 1996 (criterion ten). Three reports of trials were excluded because the additional information required to decide whether to include or exclude them was not received in time (criterion 11). Sixty-eight non-intervention reports were excluded because they did not contain MSM's views (criterion 12). A further 32 views reports were excluded because their data had been collected prior to 1996 (criterion 13). Sixty-two reports with data collection in 1996 or later were excluded because they did not focus solely on this review's set of vulnerable MSM subgroups (criterion 14). Finally, four reports of non-intervention studies were excluded because additional information needed to decide whether to include or exclude them was not received in time (criterion 15). This left 59 reports reporting on 26 studies included in the in-depth review: 12 outcome evaluations and 14 studies on MSM's views.

### **3.4 Quality and characteristics of studies in the in-depth review**

#### **3.4.1 Outcome evaluations**

Twelve outcome evaluations met the inclusion criteria for in-depth review and went on to data extraction and quality assessment. Ten of the twelve studies were located in peer-reviewed journals while the remaining two were described in other published reports. Half the studies were published prior to 2001 and half in 2001 or later. Six of the studies took place in the UK; four were set in the USA, and one study each was located in Canada and Australia. The following summarises the substantive and methodological quality of these studies. More detailed information about the studies, ordered in a systematic way, can be found in Appendices F and G. Details of the reports used by reviewers for data extraction and quality assessment are in Appendix K.

#### **a) Characteristics of interventions and their participants**

Generally, studies evaluated complex interventions that involved multiple intervention types and formats, and which were delivered by more than one type of personnel including health professionals, peers or counsellors. In terms of this review's 'vulnerable' groups, eight of the interventions were evaluated with

populations that included men aged 25 or under but none targeted this group specifically. One intervention was directed at HIV positive MSM, with a further five studies describing the HIV status of evaluation participants. Although participation rates were also presented for some of the other vulnerable groups of interest to this review, none of these interventions were targeted at improving the HIV-related sexual health of these groups in particular. In terms of the CHAPS intervention types, none of the studies evaluated organisational, facilitation or equality interventions. All evaluated interventions involving direct-contact. Three were also classified as community interventions.

### **Community interventions**

All three studies which evaluated community interventions involved peers delivering part or all of the intervention. The peer education intervention studied by **Elford et al. (2001)** aimed to reduce the risk of HIV transmission amongst gay men living in London (UK). In four gyms, 27 'popular opinion leaders' were recruited and trained as peer educators to engage gay men in conversations, to promote and endorse HIV risk reduction. The intervention lasted for four to five months; in one gym it was repeated after 12 months. The majority of men who took part in the evaluation were currently employed (88%), educated (11% had GCSE or equivalent only) and white (89%), and their mean age was 33 years. **Flowers et al. (2002)** evaluated an intervention which aimed to promote sexual health amongst gay men in Glasgow (UK) via nine months of peer education in gay bars, nine months of gay-specific genito-urinary medicine (GUM) services and six months of a free-phone hotline. The majority of men who took part in the evaluation were educated beyond compulsory schooling (40% had at least degree level education); employed (79%); and middle class (13% in social classes IV and V), and their mean age was 32 years. Information on ethnicity was not provided. **Shepherd et al. (1997)** evaluated an intervention in which young gay and bisexual men were recruited and trained as peer educators in Southampton (UK). Peer educators collected baseline data from gay men aged 18 to 38 years (mean 24 years) and discussed HIV prevention issues with them. The men who took part were nearly all described as 'white' (98%), but details of their socio-economic status, education and HIV status were not provided.

### **Direct-contact only interventions**

Four of the nine studies evaluating direct-contact only interventions were individually rather than group based. **Dahl et al. (1997)** focused on a general population sample of MSM. They evaluated the effects of discount coupon promotion, distributed at a gay pride parade in Vancouver, on the sales of condoms. No further information about the men who participated in this study was reported. The three other studies of direct-contact only interventions focused on HIV negative men who were considered to be 'at risk'. **Dilley et al. (2002b)** studied three cognitive-behavioural interventions which aimed to reduce future high-risk sexual behaviours amongst self-identified high risk men aged 18 to 49 years attending a San Francisco (USA) anonymous HIV testing clinic. Men completed a sexual diary or received a one-hour face-to-face cognitive-behavioural counselling session based on self-justifications, or did both. The majority of men who took part were educated beyond compulsory school age (23% had attended high school only); were described as 'white' (73%); and received an income of \$15,000 or more per year (88%). The intervention studied by **Gold and Rosenthal (1998)** aimed to reduce the incidence of 'slip ups' (the breaking of one's own safe sex rules). Men aged 17 to 47 years who had 'slipped

up' were recruited from gay bars in two Australian cities, kept a sexual diary for four weeks and then either received a questionnaire to fill in about a recent slip up, or posters and a questionnaire about the posters. Of the men who took part, 59% had at least some tertiary education or training, and 16% were HIV positive. Information on ethnicity and socio-economic status was not provided. **Picciano et al. (2001)** studied a telephone counselling intervention which aimed to reduce sexual risk-taking among MSM aged 18 to 70 years in Seattle (USA) who had engaged in UAI or UOI (unprotected oral intercourse) and were not in a mutually monogamous or negotiated safety relationship. No information was provided on the socio-economic status of participants but the mean time in education was 15.3 years (range eight to 25 years); 76.4% were described as 'Caucasian'; and 20.2% of those tested were HIV positive (96.6% had tested)

The remaining five studies evaluating direct-contact interventions only were all group-based. One study focused on HIV positive MSM, one on MSM considered to be 'at risk', and one on gay and bisexual men in general. **Martin et al. (2001)** aimed to assess the effects of participation in weekly support group meetings offered by Los Angeles (USA) 'Shanti' (a local community based HIV/AIDS service organisation) on rates of high risk sexual behaviour for HIV positive men. Intervention group participants' mean age was 38.54 years; 50% had incomes of less than \$40,000 per year; 71% were white; 61% had at least a college degree. Comparison group participants' mean age was 40.40 years; 65% had incomes of less than \$40,000 per year; 75% were described as 'white'; 45% had at least a college degree.

**Imrie et al. (2001c)** studied a cognitive-behavioural group-based intervention aimed to reduce the incidence of sexually transmitted infections among gay men. Men aged 18 to 58 years at a sexual health clinic in London (UK) who either had an acute STD, or reported sero-discordant UAI in the previous year, or were concerned about their sexual practices received a one-day cognitive-behavioural group workshop. Of the men who took part, 57% had skilled non-manual jobs; 86% had been educated beyond secondary school; 2% were known HIV positive (40% were unknown status). Information on ethnicity was not reported.

The cognitive-behavioural intervention evaluated by **Dockrell et al. (1999)** was developed to address sexual health risk-taking in gay men. The intervention used structured group work or self-completion work-books to get men to focus on: their own personal risks; the situations that led to risks and feelings generated by the situation and changing their behaviour; and strategies for responding to risk-taking. Participants were described as 62 gay men, but information was not given about socio-economic status, ethnicity, age or HIV status. **Rosser et al. (2002)** studied the effects of a two-day (18 hour) 'Man-to-Man' sexual health seminar involving a range of activities aimed to promote long term individual and community sexual health amongst gay men in Minneapolis (USA). Participants were aged from 18 to over 55; 10.1% were aged 18-24 years; 34.3% had annual incomes of \$20,000 or less; 9.5% were high school graduates or less; 89.3% were described as 'white'; 8.9% were HIV positive. **Turner and Heywood (2000)** studied an intervention involving four workshop sessions for developing skills to target sexual risk-taking amongst homosexual and bisexual men in Southampton (UK). There was also an option to take part in a weekend 'residential' session at a local hotel, which further reinforced these skills. Participants were on average 22 years old (range 18-28 years), but no other information about the participants was provided.

## b) Methodological quality of outcome evaluations

Half (n=6) of the studies employed an RCT design and half were non-randomised controlled trials. Studies were assessed against four quality criteria (table 3.1).

**Table 3.1: Methodological quality of outcome evaluations included in the in-depth review (N=12)**

	<b>N</b>
Impact of the intervention reported for all outcomes	6
Equivalent study groups at baseline	6
Pre-intervention data reported for all individuals/groups	5
Post-intervention data reported for all individuals/groups	9

Two studies met all four of these criteria and were considered 'sound' (Dilley *et al.*, 2002b ; Imrie *et al.*, 2001c). A further six studies did not meet all four criteria, but were considered to be 'sound despite discrepancies' (Elford *et al.*, 2001; Flowers *et al.*, 2002; Gold and Rosenthal, 1998; Picciano *et al.*, 2001; Rosser *et al.*, 2002; Shepherd *et al.*, 1997), as follows:

- while not reporting the impact of the intervention for all outcomes measured, four studies reported identified primary outcomes and reported on all of these (Elford *et al.*, 2001; Gold and Rosenthal, 1998; Picciano *et al.*, 2001; Shepherd *et al.*, 1997);
- in three studies groups were either not equivalent at baseline, or their equivalence was not clear, but authors adjusted for this non-equivalence in their analyses (Elford *et al.*, 2001; Flowers *et al.*, 2002); and
- three studies only reported baseline data for those remaining in the study at the end of the study period (Gold and Rosenthal, 1998; Picciano *et al.*, 2001; Rosser *et al.*, 2002). However reviewers considered that these studies' use of random allocation when creating comparison groups was judged likely to have reduced selection bias.

Eight studies went forward into the effectiveness synthesis, but the following four were judged to be not sound and therefore excluded (Dahl *et al.*, 1997; Dockrell *et al.*, 1999; Martin *et al.*, 2001; Turner and Heywood, 2000). Two of the latter failed on all four criteria, one study only met one of the criteria and the other study only met two of the criteria. A study-by-study breakdown of the quality assessment process is given in Appendix L.

The four studies excluded from the effectiveness synthesis included one from Canada, two from the UK, and one from the USA. The only study to evaluate a service intervention was excluded (Dahl *et al.*, 1997), but both direct contact and community interventions were represented in the effectiveness synthesis. Information on all outcome evaluations regardless of whether they were included or excluded from the effectiveness synthesis can be found in Appendix E.

### c) Development of interventions

**Table 3.2: Type of needs assessment which initiated the interventions evaluated by the outcome studies in the in-depth review (N=12)**

	<b>N</b>
Based on 'normative need' (what experts define as need)	9
Based on 'felt need' (what people say they want)	3
Based on 'expressed need' (what can be inferred by a community's use of its services)	1
Not stated	3
<b>Total*</b>	<b>16</b>

\*Total does not add up to the number of studies (n=12) because three studies evaluated an intervention initiated by more than one type of needs assessment.

A total of nine studies were based upon normative assessments of need - i.e. experts (usually researchers) determining that there was a need that might be met by intervention (see Appendix L for a study-by-study breakdown). In seven of these, this was the only assessment reported.

In general, stakeholders were not involved in intervention development. Only one of the interventions had previously been piloted with members of the target population (Imrie *et al.*, 2001c). In only two cases were MSM from community organisations or recipients of the intervention asked to help researchers and practitioners shape an intervention. Early ideas for the Glasgow bar-based peer-education centred intervention were developed using formative research that included four focus groups with participants drawn from existing community groups. This work is reported in three separate reports ((Flowers *et al.*, 2000; Flowers and Hart, 1999; Frankis *et al.*, 1999). Comments from workshop participants in the risk assessment-centred intervention evaluated by Turner and Heywood (2000) were incorporated into later sessions with that group. In addition to this lack of input by potential recipients of interventions, only three studies report the involvement of health promotion practitioners in intervention development (Elford *et al.*, 2001; Flowers *et al.*, 2002; Shepherd *et al.*, 1997).

### d) Details of integral process evaluations

Once implemented, half of the outcome evaluations also included an integral process evaluation (Elford *et al.*, 2001; Flowers *et al.*, 2002; Gold and Rosenthal, 1998; Picciano *et al.*, 2001; Shepherd *et al.*, 1997; Turner and Heywood, 2000).

Different processes were evaluated using a range of methods to collect such data (table 3.3 - see Appendix L for a study-by-study breakdown).

**Table 3.3: Processes evaluated and the data collection methods used in outcome studies with integral process evaluations in the in-depth review (N=6)**

<b>Processes evaluated</b>	<b>N</b>
Perceptions, understanding or acceptability of the intervention	5
Accessibility of the intervention/ programme reach	4
Content of the intervention	3
Implementation/delivery of the intervention	5
Skills and training of the intervention providers	3
Costs associated with the intervention	1
Total*	21
<b>Methods used to collect data on the processes evaluated</b>	<b>N</b>
Documentation	2
Focus group	4
Interview	3
Self-completion report or diary/questionnaire	4
Total**	13

\*Total does not add up to the total number of studies (n=6) because studies could evaluate more than one process.

\*\*Total does not add up to the number of studies (n=6) because studies could use more than one method to collect data on processes.

Information about the intervention acceptability and about whether or not implementation went to plan was collected in all but one of the six studies (Picciano *et al.*, 2001). The content of the intervention and the skills and training of intervention providers were both examined in three studies (Elford *et al.*, 2001; Flowers *et al.*, 2002; Shepherd *et al.*, 1997) which all evaluated interventions centred on peer-delivered education. All three studies examined the length of contact and the topics discussed with peers during the evaluation period. The same three all asked peer-educators for their perceptions of their own skills or the peer-educator training they had received. The extent to which the intervention involved or accessed participants from 'hard-to-reach' groups was examined in four studies. Only one study systematically collected data about the resources used by the intervention (Elford *et al.*, 2001).

The results of the process evaluations for some studies were given as much importance as the outcome evaluation. The three interventions centred on peer-education chose to report the results of the process evaluations in separate papers (Elford *et al.*, 2002; Flowers *et al.*, 2000; Frankis *et al.*, 1999; Shepherd *et al.*, 1999).



All but one of the above studies with integral process evaluations (Turner and Heywood, 2000) were included in the effectiveness synthesis. Three of the eight studies in the effectiveness synthesis did not evaluate processes alongside outcomes (Dilley *et al.*, 2002b; Imrie *et al.*, 2001c; Rosser *et al.*, 2002).

### **3.4.2 Studies of MSM's views**

Six of the 14 studies were published prior to 2001 and eight in 2001 or later. One of the studies used only fixed-response questions to collect data (Stephenson *et al.*, 2003b). All other studies collected most or all of their data using semi-structured interviews. Two studies used group interview techniques (Ward, 2002; Warwick *et al.*, 2001). The following summarises the substantive and methodological quality of these studies. More detailed information, ordered in a systematic way, can be found in Appendices H and I. Details of the reports used by reviewers for data extraction and quality assessment can be found in Appendix K.

#### **a) Focus and characteristics of views studies**

Of the 14 studies, seven focused solely on MSM living with HIV, three on MSM who sold sex and one study on the following subgroups: MSM with disabilities (deaf gay men), young MSM, working class MSM, ethnic minorities (South Asian MSM).

#### **b) Quality of reporting**

**Table 3.4: Quality of reporting of study methods in studies examining MSM's views (n=14)**

	<b>N</b>
Aims and objectives clearly reported	14
Adequate description of the context of the research	14
Adequate description of the sample	11
Adequate description of data collection methods	11
Adequate description of data analysis methods	7

All the studies clearly reported their aims and objectives and gave an adequate description of the context of their research (table 3.4). Eleven of the 14 gave adequate descriptions of the sample and the same number gave adequate descriptions of the data collection methods. Half the studies gave an adequate description of the data analysis methods.

#### **c) Strategies for establishing reliability and validity**

A further four of the 12 criteria used to assess the quality of the views studies were concerned with whether there had been adequate attempts to establish the reliability and validity of data collection tools or the results of the data analysis. The number of studies which had made either some attempt or a good attempt at establishing reliability are shown in table 3.5.

Nine of the 14 studies had made at least some attempt to establish the reliability of data collection methods. Using an interview schedule or topic guide was the most common ‘reliability’ strategy; some also reported using interview guidance notes, using the same interviewers for all interviews, or other forms of data collection. Four had made ‘minimal’ attempts to establish reliability and one had made no attempt.

Eight of the 14 studies had made at least some attempt to establish the validity of data collection methods. The most common attempt at establishing validity was through piloting. Four studies had made a minimal attempt to establish validity and two had made no attempt.

Five studies had made at least some attempt to establish the reliability of data analysis methods. The most common attempt was the use of an accepted analytic process. One study had made a minimal attempt and eight had made no attempt.

Four studies had made at least some attempt to establish the validity of data analysis methods. Examples of strategies used include peer debriefing, power calculations to ensure sample size was large enough to show statistical significance and independent double-analysis. One study had made a minimal attempt to establish validity; nine had made no attempt.

**Table 3.5: Strategies for establishing reliability and validity in studies examining MSM’s views (N=14)**

<b>‘Some attempt’ or a ‘good attempt’ made to establish the...</b>	<b>N</b>
Reliability of data collection methods	9
Validity of data collection methods	8
Reliability of data analysis methods	5
Validity of data analysis methods	4

**d) Extent to which findings are rooted in MSM’s own perspectives**

The remaining three of the 12 criteria concerned the extent to which studies had used methods to ensure that their findings were rooted in the perspectives of the MSM themselves rather than the researcher (table 3.6).

**Table 3.6: Appropriateness of study methods for ensuring that findings were rooted in the perspectives of MSM**

	<b>N</b>
Studies used appropriate data collection methods for helping MSM to express their views	14
Studies used appropriate methods for ensuring the data analysis was grounded in the views of MSM	6
Studies involved MSM in the design and conduct of the study	6

The reviewers judged all studies to have used appropriate methods for helping MSM express their views (e.g. unstructured or semi-structured interviews, focus groups, open-ended questions in self-completion questionnaires). However, two studies were judged to have used methods that were only ‘partially’ appropriate

(Reeves, 1999; Stephenson *et al.*, 2003b). These two studies both used questionnaires (either self-completion or administered by a researcher), using a combination of closed and open-ended questions or closed questions only.

Six studies were judged to have used appropriate methods for ensuring that data analysis was grounded in MSM's views. For example, the findings reported by Keogh and Dodds (2004) were organised into themes arising from the men's views rather than *a priori* codes. For the remaining studies, reviewers could not judge whether data analysis methods were appropriate as no information was provided on how data analysis was carried out.

Six studies had involved MSM in the design and conduct of the study. Levels of involvement varied across these six studies. In some the involvement of MSM was limited to their inclusion in pilot exercises for data collection tools. In other studies MSM were involved in steering or advisory groups for the research projects. In these cases it is likely that MSM would have been able to influence the aims of the study and the issues it focused on.

### **e) Overall quality of studies**

Three of the 14 studies were rated as having a 'high' weight of evidence in terms of whether the findings were really rooted in the perspectives of MSM. Seven were rated 'medium' and four were rated as having a 'low' weight of evidence.

Studies rated as having a 'high' weight of evidence met ten or more of the 12 quality criteria outlined in Chapter Two, those rated as 'medium' met seven, eight or nine, and 'low' weight of evidence studies met six or fewer quality criteria.

Only one study met all 12 quality criteria (Keogh and Dodds, 2004). Three studies were rated as having a high weight of evidence in terms of whether their findings were really rooted in the perspectives of MSM (Davies *et al.*, 2002; Keogh and Dodds, 2004; Rooney and Taylor, 1997). Seven were judged as having a medium weight of evidence (Darch, 2002; Hudson and Rivers, 2002; Kelly and Murphy, 1998a; Kelly and Murphy, 1998b; Keogh *et al.*, 1999; Stephenson *et al.*, 2003b; Warwick *et al.*, 2001) and four were rated as having a low weight of evidence (Docherty, 2002; Patel *et al.*, 1999; Reeves, 1999; Ward, 2002).

These latter four studies were excluded from the synthesis. Two focused on HIV positive MSM, one on ethnic minorities and one on MSM with disabilities. More detailed information can be found about both the included and excluded studies in Appendices H and I.

## 4. RESULTS: EFFECTIVENESS SYNTHESIS

### *Outline of Chapter*

*This chapter presents the synthesis of findings from eight methodologically sound studies evaluating the effectiveness of HIV health promotion interventions for MSM.*

*This chapter should be read by:*

- **practitioners, policy specialists, and others** who are interested in whether, and what kind of, interventions are effective for promoting HIV-related sexual health amongst MSM; and
- **researchers or research commissioners** who are interested in the methodological issues concerning pooling the effect sizes from trials of social interventions.

### *Key Messages*

*The findings from these eight studies were that:*

- *interventions based on cognitive-behavioural techniques for MSM who identify themselves as at high risk appear to be effective in reducing the number of men reporting sero-discordant or unknown status UAI.*
- *one study of this kind of intervention measured STI incidence as an outcome, it found a harmful effect on all-STI incidence but there was no evidence of effect for bacterial-only STI incidence.*
- *the effect on casual UAI of information provision or information and counselling given within the context of participants' lifestyles is unclear.*
- *due to limitations in the reporting of outcomes, the effect of various interventions on knowledge/ awareness and attitudes/beliefs were all deemed to be unclear.*
- *reviewers found no evidence of effect for UK communities interventions based upon peer-delivered HIV risk reduction messages for any of the review's priority outcomes. Further evaluation of the processes underlying these interventions is required. For example, it is possible that the 'diffusion of innovation' central to some of these interventions has not always occurred as planned. Recruitment was reported to have been difficult in two out of the three evaluations reviewed. Peer educators had mixed responses to these interventions, preferring factual information provision to discussion of behaviours or attitudes.*

A total of eight of the 12 outcome evaluations in the in-depth review were considered of sufficient quality to be used to determine which interventions are effective. Their effectiveness was reviewed in terms of their impact on outcomes prioritised by the review's Advisory Group. The outcome of primary interest was sero-discordant or unknown status UAI (sdUAI). The other outcomes prioritised by the group were: UAI with a casual partner, interpersonal/practical skills, knowledge/awareness, HIV incidence, structural outcomes (e.g. provision of new services), attitudes, beliefs/perceptions, HIV testing, and STI incidence.

Two outcomes were measured in more than one study and for interventions similar enough to allow the data to be combined statistically in a meta-analysis: sdUAI and UAI with a casual partner. The remaining outcomes were synthesised narratively.

Brief summaries of the interventions and methods for all eight studies are contained in Appendices E, F and G.

## **4.1 Meta-analysis 1: Sero-discordant/unknown status UAI**

Five studies evaluated interventions in terms of sdUAI. Two of these (one UK and one USA based) compared cognitive-behavioural-based interventions with standard HIV counselling using an individual allocation design (Dilley *et al.*, 2002b; Imrie *et al.*, 2001c). Broadly based on the techniques of cognitive-behavioural psychology, the cognitive-behavioural techniques in these interventions are based on the individual analysing and challenging their current thoughts, and how these thoughts affect their emotions and sexual behaviour. Individuals construct for themselves a more realistic, 'healthier' internal model of their world and this, it is argued, leads them to healthier sexual behaviours.

The findings of these two studies were pooled in a numerical meta-analysis. This decision was based on the similarities between the studies. In addition to measuring a similar outcome, both studies involved men who reported sdUAI in the previous 12 months or had an acute STI or were concerned about their sexual practices. Both interventions used cognitive-behavioural techniques so as to help men to balance risk and pleasure, and to examine the context behind risk taking behaviours. In one intervention mental health professionals asked men to examine their own self-justifications for high-risk behaviour, after these justifications had been recorded in a questionnaire (Dilley *et al.*, 2002b). In the other, group work asked men to identify the losses and gains linked to personal behavioural change (Imrie *et al.*, 2001c). Whilst one was delivered one-to-one in the USA (Dilley *et al.*, 2002b) and the other in a group setting in the UK (Imrie *et al.*, 2001c), reviewers considered that they were similar in other key areas and their findings could, therefore, justifiably be pooled. After calculating the pooled effect size, we found that the test for heterogeneity was not significant (see below), a finding that does not undermine our decision to pool these studies.

Of the other three studies measuring this outcome, that by Gold and Rosenthal (1998) conducted in Australia is the most similar in terms of the intervention evaluated in that it also utilised cognitive-behavioural techniques. Data from this study were not reported in a way that they could be entered into the meta-analysis. Whilst data were presented on the proportions of UAI which were with sero-discordant / unknown status partners (or with casual partners), they were presented as overall findings and not by group. They were therefore unusable in terms of judging the effectiveness for these outcomes.

The second intervention included gay-specific GUM services and a free-phone help-line. Both interventions involved the provision by peers of information and discussion about HIV, Hepatitis B and other STIs.

The remaining two studies that measured this outcome, by Elford *et al.* (2001) and Flowers *et al.* (2002), differed from the other evaluations in terms of intervention, study design, and in the comparisons made. Both evaluated UK peer delivered community interventions in cluster trials. The first evaluation was of a peer educator intervention in five London gyms (one acted as control), and the second was of a multi-component intervention amongst gay men in Glasgow,

with Edinburgh acting as the control. The second intervention included a peer educator component, gay-specific GUM services and a free-phone help-line. Both interventions involved the provision by peers of information and discussion about HIV, Hepatitis B and other STIs. Data from these evaluations were not entered into a meta-analysis and pooled with data from the studies by Dilley *et al.* (2002b) and Imrie *et al.* (2001c) for two reasons. In the first place, the interventions are too different, and in the second place, a meta-analysis incorporating data from cluster trials would need to take into account the similarities within each cluster with an intra-class correlation coefficient (ICC) (Donner and Klar, 2000; Donner and Klar, 2002). This statistic was not reported by either study and we had no means of estimating it.

Combining data from Dilley *et al.* (2002b) and Imrie *et al.* (2001c) showed that interventions based on cognitive-behavioural techniques were significantly more effective than standard HIV counselling sessions in reducing sdUAI (odds ratio (OR) 0.49; 95% confidence interval (CI) 0.29 - 0.84) when measured at six months. The results of the meta-analysis are presented graphically as a forest plot in Figure D1 in Appendix D.

The result can be interpreted as saying that these cognitive-behavioural based interventions reduced by 51% the number of men reporting sero-discordant or unknown status UAI. According to theoretical probability, this figure was the most likely result, with the probability of results ranging from 29 per cent to 84 per cent, 95 times out of 100. The test for heterogeneity was not significant (Chi-square = 0.16, df=1, p = 0.68), indicating that the studies were statistically homogeneous. Put another way this means that for every ten men at high risk of engaging in sdUAI who receive counselling sessions based on cognitive-behavioural techniques as opposed to standard counselling, one man will report no incidences of sdUAI six months later. (See Figure D1 in Appendix D for details of this number needed to treat).

When measured at twelve months, the difference in impact between cognitive-behavioural interventions and standard HIV counselling indicates a trend toward reducing sdUAI, but the result is no longer significant (OR 0.64; 95% CI 0.31 - 1.33). The effect of the intervention may lessen over time. The results of this meta-analysis are presented graphically as a forest plot in Figure D2 in Appendix D.

While the results of one meta-analysis show a significant beneficial effect at six months, they need to be used with caution. A large number of participants were no longer available after baseline measures had been taken and were therefore lost to follow up. Data were not reanalysed by the reviewers on an intention-to-treat basis. (Attrition in Dilley *et al.* (2002b) accounted for a total loss of 11 (18%), and ten (16%) participants in the intervention and control arms respectively at 12 months follow up; in Imrie *et al.* (2001c) attrition accounted for a total loss of 59 (34%), and 40 (24%) participants in the intervention and control arms at 12 months follow up.)

It needs to be mentioned here that the evaluation by Dilley *et al.* (2002b), had three intervention arms, only one of which (counselling using cognitive-behavioural techniques to supplement standard counselling) was used for the above meta-analysis, as this comparison was considered to be the most similar to that in the study by Imrie and colleagues. The other two arms (cognitive-behavioural supplementing standard counselling plus a sexual diary, and sexual diary with standard counselling) were both found by the authors to be effective for

sero-discordant/unknown status UAI at 12 months follow-up when compared with standard counselling.

Reviewers concluded that the interventions evaluated by Elford *et al.* (2001) and Flowers *et al.* (2002) described above showed no evidence of effect upon reported rates of sdUAI. The authors of both studies concluded that they found no evidence of effect but reported that the interventions were not implemented as planned. Limitations in these studies that reduce the confidence we can have in these findings include, differences in time to follow-up, and differences in baseline measures (Flowers *et al.*, 2002). In addition, Elford *et al.* (2001) report that their gym-based peer-delivered intervention was not delivered as planned, with very low proportions of gym members (3% of those surveyed post-intervention) actually making contact with peer-educators. Authors of both studies reported problems with the recruitment and retention of peer educators and described how peer educators felt uncomfortable discussing some areas of sexual health with their peers (see section 4.4). Both sets of authors argue that it is possible that structural and cultural barriers exist to such interventions in some situations in the UK.

The results of this meta-analysis and narrative synthesis indicates that workshops or counselling using cognitive-behavioural techniques when compared with standard counselling are effective in reducing the number of men who report having sero-discordant/unknown status UAI, but that the effects of this may diminish over time. The results need to be applied cautiously due to potential attrition bias and it should be remembered that they are based on studies of participants at high risk of reporting sero-discordant/unknown status UAI, and not MSM in general. The results of a narrative synthesis of two further studies indicates that there is no evidence for the effect of peer-delivered HIV health promotion on this outcome.

## **4.2 Meta-analysis 2: UAI with casual partners**

A total of six studies measured the number of men reporting UAI with casual partners. This outcome was combined separately from sdUAI as the two outcomes relate to different types of sexual HIV exposure.

Two American studies examined the provision of workshops or counselling which confront risk within the wider context of the participants' sexual lives. (Picciano *et al.*, 2001; Rosser *et al.*, 2002). In the first of these studies, men in the intervention group received a 90 –120 minute telephone counselling session tailored to their individual needs which were identified at a baseline assessment call. The counselling used Motivational Enhancement techniques. In the second study, the intervention group participated in a two day group sexual health seminar which addressed a wide range of contextual issues relevant to sexuality. For the first of these studies, comparisons were made with a waiting list group seven weeks later. For the second, a comparison group was shown HIV prevention videos for three hours. Reviewers considered both of these comparisons to be equivalent to usual services. Follow up measures were taken at seven and twelve weeks respectively. The data from these two studies were pooled in a meta-analysis of UAI with casual partners.

The decision to combine both of the above studies in a meta-analysis was again taken on the basis that, as well as reporting a similar outcome, they were similar in population and intervention. In terms of population, both studies recruited men by adverts and/or outreach, although the men in the study by Picciano *et al.*,

appear to have been considered 'at risk' by the study's authors and those in the study by Rosser *et al.*, are not described in this way. The reviewers noted that one study was an evaluation of an individual level intervention and the other of a small group intervention. However both interventions emphasised the context of sexual risk taking. The Australian evaluation by Gold and Rosenthal (1998) also collected data on this same outcome but because of incomplete reporting it could not be used in the meta-analysis (see section 4.1). The results of the remaining three studies are discussed further below.

Combining data about UAI with a casual partner from the two evaluations revealed no significant impact (OR 1.08; 95% CI 0.57, 2.04), indicating that the interventions had no effect on reducing the number of men reporting UAI with casual partners. These results are presented graphically in Figure D2 in Appendix D.

No statistical heterogeneity was found (Chi-square 0.89, df=1, p=0.35) indicating that the studies were similar statistically.

The three further studies that measured UAI with casual partners but were not included in the meta-analysis (Elford *et al.*, 2001; Flowers *et al.*, 2002; Shepherd *et al.*, 1997) were all conducted in the UK. These shared similar interventions, comparisons and evaluation designs. They compared the provision by peers of information and discussion about HIV, hepatitis B and other STI with usual services using cluster trial designs. The second of these interventions also included gay-specific GUM services and a free-phone help line. The studies were not included in the meta-analysis because of difficulties obtaining an intra-class correlation coefficient (see meta-analysis 1, above – section 4.1).

Reviewers concluded that these three studies showed no evidence of effect on casual UAI. Limitations in the first two of these studies that reduce the confidence we can have in these findings have already been mentioned in section 4.1, as have findings from integral process evaluations that indicate that it was not always possible to deliver interventions as planned. The integral process evaluation by Shepherd *et al.*, (1997) does not report difficulties with peer educator recruitment but does describe how peer educators felt uncomfortable when discussing certain areas of sexual health. It is also possible that UAI with a casual partner does not have a sufficiently shared meaning, either among participants or researchers.

The results of this second meta-analysis indicate that the effect on casual UAI of workshops or counselling that contextualise sexual risks is unclear. Examination of three studies of the impact of peer-delivered HIV health promotion indicates that there is no evidence for the effect of such interventions on casual UAI.

## **4.3 Narrative synthesis**

This section presents findings for those outcomes prioritised by the review's Advisory Group which could not be entered into a meta-analysis.

### **4.3.1 Practical skills**

One study intended to measure self-efficacy strategies to avoid unsafe sex occurring as a result of a motivational counselling session, but did not report these results (Picciano *et al.*, 2001). The results of this intervention on this outcome is therefore unclear.



### **4.3.2 Knowledge/awareness**

Two studies (one Australian, one UK based) reported that they intended to measure knowledge/awareness. Gold and Rosenthal (1998) asked participants in both intervention groups of the three-arm trial (but not the control group) whether they thought they had 'learned anything new'. Lack of data from the control group means we cannot be clear as to whether undertaking detailed reconstructions of an episode of unsafe sex or studying posters about unsafe sex have an effect on knowledge. Shepherd *et al.* (1997) measured a range of knowledge items about HIV, HIV testing, other STIs and sexual health services. Significance tests are reported only for within group differences. Thus the effect of the intervention on this outcome was unclear.

### **4.3.3 HIV incidence/structural outcomes/ interpersonal skills**

No studies measured the incidence of HIV as an outcome. Similarly, none measured structural outcomes, for example changes to policy or service provision, or interpersonal skills, such as communication.

### **4.3.4 Attitudes/beliefs**

Three studies evaluated intervention effects on attitudes and/or beliefs. Imrie *et al.* (2001c) measured a range of attitudes/beliefs within an 'HIV attitudes questionnaire' after a cognitive-behavioural group-based intervention. Shepherd *et al.* (1997) measured attitudes towards gay and bisexual lifestyles after a peer-education intervention. Elford *et al.* (2001) measured attitudes around peer values for safer sex and personal values about HIV therapies after a peer-education intervention. The effect of these interventions on attitudes/beliefs was unclear. In the first study, only those statistically significant individual components of the outcome measured were reported. In the second study, statistical test results for this data are within-group difference rather than between-group differences. In the third study, the effect of the intervention was unclear because data for the outcome were not reported.

### **4.3.5 HIV testing**

Two studies of peer-delivered interventions measured the proportion of participants who had ever tested for HIV (Elford *et al.*, 2001; Flowers *et al.*, 2002). Reviewers concluded that the study by Elford *et al.* (2001) showed no evidence of effect for this intervention on this outcome, because only a small statistically non-significant improvement in HIV testing between groups was found. Reviewers agreed with the conclusion of Flowers *et al.* (2002) that their study showed no evidence of effect on HIV testing at the community level.

### **4.3.6 STI incidence**

Only one study (Imrie *et al.*, 2001c) looked at effects on STI diagnosis. This examined the effect of providing a workshop utilising cognitive-behavioural techniques, in addition to standard management (one-to-one counselling, with the

offer of community referral, skill development and contact tracing) on the number of new STIs diagnosed. Both all-STI incidence and bacterial-only STI incidence were measured. Authors included the latter measure as it was considered a better proxy measure for UAI. Reviewers agreed with the authors that the intervention had harmful effects on all-STI incidence but that there was no evidence of effect for bacterial-only STI incidence.

A possible explanation for the increase in all-STI incidence might be that intervention leading to a significant reduction in sero-discordant / unknown status UAI may be accompanied by a rise in sero-concordant UAI. This could indicate that the workshop was indeed successful in providing men with both the skills they required to ascertain the HIV status of their sexual partner, and greater control over negotiating safer sex with partners of unknown or sero-discordant status. However it is possible that where men had identified that they and their partner were sero-concordant they were choosing to engage in UAI and were therefore at risk of contracting other STIs.

Summary descriptions of the studies included in the review of outcome evaluations are presented in Appendices E, F and G.

## **4.4 What can we learn about the acceptability, content and implementation of interventions?**

As is described in section 3.4.1, five of the eight studies in the effectiveness synthesis also conducted process evaluations. Some of the main messages and lessons learned from these process evaluations are summarised below.

### **4.4.1 Perceptions, understanding or acceptability of the interventions**

Findings of the process evaluations relating to participants' perceptions of interventions are of two types, those relating to direct contact only interventions and those relating to interventions centred on peer-education. Of the former, Gold and Rosenthal (1998) report how the participants in the arm of their study who received two sets of posters rated the likely effectiveness of those posters. The two sets were considered 'very' or 'extremely' effective by 41% and 66% of the men respectively.

The responses of peer-educators to the interventions that used peers as providers were mixed. At the end of the study set in London gyms men said that they would want to be peer-educators again. However they felt the intervention needed to be longer if it was to be effective and needed to be publicised more within the gym: they were spending much of the time they talked with peers in explaining its purpose (Elford *et al.*, 2002). Men in all three studies reported being more comfortable providing factual information, for example about means of HIV transmission. The peer-educators in the London study found it 'easier to talk about steroids than about sex' (Elford *et al.*, 2002: p. 355). The men who delivered peer-education in gay bars in Glasgow found discussing sexual behaviours such as UAI and emotional or relationship issues difficult (Flowers *et al.*, 2002). The peer-educators recruited in Southampton enjoyed interviews with their peers and felt that they gained knowledge and skills. They also, however, avoided discussion of attitudes, because this was considered too complex, and did not talk about sexual practices in great depth. They gave a variety of reasons for the latter, including concerns about it being counter-productive or being seen

as preaching, not always being necessary or appropriate - sometimes because peers had not brought the topic up on their own – and that such discussions might impact on their relationship with that peer (Shepherd *et al.*, 1997; Shepherd *et al.*, 1999).

The acceptability of these peer-education interventions to someone other than the educators themselves was explored in less depth. Gym managers in the London gym study were positive about their experiences, saying that it complemented the health promotion stance of the gym and fitted in with practical aspects of gym management. This study was the only one directly to ask peers for their views. Most (80%) of gym users responding to a self-completion questionnaire thought it useful to have peer-educators in the gym to talk about risk reduction, although few (see below) had actually spoken with them. The remaining, indirect evidence of acceptability to peers comes from peer-educators' reflections on their experiences. The gym-based educators in general felt they had been well received, and noted that they had been able to establish trust with HIV positive men. The Southampton peer-educators felt that peers enjoyed the interviews held with them and none encountered a refusal from a potential interviewee.

#### **4.4.2 Accessibility of the intervention/ project reach**

An important issue for all HIV health promotion interventions is how far they reach beyond easily accessible MSM to involve participants from groups that tend to be excluded from social activities and supports. This aspect was not examined in depth by most of these studies. Picciano and colleagues studied the extent to which counsellors within an intervention centred on self-motivational counselling actually elicited statements about sexual safety from participants of different ethnicities (Picciano *et al.*, 2001). They reported that counsellors were more likely to elicit these statements from non-white participants and also more likely to discuss negative consequences of unsafe sex and the benefits and losses of safer sex with these participants.

Where this is described, the peer-educator interventions do not seem to have recruited peer-educators who themselves were difficult to access. The peer-educators in the Southampton study were predominantly white, young gay men who were integrated into the gay community. The Glasgow study recruited men but also women as peer educators (see below). In the Glasgow and London studies these educators were then expected to make contact with men frequenting commercially-run social settings (gay bars and members-only gyms) where they could be expected to find a self-selecting body of MSM, presumably a relatively affluent one, for example. Furthermore, in the gym-based study, peers tended to make contact with men that they knew by sight. In the Southampton study recruitment was left up to the peer-educators to organise themselves and some recruited opportunistically, initiating peer-education interviews with men met in a variety of settings. This approach was described as accessing men other than those who might go to gay bars. The Glasgow study also looked at records of the gay specific GUM services set up as part of its intervention. It found that 98% of men who registered with the GUM services within the intervention period described themselves as white.

#### **4.4.3 Skills and training of the intervention providers.**

The skills and training of intervention providers was an issue in all of the evaluations of peer-education. The Southampton-based study found that training in the provision of factual information about HIV transmission and prevention helped give trainee peer-educators confidence. As described above, peer-educators in all three studies described feeling uncomfortable with certain topics they had been expected to discuss.

In the Southampton study they rated their training generally to have been appropriate and effective but said that it had left them not feeling skilled enough to deal with discussion about attitudes and safer sex. These authors note that they did not have sufficient time to provide training beyond the ability to provide information. Aspects of training identified as important by peer-educators in Southampton included participative and interactive exercises, delivery in an informal and social atmosphere and group bonding enhanced by small sized groups. The authors of the London gym study report six to be the ideal group size for training and that trainees preferred the training to be held at the gym. This study found that preparing and running training sessions was time-consuming and that providing support to peer educators after training took more of the health promotion team's time than had originally been anticipated. The peer educators were given monthly meetings at the gym, plus telephone and e-mail contact. They report that the range of knowledge and understanding of trainees varied considerably across each training group even though background material was sent out beforehand, but also that peer-educators were generally satisfied with their training and support.

In terms of programmes given, peer-educators in the Glasgow study were trained in communication skills and specified message delivery, using role play. The authors note that training did not include scripted conversations, as used in the US-based study upon which the intervention was modelled (Kelly *et al.*, 1992). Training in the London gym study was provided by two members of the health promotion team and drew on the training manual for this same US study. It comprised a one-day session and covered basic facts and misconceptions about HIV infection, strategies for risk reduction, HIV testing, relationships, cross-infection, referral to other agencies and use and misuse of steroids. Improving communication skills is described by the study authors as playing a large part in training.

#### **4.4.4 Implementation/delivery of the intervention**

Study of intervention implementation, restricted as it was to the three evaluations of peer-education centred interventions, was focused upon both peer-educator recruitment and the extent to which peer-educators actually made contact with their peers. Recruitment and retention was difficult for two of the studies. Potential peer-educators were identified by the gym managers in the London-based study and a large number (144) were found, but less than one in five (27) actually participated. Initial discussions with the potential peer-educators took the equivalent of four weeks' full-time work for a member of the project team. Reasons given for declining to participate included a lack of time (especially among the 'popular' men who the intervention team intended to involve), a lack of confidence and a lack of interest. The project team for the Glasgow bar study had such difficulty trying to recruit popular MSM to be leaders that they decided to pay men and women to deliver safe sex and health service messages. The authors

note that, while these people were peers in the sense that most were recruited in bars and were often recognizable to bar clientele, this again did not replicate the 'popular people' model outlined in the Kelly *et al.* (1992) study.

In two of the peer-education based studies the actual numbers of peers contacted by peer-educators were small. Only 3% (19/612) of the surveyed London gym members said they had spoken to a peer-educator during the intervention period (four to five months). On average, each peer-educator reported conversations with ten gym members. The 20 peer-educators in Southampton made contact with a total of 43 peers over three to six months. The Glasgow bar-based intervention, in comparison, resulted in almost 1500 interactions with 42 peer-educators over nine months. However, the authors report how the telephone hotline, established as part of this intervention, was terminated six months into the study because of hoax calls.

#### **4.4.5 Content of the intervention**

The findings about the numbers of peer-educator contacts presented above need to be considered alongside findings about what actually happened during these interactions. Most interactions in the London gym study were brief and information giving. Peer interactions in the Glasgow bar-based study lasted an average of ten minutes. Sexual health issues were discussed in 80% of interactions, whereas 'psychosocial issues' were discussed in under 40%. The sexual health issues raised the most by peer-educators and peers alike were hepatitis B and HIV testing. The psychosocial issues raised the most were same sex relationships and general health. Peer-educators gave over 1300 leaflets directly to men. The initial contact in the Southampton peer-education study, in contrast, averaged 20 minutes and at times extended to a whole evening. Contact was then re-established at a follow-up interview at a later date. As described above, discussion related to HIV tended to focus on factual information exchange, but longer conversations progressed onto discussion of love and relationships, periodically returning to sexual health. The authors note that the interim period between interviews had been conceptualised as an opportunity for informal discussion of sexual health issues, but this did not happen.

## 5. SYNTHESIS OF THE VIEWS OF MSM

### *Outline of Chapter*

*This chapter presents the synthesis of the findings of the ten methodologically reliable studies we identified which examined the views of selected groups of MSM in the UK concerning sexual health in the context of HIV. It describes:*

- *themes which emerged across the studies;*
- *the barriers to, and facilitators of, HIV-related sexual health derived from these descriptive themes; and*
- *the implications for interventions to promote HIV-related sexual health to MSM.*

*Appendices H and I and contain more systematically ordered information on the characteristics of the studies, their methodological quality, and their findings.*

*This chapter should be read by:*

- ***practitioners, policy specialists, and others who want to hear the views of HIV positive MSM, MSM who sell sex, working class MSM and young MSM about their HIV-related sexual health and the barriers to and facilitators of HIV-related sexual health; and***
- ***researchers or research commissioners who are interested in the methodology of combining studies of people's views and the nature of studies of these views in specific vulnerable groups of MSM.***

### ***Key Messages***

- *the synthesis of findings was generated from studies involving 706 MSM living in England, Scotland or Wales. Five studies were focused solely on HIV positive MSM, three on MSM who sell sex, one on working class MSM and one on young MSM.*
- *the nine themes fell into three broad categories: 'perceptions of sex, self and others in a risky world', 'engaging with sex and HIV' and 'experiences of support, advice and information'.*
- *nine descriptive themes emerged from these studies:*
  - *the value of sex*
  - *understandings of sexual health and HIV*
  - *sex as a social activity*
  - *perceptions of self at risk*
  - *assessing risk*
  - *communicating over risk*
  - *strategies for sex and risk*
  - *services and resources*
  - *informal support, advice and information.*
- *from these themes, reviewers abstracted 29 barriers to and 14 facilitators of HIV-related sexual health that had been identified by MSM. Two reviewer-inferred barriers were also identified. The barriers and facilitators were also classified in terms of whether they were attributes of MSM themselves, or of the wider community, services and/or policy makers.*

- *thirty intervention needs were derived from MSM-identified barriers and facilitators and a further three implications from reviewer-inferred barriers and facilitators.*

A total of 14 studies of MSM's views met the inclusion criteria for the in-depth review because they focused solely on one of the review's vulnerable groups of MSM and used data collected in or after 1996. They were assessed for their methodological quality as described in Chapter Two. Four of the studies were judged as having a low weight of evidence and were excluded from the views synthesis.

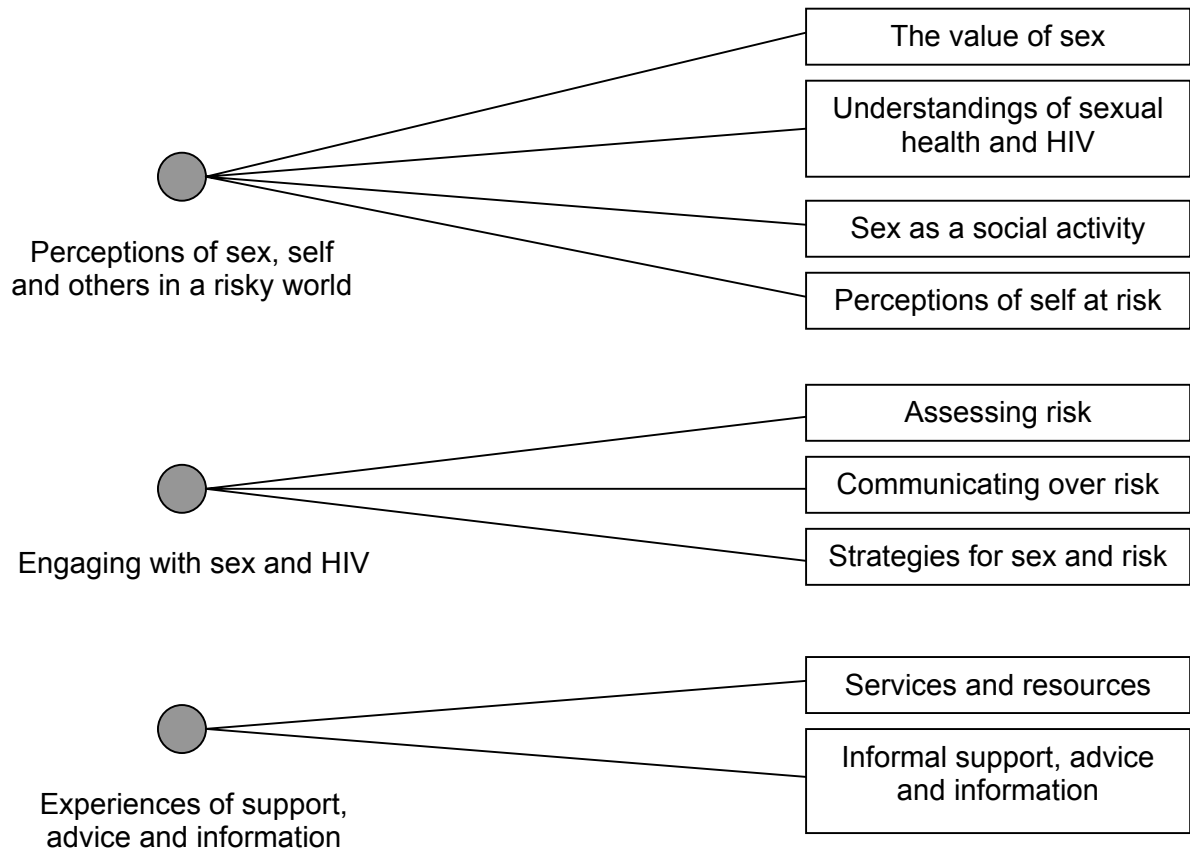
The synthesis of findings presented in this chapter was generated from studies involving 706 MSM living in England, Scotland or Wales. In terms of data collection, only one of the ten studies collected data solely using fixed-response questionnaires (Stephenson *et al.*, 2003b). The remainder all used semi-structured interview techniques with or without additional questionnaires. One study used group interview techniques (Warwick *et al.*, 2001). Five of the studies focused solely on HIV positive MSM. Of the remaining studies, three focused on MSM who sell sex, one on working class MSM and one on young MSM (aged 25 or under).

## **5.1 Descriptive themes**

Qualitative analysis of the findings of the studies resulted in nine descriptive themes. These themes fell into three main categories: i) Perceptions of sex, self and others in a risky world; ii) Engaging with sex and HIV; iii) Experiences of support, advice and information (see Figure 5.1). The first of these categories was used to group together MSM's discussions of sex and HIV that did not explicitly describe rationales for action or experiences of services and sources of information and support. These discussions centred on the ways in which value was apportioned to sex, the use of terminology and relationships to knowledge, the ways in which men saw themselves as social actors and the extent and ways in which men described themselves as being at risk. The second category was used to pull together the ways in which men linked together their perceptions of the world of sex and risk with action, in the form of rationales for action, for example, or when describing the pros and cons of different approaches. The last category grouped together these MSM's references to sources of information, advice and support.

This framework was employed to synthesis the findings from studies of each vulnerable group in turn. More details of the synthesis methods are given in Appendix J. The perspectives and experiences of MSM who sell sex are presented first, followed by those of young MSM, working class MSM and HIV positive MSM in turn. Further details of each study can be found in Appendices H and I.

**Figure 5.1 Interrelated descriptive themes identified across studies of MSM's views (N=10)**





### **5.1.1 The perspectives and experiences of MSM who sell sex**

The three studies of men who sell sex to other men varied in terms of the depth with which they presented findings and the extent to which they covered different aspects of sex and sexual health. All three studies used interviews with an open-ended approach to questioning. The studies involved 39 men and were conducted in urban centres outside London: one in Bristol and Cardiff (Darch, 2002); one in the Wirrall (Kelly and Murphy, 1998b) and one in Bradford (Hudson and Rivers, 2002). Many of these men were aged under 25.

There were differences between the men sampled in terms of drug use and homelessness. Men in the Bristol and Cardiff study were all taking class A drugs, were homeless, cited buying drugs as their motivation for selling sex, and 95% had been in the social care system for more than three months. A quarter of the men in the study conducted on the Wirrall linked selling sex to drug use, but none had experienced homelessness and or been in care. The study of men in Bradford made no mention of homelessness or experiences of care, and drugs were mentioned only as one of a list of factors influencing condom use. This last study compared the perspectives of men who sell sex on the streets with those who work from rooms in flats, houses or hotels. The men in the other two studies sold sex on the street. Therefore the men's socio-economic status and extent to which they were socially excluded clearly varied between studies, illustrating that men who sell sex are not a homogenous group.

The study of men who sell sex in the Bradford district (Hudson and Rivers, 2002), although small in size (with seven participants), provided the most in terms of men's own descriptions of their experiences and perspectives. This study presented men's accounts of the ways in which selling sex was negotiated and managed and explored feelings about selling sex. It also described men's views of the services they would like available in their local area and their experiences of services to date. The remaining two studies (Darch, 2002; Kelly and Murphy, 1998b) involved 20 and 12 men respectively. Findings relevant to this review related mainly to men's experiences of health services and their expressions of service needs. Both studies presented very little in terms of men's views about sex or sexual health, focusing mainly on the prevalence of different drug-related and sexual activities.

#### **Perceptions of sex, self and others in a risky world**

Only two of the three studies involving men who sell sex could be conceptualised as describing the meaning of or **the value of sex**. It needs to be noted, however that these studies appear only to have asked men about their experiences of the sex that they sell. Enjoyment was mentioned but only in passing. One study noted that, when asked for motivations for selling sex, ten percent of men said they liked what they were doing (Darch, 2002). Another stated that, 'for the majority of participants, enjoyment was not a factor in selling sex' (Hudson and Rivers, 2002: p. 15). The two groups of men interviewed in this study were also asked to describe in no more than five words how they felt about their sex work. The men's responses were presented in full, as follows. 'Street-based participants described selling sex as: Angry - very angry, Blank it out, Disgusting, Dodgy, Don't talk about it, Easy money, Fabulous, Filthy, Frightening, Interesting, Money, Raped, Tramp. House, flat and hotel-based participants described selling sex as: Caring, Different, Dignity, Exciting, Giving pride, Giving service, Horny, It's in the past now, Lucrative, Naughty, No regrets, Relaxing, Risky/risqué, Sexy'. The

words provided by the street-working MSM were noticeably more negative than those used by those men who sold sex from premises.

The perspectives of men who were selling sex on condom use and the value of UAI were given in two studies in response to men being asked why they did not always use condoms (Darch, 2002; Kelly and Murphy, 1998b). In both studies, condom-free sex was described as a way of getting more money from clients. As described below, however, more central to these men's accounts of UAI within sex work was their experience of it as an activity into which they feared they might be forced.

These men's perceptions of **sex as a social activity** was hinted at in some of the terms used above to describe selling sex (e.g. 'giving pride', 'giving service') but was also emphasised by Hudson and Rivers (2002: pp. 17-18) who state that powerlessness was one of the key issues that arose in their study. Men in this study perceived their clients as having 'much of the power in determining the nature of the sex to be provided' (p. 15.)

In terms of **perceptions of self at risk**, one study asked men explicitly about this (Hudson and Rivers, 2002). The study asked men to describe the risks of sex work and ways of reducing these risks. All participants in this study acknowledged that there are risks associated with selling sex. They talked of fears of being forced to have unprotected sex, thus phrasing their experience largely in terms of an emotional or physical experience. Perceptions of risks differed between street-workers and those selling sex from premises. The street-working men recounted instances of being beaten up and/or raped, being forced to have UAI, having not been paid, or of being obliged to get into a client's car. Men selling sex from premises, in contrast, talked of legal risk (of losing another job as a professional) or about how risks were encountered by everybody in all areas of life. In one further study (Kelly and Murphy, 1998b) men did not talk specifically in terms of risk but did describe the potential in their work for negative outcomes. Again, these men talked of the potential for violence through sex work in public environments. A third had experienced this violence first hand.

These studies did not present findings on men's **understandings of sexual health and HIV**.

### **Engaging with sex and HIV**

The three studies contained very little about the views of MSM who sell sex on how they approached sex in the context of HIV.

No explicit reference was made to **assessing risk**. The only references that relate to **communication over risk** were made in Kelly and Murphy's study of men selling sex on the Wirrall. Few of these men described fixing a price for sexual activity or ensuring payment before sex took place. Discussion before sex over what sex took place varied but many men reported none (Kelly and Murphy, 1998b) .

In terms of **strategies for sex and risk**, the study of the two groups of sex workers in Bradford found that groups differed in their accounts of negotiating and controlling the sex they sell. Street-based men were described as demonstrating much less control over the course of their lives than men in the other group. They described working in many more locations and moving around 'in order to offer "fresh meat" to new clients'. In contrast, men who sold sex from premises, 'had a clear idea about the limitations they placed upon their clients in terms of services

offered'. They planned their work in advance, selected or screened clients and controlled the services on offer (Hudson and Rivers, 2002: p. 15).

### **Experiences of support, advice and information**

As noted at the start of this section on studies focused on men who had, or were currently, selling sex, these studies highlighted some key differences in the circumstances and lives of this group as compared to other groups of MSM. Drug use, homelessness, poverty, violence and coercion and potential arrest for selling sex were some of the factors with which some or all of these men had to contend. These factors inevitably impacted upon the services with which men came into contact and the informal support available to them.

Most was said about men's experiences and needs for **services and resources**. In all three studies, men's descriptions of selling sex on the street revealed an unsafe workplace with threats of violence and non-payment. The illegal status of the work was recognised as underlying these problems (e.g. 'Being young and illegal, you just had no protection' (Hudson and Rivers, 2002: p. 16)). The men wanted to see improvements in their working environment. The street-based workers described by Hudson and Rivers (2002) identified the legalisation of prostitution as one of their immediate needs (alongside the provision of free condoms). Some of the house/flat or hotel based men wanted to see changes in legislation and unionisation. One of the 12 men from the Wirral mentioned that he would like a safer working environment when asked whether there were any other services he would like to see available ('a safe space where I could take customers') (Kelly and Murphy, 1998b: p. 11).

Given the high levels of violence experienced by these men, the police have a key role to play. However, problematic experiences with the police were documented in all three studies. Men selling sex in Bradford and the Wirral did not feel they could approach the police for help due to a lack of trust, fear of arrest and/or fear that they would not be believed. Kelly and Murphy (1998b) report that one man who sold sex on the Wirral did not see the police there as 'particularly sympathetic to homosexuals' continuing that he 'wouldn't be happy about them knowing anything about me' (p. 12). All but one of the twelve men interviewed in the same study felt that they would not feel able to contact the police after a violent attack ('I wouldn't ever report an incident to the police. I would just have to deal with it myself') (Kelly and Murphy, 1998b: p. 12). Mention of problems with the police in the last of these studies is restricted to one quote (Darch, 2002).

Perhaps reflecting the need for support around multiple issues (e.g. drug use, homelessness), the men in all three studies wanted to see specialist services tailored to their needs as men (or young men) who sell sex to other men. The problems for the men studied by Darch (2002) in accessing drug services were seen by the men as reflecting a lack of 'joined-up' service provision. They expressed a need for a holistic approach, with agencies competent in both drug and sexuality issues. The men also stated that anyone who works with them should avoid 'passing them on to' other agencies (p. 14). The men selling sex on Bradford streets in Hudson and Rivers (2002) wanted a place to go for information, advice and social support which was not necessarily linked to sexual health services. They also suggested that an outreach and counselling service, and a befriending network would be of benefit to them. All of these should be easy to access and non-judgemental. This kind of specialised support was also expressed by some of the men studied on the Wirral in Kelly and Murphy (1998b: p. 11) (e.g. 'Hostel for working boys and counselling for under age boys').

In terms of sexual health services, the 12 men from the Wirral studied by Kelly and Murphy (1998b) were reported to all have a 'general understanding relating to sexually transmitted diseases and were aware of the services to treat them' (p. 15). Responses ranged from 'all right' to 'brilliant' when men were asked about their experiences of GUM clinics, although the men noted that they did not tell the staff that they sold sex. Interactions with doctors were described as 'difficult', and the authors noted that 'Communication problems and underlying prejudice influenced the men's experiences of treatment' (p. 15) but did not elaborate further on this issue. Hudson and Rivers (2002) reported that men selling sex on the street were less likely to access regular health screening than those selling sex from houses/flats or hotels. One man in this study explained how he was reluctant to access health services in the UK until he had actually contracted an STI because he had had sex before the legal age of consent. The provision of free condoms was identified as an immediate need of street-based men.

Relatively little was presented in these studies about these men's experience and expressed need for **informal advice and information**. Although none of the studies appeared to ask men directly for their views about this, two studies suggested the importance of social support for men who sell sex. Two of the men studied by Kelly and Murphy (1998b) said they wanted places to go to meet other gay teenagers and one man argued that he would stop selling sex 'as soon as I get a boyfriend' (p. 11). Becoming involved in a relationship was cited as a reason for why one man in the study by Hudson and Rivers (2002) stopped selling sex. In the same study a lack of contact with other gay men was cited as a reason why men decided to start selling sex. Another man in this study noted how his decision to stop selling sex was related to becoming HIV positive and a subsequent fear of being cut off from the gay community if he continued to do sex work.

### **5.1.2 The perspectives and experiences of young MSM**

Only one study focused on the views of MSM who were aged 25 or younger (Warwick *et al.*, 2001). Almost half the 77 participants in this study were 21 or over, but four were aged between 11 and 16. The study looked at the general health needs of these men using specially convened meetings and men were asked to respond in writing to various questions. These included two about HIV, AIDS and sex: 'what was the first/the most recent thing about HIV, AIDS and sex that made you stop and think?', and 'what things about HIV, AIDS and sex currently make you anxious or worried?'. The findings of this study were limited for the purposes of this synthesis because the authors mainly restricted themselves to providing only general statements about the views of participants. In the main, findings were phrased solely in terms of 'some' participants having reported experience of a given situation.

#### **Perceptions of sex, self and others in a risky world**

This study's description of these young men's views of the **value of sex** and their perceptions of **sex as a social activity** was limited. Some of the men were reported as questioning their identity as gay men. In response to being asked what things about HIV, AIDS and sex made them anxious or worried, these men reported how not having or stopping a particular type of sex left them wondering whether they were unusual compared with other gay men. Quotes were provided that relate to anal sex. The authors also, however, described how other participants in the study had 'very positive' feelings, not only about anal sex, but

about oral sex as well' (p. 24). The authors reported that some men described problems with using condoms. This was supported with a quote about how condoms 'interrupt[ed] the "flow" of sex' and 'destroyed the mood' (p. 24).

Men's **understandings of sexual health and HIV** were also not explored in any depth. Several young men expressed concern that they were uncertain as to whether oral sex was risky either for themselves or their partners. These men were not asked about and did not refer to the concept of sexual health.

In terms of **perceptions of self at risk**, these men emphasised risks to both their health and to themselves socially. Some men described how they were 'made to stop and think' by being asked to have a type of sex that they thought might put them at risk from HIV. Examples included being asked to have anal sex and sleeping with a partner known to be using intravenous drugs. In terms of social risks, the authors described how a few young men were worried about issues of discretion and anonymity around HIV tests. They provide quotes from two men to illustrate this. One wanted information in the form of leaflets that was both 'more circumspect yet easier to hand' before taking a test. The other was concerned about prospective employers finding out about his testing (p. 25).

### **Engaging with sex and HIV**

These men's accounts of **assessing risk** focused solely on events that led to thinking about testing for HIV. The authors described how one man took a test as a result of reading a leaflet but stated that many more had thought about and been for tests after an incident of 'unsafe sex' (p. 21). This study does not include men's views on **communication about risk**.

Men in this study did not talk explicitly about particular **strategies for sex and risk**. However the experience of casual or anonymous sex in particular appears to have been problematic for some. Two men were quoted as feeling confused because of taking risks despite being informed of the facts about HIV transmission. Two were described as becoming more cautious after casual encounters. These young men described 'the worries they had in balancing pleasures with safety' (p. 24). Supporting quotes described feeling anxious about risks while having sex and described regret about not feeling able to find out about a partner's HIV status or discuss 'safer sex' (p. 24). The authors stated that, 'on a few occasions, alcohol was said to be involved in unsafe sexual encounters' (p. 22).

### **Experiences of support, advice and information**

Most of the findings relevant here were very general statements about raised awareness: again, things that respondents mentioned as being something that 'made them stop and think'. In terms of the frequency of mention of different factors, informal conversations with friends and family far outnumbered more structured discussions which might be organised by services (such as those in education, group work or counselling).

These young men reported their experiences of **services and resources**, in particular, their experiences of formal face-to-face discussions with professionals from different services. These included sex and relationships education in schools, visits to counsellors or clinics and taking part in groups focused on sex or AIDS, run either by HIV prevention agencies or youth groups. Experiences of the first type of discussion were described as 'mixed', experiences of the second 'were reported somewhat more positively' and experiences of the third were 'all...

reported positively' (pp. 19-20). The experiences of going for an HIV test and anticipating test results are described by the authors as raising feelings of nervousness and anxiety in the young MSM surveyed.

Large and small media about HIV, AIDS and sex were also mentioned as things that had made these young MSM 'stop and think'. Films were considered generally helpful in raising awareness about AIDS but some respondents reported feeling both informed and scared at the same time. Campaigns and leaflets were mentioned only by a minority (four) of respondents but the authors state that these had led to raised awareness or positive action. Findings about men's expressions of need in this study are limited to those around HIV testing expressed by one man with respect to leaflets (described above).

In talking about **informal support, advice and information**, these men described the usefulness of conversations with family members as sometimes being open to question. Respondents 'indicated that conversations with friends had made them more aware of AIDS-related issues, encouraging some to reappraise their own ideas about personal safety'. The quotes presented to support this finding all relate to respondents finding out that friends had been diagnosed HIV positive or had taken a test (e.g. 'I found out that a close friend of mine had AIDS. It made me look at what I was doing in my sex life and how I could make it better and safe'). The authors then state that, for some young men, 'conversations with people who were themselves affected by HIV led only to shorter-term resolutions about condom use and safer sex' (p. 19). Although informal support from friends and family were considered helpful, they were limited in the extent to which they influenced young men to make lasting risk reduction decisions.

### **5.1.3 The perspectives and experiences of working class MSM**

Only one study was found that was explicitly concerned solely with socially disadvantaged men (Keogh and Dodds, 2004). For men to be included in this study, both they and their parents had to have left full-time education aged sixteen or under and, if employed, had to be in unskilled or semi-skilled occupations. A total of 36 men from London took part in semi-structured interviews. This study uses perceptions of, and approaches to, risk as a key theme in its analysis. Participants were defined further in terms of whether they avoided anal intercourse altogether, had anal intercourse but always with condoms, or had reported any unprotected anal intercourse in the previous year. The last of these three groups was further sub-divided into those who discussed an episode of UAI with a long-term partner and those who discussed an episode with a casual partner.

#### **Perceptions of sex, self and others in a risky world**

In terms of the **value of sex**, this study's authors emphasised the importance of intimacy and moral considerations for participants, in particular among those who had a rule either of no anal intercourse or of always using condoms for anal intercourse. Quotes from these men described how intimacy meant much more to them than 'the actual sexual act', or how they could envision times when they might engage in UAI, however they would 'like it to be more intimate.... [not] the way it used to be, you know what I mean?' The study authors summed this up as follows, 'rather than desiring a boyfriend in order to be able to engage in UAI, they desire a partner with whom they can share romance, passion and intimacy

and the potential of having anal intercourse is incorporated into that vision, but does not necessarily dominate it'. (p. 26)

Men in this study did not talk about their **understandings of sexual health or HIV**.

Two specific findings in this study included these men's perceptions of **sex as a social activity**. The first was that some of the men who always used condoms for anal intercourse felt that they would be personally irresponsible were they not to wear one and that they would become morally at fault. One of the men quoted as an illustration of this said, 'had I got AIDS I wouldn't have expected any sympathy at all' (p. 30). The second finding related to testing and test results. These were described as being overlain with issues of morality and as being used to maintain the moral balance between partners within a relationship. Here, an assertion of a need to test for HIV within a partnership was described by some men as an indication that a partner had overstepped a boundary, for example by having sex with another man. Men described how the relationship's balance could then only be re-established with the aid of a test result. The act of testing and test results here appeared to be far more than just a way of finding out about HIV status.

The working class men in this study talked in terms of **perceptions of their self at risk**. Some men avoided anal intercourse entirely because of concerns about HIV transmission, regarding even protected anal intercourse as a high-risk activity. For the men who had a rule of always wearing condoms for anal intercourse, UAI was described as 'an act that carried more risk than they were willing to take'. (p. 26) The men in the study as a whole talked of themselves as at risk of becoming infected with HIV, although the study's authors argue that risk to health often took second place to 'questions of intimacy and morality'. For the men who had a rule of no anal intercourse, 'that they trust and perhaps love their partner was considered more important than whether they knew he shared their HIV status' (p. 26). The men describing an incident of UAI, whether with a regular or a casual partner, also talked in terms of the risks of HIV transmission, but assessed this risk in order to inform decisions on whether or not to have UAI or what kind of UAI to have. The risks of HIV are therefore framed by these men to some extent in terms of health. However, in their discussion of their findings, this study's authors reflect on the ways in which men frequently talked in moral terms about risk and relationships. They state that working class men stand to lose more than their HIV status when they take risks with HIV exposure and transmission (if they are HIV negative). They stand also to lose 'a sense of themselves as moral agents existing within a specific moral universe' (p. 32). This was interpreted by reviewers as meaning that, if they take risks with HIV then they may find themselves at odds with the social norms and morals predominant in their community, which, for men in this study included family as well as friends and acquaintances.

### **Engaging with sex and HIV**

As described above, the working class men in this study tended to describe **assessing risk** in connection with the HIV status of potential partners. No mention was made in this study of the assessment of the potential for any other risks associated with sex (such as those involved in disclosure or when negotiating sex). Assessments were sometimes made on the basis of what the study's authors called 'morality markers'. These were assessments about a partner's character. For example, a partner might be considered 'safer' if they appeared sensible or concerned about sexual safety. Men who described having protected anal intercourse only reported that judgements about risk practices

could be made on the basis of a partner's demeanour (e.g. not too 'scruffy', not people who 'look like they're just having sex') or around a person's perceived promiscuity (p. 27). Judgements about HIV status were also made by men who discussed episodes of UAI with regular or casual partners. The study authors described a tendency among both of these groups of men to assess the social or moral attributes of partners as surrogate markers for negative HIV status. Men described how, without the benefit of HIV test results, partners were judged to be HIV negative because they were 'quiet, dependable or in some senses too timid to have sex with other partners' (p. 29).

Verbal **communication about risk** was only referred to in passing in this study. Most men who had a rule of anal intercourse only with condoms explained their use of indicators of HIV status by saying that it would be unrealistic to request or expect a reliable disclosure of HIV status from their partner. Some men said that they understood why someone would not disclose a positive status and so would not themselves expect a dependable answer. Exceptions to the rule in this group said that they would consider having UAI under a strict negotiated safety framework, with implications that they would also consider communicating about risk with a partner. There was only one actual case of negotiated safety reported by men in this study.

Other than this case of negotiated safety, this study does not report these men's recounting of **strategies for sex and risk**. Some of the men in this study had behavioural rules for themselves based on absolutes ('I don't have anal intercourse, I will only have anal intercourse if it is protected'). Others describe more adaptable approaches where they allow themselves to assess risk when contemplating sex. Some of the men in this study described very different sexual practices with regular partners as opposed to casual partners. The study authors emphasise a process of balancing risks with pleasure at one point in the study, in relation to one man who avoided anal intercourse. This man described how he feared that, because he did not have regular sexual contact with men, the moment he did, he would be overwhelmed with passion and more likely to take risks. As the study authors note, for this man, 'being single [was]... an intrinsically risky state' (p. 26).

### **Experiences of support, advice and information**

This study did not report any findings about men's experiences of **services or resources** or **informal support, advice and information**.

#### **5.1.4 The perspectives and experiences of HIV positive MSM**

The five studies focused on HIV positive men involved 521 men. A total of 413 of these men came from a single study conducted in one London HIV outpatient clinic (Stephenson *et al.*, 2003b). A further study (Davis *et al.*, 2002b) included men recruited from the same clinic. While different questions were asked of the men in each study, a small number appear to have been involved in both. One further study recruited men only from London (Rooney and Taylor, 1997) and one recruited from 'London and other urban centres' (Keogh *et al.*, 1999). One involved men from the Wirral in Merseyside (Kelly and Murphy, 1998a). While reporting limitations make it difficult to establish precisely, findings appear to have been derived from HIV positive MSM in a range of socio-economic conditions. MSM from black and ethnic minority groups were included in most studies at levels seen in the general population. The populations of the five studies differ in other important ways. In addition to the two that represent HIV positive attendees



at an outpatient clinic, one (Keogh *et al.*, 1999) only included MSM who reported one or more incident of UAI in the previous year. Similarly, one study focuses part of its analysis on sex in casual relationships without looking at participants' experiences of committed relationships (Rooney and Taylor, 1997).

The perceptions of HIV positive MSM were obtained using a range of different study approaches. All but one study (Rooney and Taylor, 1997) explicitly used the concept of risk, either when communicating with participants or when analysing their views. Two studies asked men to talk about a specific episode of sex. In one study (Keogh and Dodds, 2004) men were asked about a recent episode of UAI. Responses were then analysed for men's perceptions of and approaches to risk. In the other (Davis *et al.*, 2002b), participants were asked to comment on 'a sexual episode that had concerned them because of the risk of HIV transmission'. In this study, men were also asked about the importance of their viral load and about re-infection by other strains of HIV, including those that are resistant to specific anti-viral drugs. The risk of getting another strain of HIV was also asked about by attitude statements provided to participants in the one quantitative survey of MSM examined in this review (Stephenson *et al.*, 2003b). In this study, these risks were framed in terms of both risks to health and risks to future treatment options. Other statements used in this study aimed to capture men's perceptions of the implications of reduced viral load and views on the need to practice safe sex or not to 'pass on' HIV. This study aimed to compare the answers of men on Highly Active Anti-Retroviral Therapy (HAART) with those of men not on HAART.

In contrast, the HIV positive men interviewed in the Wirral were not asked explicitly about risk, but were asked about their 'feelings about safe sex' and about 'making choices about' their sexual health, alongside several questions about experiences of disclosure, testing and of sexual health services (Kelly and Murphy, 1998a). The last study of HIV positive men asked participants for their views on the meaning of sexual health and the value of sex and asked them about 'what would have been of help in sex and being sexual' at different points since their positive HIV diagnosis (Rooney and Taylor, 1997: p. 37). Participants were also asked about their and other positive men's use of condoms. As noted above, the authors' analysis concentrates on participants' experiences of sex with casual partners.

## **Perceptions of sex, self and others in a risky world**

### **The value of sex**

The HIV positive men in these studies valued sex highly. They described themselves as sexual beings. Authors of one study described how 'men who are HIV positive want to have sex and do have sex' (Kelly and Murphy, 1998a: p. 17). Another emphasised that 'gay men with HIV infection are not desexualised' and that, 'for virtually all men, sex and being sexual were extremely important and seen as something central to quality of life' (Rooney and Taylor, 1997: p. 2 and 29). Sex was identified by men in this study as important for a broad range of reasons. Important aspects of sex included pleasure, intimacy or emotional or physical closeness, release (from both physical tension and social barriers), transgression with respect to social rules, connection with partners (including a means of expression between partners, socialising, meeting others), contribution to or expression of a sense of self, and spiritual feelings of connectedness with humanity, freedom and escape. Sex was important for some men mainly because of physical pleasure and transgression while others construed it mainly in terms of connection and intimacy.

The value of condom-free anal intercourse in particular was evident in many men's accounts. In Keogh *et al.*'s (1999) study of men who had experienced UAI in the previous year, men emphasised the extent to which condoms made anal intercourse less enjoyable. They reported how either they or their partners experienced serious difficulty maintaining an erection while using them. They found the idea of using a condom 'for all instances of anal sex for the rest of one's life an intolerable barrier to sexual and emotional intimacy'. Men in this study often associated not using condoms with love and intimacy but the authors note that 'the desire to dispense with condoms did not appear to be associated with any particular type of relationship or context' (page eight).

Similarly negative responses to condoms were reported in Davis *et al.*'s (2002b) study of HIV positive men's reflections on the importance of viral load and HIV virus types. Quotes that reflect the importance of UAI in some HIV positive men's lives included the following from men in sero-concordant partnerships. One man noted that he '[had] enough problems without having to wrap myself in rubber when I'm with my [HIV positive] boyfriend...'. Another reflected on the negative potential for an episode of unprotected sex but again emphasised its positive aspects, as follows; 'I can't afford to catch ... anything, or make things, matters worse ... But then again, you've got to think about quality, not quantity of life...' (pp. 37-38).

#### **Understandings of sexual health and HIV**

Sexual health as a term was examined by one study (Rooney and Taylor, 1997). There was little common meaning for this term. For most it was initially bemusing. When asked to produce their own definitions, men tended to emphasise avoiding disease (STIs and re-infection with HIV). However definitions also included reference to cleanliness and hygiene, avoiding HIV infection if HIV negative, having a positive mental state and positive regard for yourself as a sexual being, restraint and not having the sex you really want and being able to participate socially in the local gay community. These authors contrast these men's definitions of sexual health with the far wider range of things that they felt could have been of help with sex and being sexual since their diagnosis. These varied according to stages following diagnosis. Men indicated that the following issues had been important when newly diagnosed with HIV: experience of powerful change in sexual desire (either to have lots or none); managing a powerful need to disclose/fear of disclosing; coping with much contradictory advice about how to behave sexually and what you can do; the impact of the emotional shock on sense of self as a sexual being and sense of likely future as a sexual being; needing something solid - some kind of structure and someone to talk to; and managing sexual behaviour, if one reaction to the result is taking drugs or drinking a lot. At a later point, when positive and largely well, these men described issues around disclosure and contradictory advice as still being key. However the following new issues had replaced the others that had been important at the time of their initial diagnosis: comfort in self as a sexual being; dealing with the effect of fears about illness on being sexual; practical issues of getting sex, staying sexual; and keeping well and free of STIs.

In terms of men's perceptions of HIV and influences on its transmission, two studies illustrated HIV positive men's understandings of the ways in which HIV transmission might be influenced by viral load - the amount of HIV in blood and body fluid. The first of these (Davis *et al.*, 2002b), reported that some individual men were confused on this issue and did not know what to believe and that views also differed widely between different men (confusion also existed about the

potential for re-infection with other types of the HIV virus - see below). Men constructed HIV infection in what these authors call both 'categorical' and 'continuous' terms (p. 35). The categorical nature of infection meant that HIV was either present or not present. For example, an 'undetectable' viral load was not taken to mean that HIV had been cured. Perceptions of the continuous nature of HIV included reference to a strain seeming quite weak, or of HIV 'lurking'. Here HIV infection was thought of as having a gradient of potency and latent risk, or as varying in the manner of a continuous scale. Some men believed that an 'undetectable' load meant that HIV transmission was possible but that likelihood of it had reduced. The authors illustrate this with the following quote, 'I think by having my viral load as low as it is I am not as infectious, but I'm still infectious. So ... yes, I'm putting somebody at less risk...' (p. 35). The second study examined the frequency of the belief that a low viral load meant a lower risk for transmitting HIV (Stephenson *et al.*, 2003b). This found that around one in seven regular visitors to a specialist clinic for HIV positive men agreed with the statement, 'Undetectable viral load means that HIV is unlikely to be passed on to a sexual partner' (page nine). Around one in twelve agreed with the statement, 'Undetectable viral load in my blood means that HIV is unlikely to be passed on even if we fuck without a condom' (page nine). In both cases, no differences were seen between men taking HAART and those not taking HAART.

Beliefs about the potential for re-infection with other, possibly drug-resistant, strains of HIV were presented in three studies (Davis *et al.*, 2002b; Keogh *et al.*, 1999; Rooney and Taylor, 1997). In the first, some men believed that cross-infection had been determined to be dangerous but others expressed greater uncertainty, sometimes referring to wider debate on the issue. The authors likened descriptions of HIV typology to men's descriptions of viral load and presented quotes illustrating both its categorical and continuous nature (e.g. 'HIV is HIV to me'; 'If you get a really bad strain where it knocks you off your perch in two years...') (Davis *et al.*, 2002b: p. 37). A similar mixture of categorical and continuous views of re-infection was also presented in the second of these studies, where men tended to see re-infection 'as receiving into the body more of a virus that is essentially the same as the one already there, rather than being infected with a virus that is essentially different to the one already present in their bodies' (Keogh *et al.*, 1999: p. 13). These authors linked views on initial and subsequent HIV infection with men's experiences of diagnosis. While initial HIV diagnosis was commonly momentous and life-defining thereafter, re-infection lacked a 'diagnostic moment' altogether. Men's accounts of how views on viral load and re-infection influenced the sex they had are presented in 'strategies for sex and risk' below.

### **Sex as a social activity**

Only one study could be interpreted as asking HIV positive men about the role they felt they should play in HIV risk reduction as part of a wider community (Stephenson *et al.*, 2003b). This found that fewer than 6% of respondents agreed with the statement that, 'All gay men will eventually get HIV so whether I practice safer sex is unimportant'. Approximately 90% agreed that 'Safer sex is as important as ever'. Both responses were the same whether men were taking antiretroviral drugs [HAART] or not. (page nine). Only one study presented views about how HIV positive men think they are perceived by HIV negative or untested men. Some men in this study had experienced HIV negative and untested men as 'naïve and ignorant about the existence of HIV positive men' (Rooney and Taylor, 1997: p. 63).

Men in several studies talked about responsibility for sexual safety being shared between partners. From these it is clear that a range of positions on responsibility existed. In Stephenson *et al.*'s clinic-based study (2003b), almost 90% of men agreed with the statement that, 'as an HIV-positive man I have an extra responsibility not to pass on HIV to another person' (there again being no difference between the two treatment groups) (page nine). Rooney and Taylor (1997: p. 39) studying men's experiences of casual or anonymous sex, found all but a small number to place 'great emphasis on not infecting negative men'. The main reasons given were that infecting others would 'violate personal values about self and what is right' and that 'it would be terrible to feel responsible for giving HIV and all that this entails to another man'. The position taken here appears to be one of sole responsibility for risk reduction.

Two studies also reported the existence of a more collective/shared position with regard to responsibility for sexual safety. Keogh *et al.* (1999) report that the majority of MSM in their study of men who had experienced UAI in the previous year felt that they shared responsibility for safety with sexual partners. The more 'protective' position of sole responsibility was felt by a minority. The authors also described a minority of men holding the 'permissive' position of considering that responsibility lay with HIV negative men. They emphasised that the study's sampling of men who had had UAI was likely to over-represent the permissive position and under-represent the protective position (over 50% of MSM as a group will not have had UAI in the previous year). Rooney and Taylor (1997) described the rationales given by the minority of men in their study who felt they should not take sole responsibility for sexual safety. Some men emphasised how it was not the role of HIV positive men to look after or educate others, that it was important for each person to take responsibility for themselves. Some men described how not taking sole responsibility helped to protect their own mental well-being, because a constant focus on HIV and protecting others diminished the experience of sex. Others felt it important to resist what was seen as unfair pressure on HIV positive men, from professionals and from untested and HIV negative men, to always have safer sex.

HIV positive men also talked about their awareness of social disapproval over certain types of sex. Some men mentioned, with disapproval, friends or partners who operated in what they felt to be less responsible ways (Rooney and Taylor, 1997). Men in a further study (Keogh *et al.*, 1999) commonly reported a fear of social censure, of being seen to be irresponsible because of having UAI, especially if partners were perceived to be uninfected.

The ways in which MSM linked their roles with respect to other MSM to whether or not they disclose their HIV positive status, or the kinds of sex they had, is described later (see 'strategies for sex and risk').

### **Perception of self at risk**

HIV positive men described feeling that sex could have various negative outcomes for themselves. Men talked about potential risks to physical aspects of their sexual health but also about risks that were more psychological or social in nature. In terms of what put them at risk, men talked about anal intercourse, both protected and unprotected, but they also singled out the act of disclosing their HIV status.

In terms of the risks to their own physical health, HIV positive men varied in the risks they saw in re-infection with HIV. In Stephenson *et al.*'s clinic-based study

(2003b) men were asked about their perception of the negative outcomes should re-infection occur and saw these to be considerable. From 83 to 85% of men (depending on whether they were on HAART or not on HAART) agreed with the statement, 'Getting another strain of HIV would be a serious risk to my health'. They were also aware of less direct threats. From 77 to 83% of these men agreed with the statement, 'Getting another strain of HIV could reduce my treatment options in the future' (page nine). No significant differences were seen between the treatment groups. In contrast, roughly two-thirds of the men in Keogh *et al.*'s study (1999) who had experienced UAI in the previous 12 months thought the risk of re-infection was minimal or its consequences not important enough to develop risk-reduction strategies. It is unclear whether or not the above findings about attitudes about the consequences of re-infection indicate an actual difference between two study populations. They might also reflect a disjunction between perceptions of risk and men's intentions for reducing that risk.

Only one study presents HIV positive men's views about the risk of their catching STIs (Rooney and Taylor, 1997). In this study, some men built protection from STIs into their rationales for avoiding unsafe sex. They also identified 'keeping well and free of STIs' as an important sexual health issue for them, both when positive and largely well and when positive and experiencing ill health or diagnosed with AIDS (Rooney and Taylor, 1997: p. 38).

Examples of men feeling at risk socially because of group censure around UAI have already been presented above. Some of these men described their social world as being at differing degrees of risk depending on how they negotiated UAI. Having had social or personal contact before UAI and not disclosing their status was seen as particularly risky of censure. HIV positive men's descriptions of managing disclosure are described under 'strategies for sex and risk' below.

The psychological risks talked about by HIV positive men centred on the potential for rejection and for guilt. As is described below under 'communicating about risk', these men talked in several studies of the fear of rejection on disclosing their HIV positive status. Men also described how guilt related to incidents of UAI from the past could pervade many aspects of committed relationships, to such an extent that they threatened or terminated them. Guilt was seen as resulting both from possibly exposing a negative partner to HIV and possibly having transmitted HIV. Some men also talked of fearing generally for their psychological well-being were they to find out that re-infection had occurred following an episode of UAI with a casual or anonymous partner (Keogh *et al.*, 1999).

In terms of the relative importance of these hazards, Keogh *et al.*'s study (1999) of men who had experienced UAI in the previous year found that most experienced all three types of risk but that psychological and social risks were their overriding concern. Men tended to report feeling at risk socially and psychologically in relation to partners whose status was unknown to them or who were uninfected. They more commonly expressed concerns over risks to their own health in relation to partners who were known or thought to be HIV positive like themselves.

## **Engaging with sex and HIV**

### **Assessing risk**

HIV positive men in two studies (Keogh *et al.*, 1999; Rooney and Taylor, 1997) described a process of assessing risk. As described above under perceptions of self at risk and perceptions of sex as a social activity, the risks involved might be

to their own health through re-infection, the psychological risks of disclosure, the social or psychological risks associated with exposing an HIV negative man to the virus or the health risk to another man through either re-infection or transmitting HIV.

The men in both of these studies also described how they made these assessments. They did not necessarily base assessment upon only one particular piece of evidence. Several described a combination of signs and information which might comprise a process of several stages. Some men who reported 'just knowing' what a potential partner's status was, when prompted, brought to mind a 'series of assumptions' that lead them to believe that another man was HIV positive (Keogh *et al.*, 1999: p. 22). Other men said that they would initially appraise partners on the basis of 'commonly understood' markers or by location (see below) but would then also require information only available from disclosure (Rooney and Taylor, 1997: p. 43).

The 'evidence' used for assessment ranged from a frank disclosure of status that was required by some men to signs and indicators. Signs and indicators used by the men to assess HIV status included information gleaned from other people (particularly friends) and from direct observation. Aspects under scrutiny included the potential partner's social networks (who a partner knows or is seen with), their topics of conversation, and more clinical signs (the presence of HIV drugs at home, being seen in HIV service centres). A man's presence in certain social settings was also used, and this was often combined with other signs and contextual information. For example, some venues were seen as more likely to have a largely positive clientele (the men in Rooney and Taylor's study (1997) described this as an initial indicator); others made reference to particular bars at certain times of the day. Men often combined particular behaviour with certain contexts in their assessments of HIV status. They described using, for example, a willingness to engage in, or offer UAI in public sex environments (PSEs) or sex venues e.g. 'he's offering unsafe sex and this is a sauna therefore he must be positive' (Rooney and Taylor, 1997: p. 3) or a willingness to engage in receptive UAI in a PSE (Keogh *et al.*, 1999). Men in one study described how they considered casual partners offering unsafe sex in the context of their homes (without the presence of other indicators) to be 'HIV negative idiots' (Rooney and Taylor, 1997: p. 45). Both studies make reference to commonly understood markers of HIV status without describing these in specific terms.

Only one study reported men's descriptions of how they assess the specific risks of disclosing their HIV status to another man. These men 'sounded out' a potential partner's attitude to and experience of HIV prior to making a decision about whether to disclose or not (Rooney and Taylor, 1997: p. 56).

### **Communicating over risk**

The men discussed a range of communication issues. The types of communication covered a wide range of experiences from non-verbal communication to frank discussion of issues that some of the men found highly problematic.

Participants in two of the studies talked about communication in relation to negotiating condom use, but only very briefly (Davis *et al.*, 2002b; Kelly and Murphy, 1998a). A lack of communication skills was referred to by men in both studies, with one study claiming that, for the majority of participants, poor

communication skills made negotiation over condoms too difficult (Kelly and Murphy, 1998a).

Three studies explored men's feelings towards disclosure (Kelly and Murphy, 1998a; Keogh *et al.*, 1999; Rooney and Taylor, 1997). The act of disclosure was a social one centred on verbal communication. For the HIV-positive men in these studies, it was charged with emotion and linked explicitly with a range of outcomes. Almost without exception these emotions and outcomes were undesirable. Men described emotions experienced in anticipation or consideration of disclosure and discussed their emotional response to instances of actual disclosure. The terms they used to describe disclosure included: vulnerability, fear (Kelly and Murphy, 1998a), feeling threatened (Rooney and Taylor, 1997), feeling rejected (Kelly and Murphy, 1998a; Rooney and Taylor, 1997), feeling self-alienated, feeling stigmatised (Keogh *et al.*, 1999). A typical description of the negative reactions that HIV positive men experience on disclosing their status is the following quote; 'It (disclosure of status) will completely kill a one night stand ... people just make you feel it's like a crime to even contemplate having sex with them' (Rooney and Taylor, 1997).

The outcomes that men described stemming from disclosure included partners 'reacting badly'. Men talked in terms of people 'freaking out' (Kelly and Murphy, 1998a: p. 12), 'asking too many questions ...[and] I couldn't cope' (Kelly and Murphy, 1998a: p. 12), and 'being phased by the disclosure and expect[ing] support in making sense of their own concerns about HIV' (Rooney and Taylor, 1997: p. 62). Men talked of actual experiences of being rejected by partners on disclosing (Kelly and Murphy, 1998a; Keogh *et al.*, 1999; Rooney and Taylor, 1997) and of experiencing violence (Rooney and Taylor, 1997). In one study (Keogh *et al.*, 1999), men talked of avoiding disclosure in cases of uncomplicated anonymous sex because it defeated the very purpose of such an encounter. Men in this study also described how their disclosing could mean that responsibility for HIV was not shared appropriately between partners.

In overall terms, disclosure was seen as an additional burden or complication to HIV-positive men's lives (Kelly and Murphy, 1998a). The severity of many men's problems with disclosure is perhaps summed up by the authors of one study who described how some men found ways of dealing with disclosure without it 'taking over' the sexual experience (Kelly and Murphy, 1998a). However, some of the men in one study acknowledged that a potentially positive outcome might come about should the partner also turn out to be HIV-positive. In some situations this could result in greater sexual pleasure (Rooney and Taylor, 1997). Men's descriptions of how they deal with the issue of disclosure is described in 'strategies for sex and risk' below.

### **Strategies for sex and risk**

The ways in which HIV positive men talked about the strategies they use to negotiate and have sex differed according to whether they were talking about casual or anonymous sex or about sex in more committed or longer term relationships.

Three studies outline the methods HIV positive men report for dealing with sex and HIV risk with casual sexual partners. Key within the accounts of men in these studies were: selecting sexual behaviours so as to reduce the possibility of transmission; the approach of seeking as partners men who were likely to have

the same HIV status as themselves; the control of information; and the control of social contact.

Men selected between sexual behaviours in ways that varied considerably and for a range of reasons. Only one study (Rooney and Taylor, 1997) examined the accounts of men who had casual sex but avoided UAI altogether. These men described not having UAI as congruent with the belief that it was very important not to infect others, as offering some protection from other STIs and re-infection with HIV, and as removing the need for disclosure. In contrast, some of the men in Keogh *et al.*'s study considered UAI an option and described ways in which they modified the UAI they had with casual and anonymous partners of unknown sero-status. Some restricted themselves to only taking the receptive role during UAI if they knew or suspected their partner to be HIV negative, others described withdrawing before ejaculation or reducing the duration of anal intercourse. These strategies were explained in terms of beliefs about the likelihood of transmission being reduced for the partner. This study also notes that some men who considered re-infection to be a risk talked about having sero-concordant UAI only with certain partners. These men would only have UAI with other HIV-positive men whom they loved or felt close to, while not doing so with partners that they did not know so well.

Three studies presented men's accounts of seeking partners who were sero-concordant with themselves. Men in one study were simply reported as 'preferring to have sex with other men they know to be positive' (Kelly and Murphy, 1998a). Men in both the remaining studies who described the importance of their partners being HIV positive, ranged between those who made one or more assumptions about their potential partner's HIV status and those who knew or believed their partner to be diagnosed positive (Keogh *et al.*, 1999; Rooney and Taylor, 1997). As described in 'communicating over risk' above, conclusions about sero-status were based on a range of types of evidence. Only Rooney and Taylor (1997) presented men's rationales for this approach, stating solely that men used it 'as an approach to not infecting others'.

HIV positive men's control of information was discussed in three studies. Men talked about the ways in which they controlled information about their HIV status. HIV positive MSM's accounts of negative experiences with disclosure and the associated distrust of it were presented in one study as rationales for some men having a rule of never disclosing (Rooney and Taylor, 1997). In the same study, other men described more flexible approaches that sometimes depended upon an initial stage of assessing the potential risks of disclosing. These men described how these more flexible approaches to disclosure could offer a way of limiting HIV transmission but could also enhance their enjoyment of sex. The authors state that the men at the two ends of this spectrum differ from each other in other ways. Non-disclosers tended to be more recently diagnosed and to have a less well-developed social support group. In the second study to examine men's management of disclosure (Keogh *et al.*, 1999) men talked in terms of not concealing their HIV status from partners, but not volunteering this information unless it was asked for. The authors state that these men generally assumed that partners would either know or certainly suspect that they were infected.

The fourth of these types of strategy for managing sex and HIV risks with casual partners was seen in some men in one study (Keogh *et al.*, 1999). These men described how, despite feeling mutually responsible for sexual safety, they avoided social contact with sexual partners with whom UAI had taken place (Keogh *et al.*, 1999). This was described as a strategy for preserving one's own



psychological well being, since there was a possibility that infection might have taken place as a result of that incident of UAI.

In only one study did HIV positive men specifically talk about managing the risk of UAI within committed relationships (Keogh *et al.*, 1999). Discussion was restricted to sex in sero-discordant relationships, where both men knew that one of them had been positively diagnosed with the virus. The men in these relationships described strategies to reduce the risk of both transmission and negative psychological outcomes. These men described selecting specific types of UAI so as to reduce the possibility of HIV transmission that were similar to those described above for UAI with casual partners. However, these men also described psychological strategies that took into account their HIV negative partner's past risk-taking, in both current or previous relationships. Men reported how the negative psychological or emotional impact of the possibility of transmitting HIV to a loved one was diminished if they recognised that: i) their partner might already be infected as a result of UAI in the current relationship; or, ii) because their partner had experienced UAI before this relationship, he was aware of the risks, even possibly infected prior to this relationship (this belief also indicates the uncertain nature of knowledge about the concordance or otherwise of sero-status, the exception only being when two partners have both tested positive for HIV).

One further study (Davis *et al.*, 2002b) reported HIV positive men's descriptions of rationales for different kinds of sex but did not discuss these in terms of whether sexual partners were casual or regular. Some of the men in this study reported having had UAI with reduced levels of anxiety because they considered that knowledge of their low viral load meant a reduced risk of transmission to an HIV negative partner. Other men however did not consider this a justifiable position. The same study reported that confusion over the risk of re-infection in sero-concordant sex was a rationale for safer sex for some men.

### **Experiences of support, advice and information**

Three of the five studies of MSM living with HIV provided findings relating to the value of, and need for support, advice and information amongst HIV positive men (Davis *et al.*, 2002b; Kelly and Murphy, 1998a; Rooney and Taylor, 1997). The two studies that provide the bulk of the findings for this section are needs assessments (Kelly and Murphy, 1998a; Rooney and Taylor, 1997). Types of support referred to by HIV positive men ranged from the formal, such as clinics and drop-in centres, to informal interactions with family and friends.

### **Services and resources**

The participants in Rooney and Taylor's study (1997) regarded specialist HIV clinicians highly, and as authoritative sources of tailor-made information and advice on issues such as re-infection. Gay doctors in particular were highly regarded as sources of advice and practical information. However the men studied by Rooney and Taylor (1997) also reported experience of homophobia and hostility from non - HIV specialists such as general practitioners and dentists.

The HIV positive men in Davis and colleagues' study (2002b) felt that the advice they received was varied or lacking, and that it came from different sources. They viewed this as leading to confusion and contradictory beliefs about viral load and re-infection. They viewed this diversity as partly resulting from the 'provisionality of technical knowledge' and the way advice and information was communicated in the clinical setting. The men reported that decisions about condom use in HIV

positive sero-concordant relationships were ultimately left up to the couple after discussion with an HIV specialist. Men in the study by Kelly and Murphy (1998a) experienced lack of time and confusing terminology as barriers to gaining information from health professionals. They found that difficult interactions with doctors resulted in them leaving clinic sessions without finding out what they needed. Issues around medication went unanswered regularly, which further frustrated the difficulties they experienced with their medical regime. It is not clear whether these health professionals were HIV specialists.

When asked for detail of sexual health services that they would like to be made more available, the men in Kelly and Murphy's study of HIV positive MSM on the Wirral (1998a) stated that they valued therapies such as massage, aromatherapy, homeopathy, relaxation and meditation, and wanted them to be made available. Complementary therapies were also singled out in Rooney and Taylor's study (1997). They were described as helping with growth as a sexual being. The HIV positive men from the Wirral also expressed how much more complicated sex had become since receiving an HIV diagnosis in terms of negotiations around condom use and disclosure. The majority felt that they needed better communication skills to deal with this. Men from this study also expressed a need for more information about the professional and voluntary support networks available to them. Drop in centres were viewed as sometimes providing useful support and access to current health promotion in formats that were well regarded (e.g. workshops). However, some men found drop in centres to be 'cliquey, sources of inaccurate speculative information and anti-sex' (Rooney and Taylor, 1997).

In terms of information resources, Rooney and Taylor's study (1997) found that HIV positive men described how they chose and read information resources such as leaflets only if these communicated a strong personal relevance to them. Like the men in Kelly and Murphy (1998a) who had to compile information from a variety of sources, they were described as purposive information seekers, seeking information that is both personally relevant and from a credible source. Health information was judged relevant and credible if it came from a source associated with appropriate support to HIV positive MSM. This did not include social support networks, which they viewed as lacking the authority of medical agencies in terms of biomedical information. The respondents in this study reported that whilst they liked and highly regarded gay and HIV specific newsletters they did not see them as sources of sexual health information or as addressing issues that matter to HIV positive MSM (Rooney and Taylor, 1997). The men in Kelly and Murphy's study (1998a) all expressed a need for more accessible information in language that they understood.

### **Informal support, advice and information**

Rooney and Taylor (1997) found that men preferred to use their social networks for getting advice, information and support about the following issues: practical aspects of being sexual and having HIV (e.g. on disclosure, meeting sexual partners); where to get the best information on sexual health and treatment issues; and dealing with changes in sexual function. However they also identified some drawbacks of their social networks: disapproval of certain behaviours or reinforcement of fear; the possibility of being provided with inaccurate information on sexual health issues; and inability to provide as much support as the men needed. Kelly and Murphy (1998a) described the men in their study as depending upon family, friends and voluntary workers whom they experienced as supportive

and non-judgemental. The authors stated that these people can provide men with practical information and support but do not specify further what this is.

## **5.2 Analytical themes**

This section sets out the barriers to and facilitators of HIV-related sexual health identified from the views of the vulnerable groups of MSM studied in this review and the subsequent implications for interventions to promote HIV-related sexual health amongst these groups. The methods used to arrive at the barriers and facilitators are described in full in Chapter Two and Appendix J.

### **5.2.1 Implications for interventions arising from barriers and facilitators identified as such by MSM**

Reviewers found several points in the views described above at which study participants themselves were identifying barriers to and facilitators of their HIV-related sexual health. table 5.1 lists the barriers and facilitators identified by MSM who sell sex, by young MSM and by HIV positive MSM. No barriers and facilitators were identified by men in the only study focused on working class men. In each table, the barriers and facilitators are arranged in terms of whether they are attributable to individual MSM (i.e. individual characteristics of MSM such as skill or knowledge levels, motivations or attitudes), to a broader community, to services or policy, or to more than one of these constituencies.

For each barrier or facilitator identified by MSM we considered which aspect of HIV-related sexual health this affected. The operational definition of HIV-related sexual health included:

- a) the ability to communicate explicitly about sexual needs and desires;
- b) the ability to be sexually functional (to have desire, become aroused and obtain sexual fulfilment);
- c) having control over sexual HIV/STI exposure and over HIV/STI services and resources;
- d) acceptance and respect for self and others, which includes respect and appreciation for individual differences and diversity and a sense of self-esteem, personal attractiveness and competence;
- e) feeling of belonging to and involvement in one's sexual culture(s);
- f) freedom from sexual dysfunction.

Implications for interventions consequent on these barriers and facilitators are also presented in each table. These intervention implications or needs, and those described in section 5.2.2 below, are used in the cross-study synthesis in Chapter Six.

The range of barriers and facilitators seen across the three groups was considerable. The groups differed between themselves. For example, all but one of the barriers identified by men who sold sex to other men arose through the actions, or lack of action, of other MSM or services or of society as a whole. In contrast, young MSM related barriers primarily to their own motivations, perceptions and skills, or to the attitudes and skills of other MSM and of others in the general population. This group attributed only one barrier as coming from the actions of services. The barriers and facilitators identified by HIV positive MSM included those attributable to MSM themselves, the wider community and to

services. As can be seen from table 5.1, on several occasions more than one barrier or facilitator led reviewers to the same intervention need. Some of these intervention needs were also inferred from the barriers and facilitators derived from recurrent themes across groups - see table 5.2. In sum, a total of 30 different intervention needs were derived from barriers and facilitators identified as such by MSM

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (Needs)
<b>Derived from views of men who sell sex</b>			
<b>Barriers/facilitators inherent to MSM</b>			
Physical/emotional attributes	Being paid more by clients was cited as a reason for not using condoms during sex. The need for money to buy drugs was cited by many of the men as their motivation for selling sex. <b>Impacts on:</b> control over sexual HIV/STI exposure.		A1. For those MSM who sell sex, resources to be made available for interventions to assist in reducing drug dependency and associated factors.
<b>Barriers/Facilitators inherent to community</b>			
Attitudes/behaviour of clients	Powerlessness was a factor cited by street working MSM as leaving clients with 'much of the power in determining the nature of the sex to be provided'. <b>Impacts on:</b> control over sexual HIV/STI exposure.  Some men described how they had experienced rape, assault, coercion, forced UAI, and not being paid by clients. These experiences left the men fearful that violence might occur again. <b>Impacts on:</b> control over sexual HIV/STI exposure.		A2. Reconsideration of the legislation regarding both male sex work and the age of consent for MSM to take into account its impact upon safety issues specific to young men who sell sex.

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (Needs)
Other MSM	Lack of contact with other gay men was cited as a reason why some young men decided to start selling sex (see below) <b>Impacts on:</b> feeling of belonging; control over sexual HIV/STI exposure.	Some men expressed the need for places to go to meet other gay teenagers (see below). <b>Impacts on:</b> feeling of belonging.	A3. Resources to be made available to provide meeting places and befriending networks for young MSM.
<b>Barriers/facilitators inherent to services</b>			
Attitudes of personnel	A lack of trust, fear of arrest and of not being believed left many men unable to approach the police to report incidences of violence against them. <b>Impacts on:</b> control over sexual HIV/STI exposure; acceptance and respect.  Difficult interactions (communication problems and underlying prejudice) with doctors were described by some of the men as influencing their experiences of treatment. <b>Impacts on:</b> control over sexual HIV/STI exposure.		A4. Policies should be developed, implemented and monitored to prevent prejudiced attitudes and practices against male sex workers. These policies should be adopted by all agencies that come into contact with or have bearing upon, the lives of MSM who sell sex.

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (Needs)
Advice/information giving/support		<p>Men said they needed an accessible and non-judgemental place to go for information, advice and social support that were not necessarily linked to sexual health services.</p> <p><b>Impacts on:</b> control over sexual HIV/STI exposure; acceptance and respect.</p> <p>Men expressed the need for outreach and counselling services and a befriending network.</p> <p><b>Impacts on:</b> control over sexual HIV/STI exposure; acceptance and respect.</p>	<p>A5. Joined-up services to provide support around multiple issues with staff who have experience in drug use and sex work issues.</p> <p>A6. Specialist services tailored to their needs as men (or young men) who sell sex.</p> <p>See A3 above</p>
Access to condoms		<p>Men who sold sex from the streets identified an immediate need for free condoms.</p> <p><b>Impacts on:</b> control over sexual HIV/STI exposure.</p>	<p>A7. Interventions to ensure that condoms are freely accessible to sex workers.</p>

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (Needs)
Service/community infrastructure	Lack of contact with other gay men was cited as a reason why some young men decided to start selling sex. <b>Impacts on:</b> feeling of belonging; control over sexual HIV/STI exposure.	Some men expressed the need for places to go to meet other gay teenagers. <b>Impacts on:</b> feeling of belonging.	See A3 above.
<b>Barriers/facilitators inherent to policy makers</b>			
Legislation	The illegal status of the work that men who sell sex to other men do was recognised as underlying issues of safety and risk of violence. <b>Impacts on:</b> control over sexual HIV/STI exposure.	Some men said that they need their work to be legalised and / or unionised as a means of creating a safer work environment. <b>Impacts on:</b> control over sexual HIV/STI exposure.	See A2 above  A8. Support for the unionisation of sex workers.
<b>Derived from views of young men</b>			
<b>Barriers/facilitators inherent to MSM</b>			
Physical/emotional attributes	Condoms were problematic, interrupting the flow and destroying mood. <b>Impacts on:</b> ability to be sexually functional.		B1. Interventions for young MSM to take into consideration the complicating factors surrounding condom use and the impact of condoms on sexual pleasure.  B2. Research into developing alternative / additional interventions to condoms for the prevention of HIV transmission (e.g. rectal microbicides, post exposure prophylaxis) (also identified by HIV positive MSM – see C2).



**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (needs)
Perceptions/sense of self	Perceptions of gay identity (as necessarily involving anal sex) left some men questioning their own identity and feeling anxious or worried when they had stopped or declined anal sex. (Also placed under inherent to community). <b>Impacts on:</b> feeling of belonging; ability to be sexually functional; control over sexual HIV/STI exposure.		B3. Interventions specifically for young MSM to support inclusive conceptualisations of MSM identity(s).
Skills			
Knowledge/awareness	Lack of knowledge about risks of oral sex led to anxiety. <b>Impacts on:</b> control over sexual HIV/STI exposure.		B4. Interventions to address the gaps in young MSM's knowledge of the risk of oral sex.
<b>Barriers/facilitators inherent to community</b>			
Attitudes of other MSM	Some young men's perception of gay identity (as necessarily involving anal sex) left them questioning their own identity and feeling anxious or worried when they had stopped or declined anal sex. (Also placed under inherent to MSM). <b>Impacts on:</b> feeling of belonging; ability to be sexually functional; control over sexual HIV/STI exposure.		See B3 above
Other MSM, family and friends		Informal conversations led to more opportunities for raised awareness than did more formal interactions with services. <b>Impacts on:</b> control over sexual HIV/STI exposure.	B5. Help for family and friends of young MSM to be enabled in supporting their HIV information and other support needs.

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (needs)
<b>Barriers/facilitators inherent to services</b>			
Attitudes of personnel			
Advice/information giving	Fears about confidentiality over test results/ about indiscreet information led to anxiety around testing decisions. <b>Impacts on:</b> control over STI/HIV services and resources		B6. Support for young MSM's testing decisions to address fears around confidentiality.
<b>Derived from views of HIV positive men</b>			
<b>Barriers/facilitators inherent to MSM</b>			
Physical/emotional attributes	Condoms led to lowered enjoyment, difficulties maintaining erection, and were felt to reduce sexual and emotional intimacy. <b>Impacts on:</b> ability to be intimate with a partner; ability to be sexually functional.  Discussion of HIV was felt by some to be incompatible with anonymous, uncomplicated sex <b>Impacts on:</b> ability to be sexually functional.		C1. Interventions targeting HIV positive MSM to take into consideration the conflicts inherent to balancing sexual intimacy and pleasure with condom use and communication about HIV.  C2. Research into developing alternative / additional interventions to condoms for the prevention of HIV transmission (e.g. rectal microbicides, post exposure prophylaxis) (also identified by young MSM – see B2)

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (needs)
Psychological attributes	<p>Guilt over being HIV positive, and so possibly exposing a negative partner to HIV, threatened or terminated committed relationships. <b>Impacts on:</b> ability to be intimate with a partner.</p> <p>Fear over the psychological consequences of having infected a casual partner to HIV, when this is an unknown, leads some men to avoid social contact with previous casual partners. <b>Impacts on:</b> feeling of belonging.</p>	<p>Help with the emotional shock of a positive diagnosis could help men with their sense of self as a sexual being/ likely future for this. <b>Impacts on:</b> acceptance and respect.</p>	<p>C3. Interventions to help HIV positive men to deal with the psychological impact of HIV diagnosis and subsequent life as a sexual being.</p> <p>C4. Interventions to reduce the stigma of HIV and attributions of blame within both the gay community and society as a whole.</p>
Skills	<p>Lack of or poor communication skills made negotiation over condoms too difficult. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p> <p>Lack of communication skills made negotiating disclosure more difficult. <b>Impacts on:</b> ability to communicate explicitly.</p>	<p>Having an approach that includes an initial stage of assessing the potential risks of disclosing was described as a way of limiting HIV transmission and possibly leading to better sex. <b>Impacts on:</b> control over sexual HIV/STI exposure; ability to be sexually functional.</p>	<p>C5. Interventions for getting HIV positive men to address the communication and strategic skills needed to deal with situations HIV positive MSM find difficult (e.g. disclosure, condom use).</p> <p>C6. Interventions for both HIV positive and negative MSM, to highlight the difficulties HIV positive men face in disclosing status and communicating around HIV risks.</p>

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (needs)
<b>Barriers/facilitators inherent to community</b>			
Attitudes of other MSM	<p>Negative attitudes/ responses of HIV negative/ untested MSM upon being told of a potential partner's positive status. HIV positive men experienced verbal rejection and violence, feeling stigmatised and self-alienated, feeling overburdened with HIV negative men's needs for support, felt that disclosure 'took over' the sexual experience. <b>Impacts on:</b> feeling of belonging; freedom from sexual assault and coercion; ability to be sexually functional</p> <p>Low level of knowledge among negative and untested MSM of the reality of HIV positive men's lives. Existence of 'naive and ignorant' men and 'HIV-negative idiots'. <b>Impacts on:</b> feeling of belonging.</p> <p>Lack of shared responsibility for making sex safer leading to reluctance to take the lead over discussing HIV status. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p> <p>Lack of shared responsibility for sexual safety leads to some HIV positive men finding responsibility so burdensome it diminishes the experience of sex. <b>Impacts on:</b> ability to be sexually functional</p>		<p>See C4 and C6 above.</p> <p>C7. Interventions for all MSM to develop an understanding of the shared responsibility for making sex safer (regardless of HIV status), and an appreciation that this includes disclosure as well as negotiation over sex acts.</p> <p>C8. Interventions to support all MSM to become more aware of the lives of men with a different status to them.</p> <p>C9. Interventions to help all MSM have awareness of the range of approaches positive men have to disclosure, and to enable them to develop strategies for dealing with disclosure.</p>

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (needs)
Other MSM, family and friends	<p>Drawbacks of social networks included disapproval of certain behaviours, reinforcement of fear and possibility of being provided with inaccurate information on sexual health issues. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p> <p>Variation and multiple sources for advice on viral load and re-infection caused confusion (advice was sourced from clinics and informal networks – see below). <b>Impacts on:</b> control over sexual HIV/STI exposure.</p>	<p>Social networks were preferred as a source for non-biomedical information (e.g. disclosure, meeting sexual partners and dealing with changes in sexual function) and information on where to go for further help on sexual health and treatment issues. <b>Impacts on:</b> feeling of belonging; control over sexual HIV/STI exposure.</p>	<p>See C4 above.</p> <p>C10. Interventions to provide family and friends with freely available and accurate information on sexual health issues.</p> <p>C11. Support for an authoritative source to collate and co-ordinate the dissemination of accurate and consistent information (in particular around viral load and re-infection) to MSM, HIV services and informal networks.</p> <p>C12. Interventions to enable society as a whole develop an understanding of the HIV sexual health needs of MSM, the means to address these and to provide knowledge about where to go for further information on the HIV sexual health needs of MSM.</p>
<b>Barriers/facilitators inherent to services</b>			
Attitudes of personnel	<p>Homophobic and hostile attitudes of some non HIV specialists (such as GPs and dentists) experienced by some men. <b>Impacts on:</b> control over STI/HIV services and resources.</p>		<p>C13. Interventions to ensure the adequate implementation and monitoring of equality and anti-discrimination policies in the health services that MSM use.</p>

**Table 5.1 Barriers, facilitators and implications for interventions derived from studies of particular groups of MSM (cont'd)**

Analytical categories: What/who is influencing MSM's capacity to reduce their involvement in sexual HIV exposure?	Barriers	Facilitators	Implications for interventions (needs)
Advice/information giving	<p>Lack of time for consultations with health professionals and use of confusing terminology meant that some men left clinic sessions without finding out what they needed. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p> <p>Drop-in centres being 'cliquey, sources of inaccurate, speculative information and anti-sex'. <b>Impacts on:</b> feeling of belonging; control over sexual HIV/STI exposure.</p> <p>Variation in, and multiple sources for, advice on viral load and re-infection caused confusion. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p>	<p>Men identified need for more accessible health information in understandable language. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p> <p>Gay doctors highly regarded as sources of advice and practical information. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p> <p>Specialist HIV clinicians can be authoritative sources of tailor-made information and advice on issues such as re-infection. <b>Impacts on:</b> control over sexual HIV/STI exposure.</p> <p>Biomedical information when it emanated from an authoritative source (e.g. medical agencies) associated with appropriate support to HIV positive MSM was considered personally relevant and credible and thus was sought over that emanating from social support networks (e.g. gay and HIV-specific newsletters). <b>Impacts on:</b> control over sexual HIV/STI exposure.</p>	<p>See C11 above</p> <p>C14. Training in HIV specific communication skills for health professionals.</p> <p>C15. Specialist HIV services to ensure the necessary time is spent on HIV positive MSM's information needs. This to be supported by accessible and understandable information.</p> <p>C16. Drop in centres to be supported to review their practices to ensure that their services to all users are inclusive, relevant and non-judgmental.</p> <p>C17. Information and advice that is personally relevant to be provided by sources considered to be authoritative e.g. specialist HIV clinicians.</p>

### **5.2.2 Implications for interventions inferred from recurrent descriptive themes**

Reviewers found a number of the descriptive themes presented in section 5.1 above to recur across the four 'vulnerable' groups of MSM. As was done in a previous EPPI-Centre review, these recurring themes were analysed in terms of whether barriers to and facilitators of HIV-related sexual health could be inferred from them and whether these barriers or facilitators had implications for intervention development. Two reviewer-inferred barriers resulted and these and the related implications for interventions are shown in table 5.2.

**Table 5.2 Barriers, facilitators and implications for interventions derived from recurrent themes across particular groups of MSM**

<b>Barriers</b>	<b>Facilitators</b>	<b>Implications for Interventions (Needs)</b>
Multi-layered experiences of risk. <b>Impacts on:</b> control over sexual HIV/STI exposure.		D1. Interventions to take into account the ways in which MSM's responses to sexual HIV risks necessarily take place within a broad context of competing risks, which may impact upon MSM's psychological, social and physical well-being
Use of unreliable markers of HIV status. <b>Impacts on:</b> control over sexual HIV/STI exposure		D2. Interventions to inform all MSM of the various markers that they or their potential sexual partners might be using to determine HIV status and clarify the extent to which these can be relied on.  D3. Interventions to target all MSM to develop the communication and strategic skills needed to deal with communication over HIV status (disclosure)  E3. Interventions to target both HIV positive and negative MSM, to highlight the difficulties HIV positive men face in disclosing status and communicating around HIV risks (already identified by HIV positive men - see C6 in table 5.1).  F3. Interventions to reduce the stigma of HIV and attributions of blame within both the gay community and society as a whole (already identified by HIV positive men – see C4 in table 5.1).

Across all four groups of MSM, men talked of concern about the risk of being infected with HIV. However they also emphasised the risks from things other than being involved in actual HIV exposure. Men who sold sex identified risks of physical violence and coercion, and risks that were legal in nature. Young men were concerned about risks to themselves socially through others finding out that they were considering taking or had taken an HIV test. Working class men were described as standing to lose a sense of themselves as moral agents. HIV positive men talked of both psychological and social risks. Likewise, sexual acts were not the only events or phenomena experienced as risky. Young men talked also of HIV testing, or even preparation for decisions over testing as being threatening. HIV positive men singled out disclosure of their HIV status, along with socializing with partners but not disclosing and then having UAI.

The multi-layered risks the men in these studies have to deal with are further complicated by the competing nature of some of the risks involved. In some instances dealing with one risk may potentially expose a man to a different risk. For example, a man selling sex might want to refuse UAI to protect himself from HIV or another STD by demanding that a client uses a condom. However he might feel unable to do so because he fears that this will increase the risk of being forced into UAI, or he might be unable to do so because the extra money is urgently needed to pay for basics such as food/accommodation (particularly for street based sex workers). The need to remain HIV negative may take second place to more immediate needs.

Feeling threatened on multiple fronts and in differing ways is likely to reduce the capacity of vulnerable MSM to control their involvement in sexual HIV exposure and their control over services and resources.

Men in two of the groups studied (working class MSM and HIV positive MSM) related how they used strategies other than explicit disclosure to make decisions about a potential partner's HIV status. These were variously described as commonly recognised markers, and included second-hand information, the characteristics or behaviour of a potential partner, the setting for a sexual encounter or combinations of these factors. These men's reasons for not basing decisions solely upon disclosure related to the considerable risks associated with disclosure. HIV positive men were all too aware of these from their own negative experiences and working class men said that they understood why someone might not disclose and would not themselves expect a reliable answer. The implications of these men's approaches to determining HIV status are several-fold.

The intervention needs derived from these two barriers can also be seen in table 5.2. Added to the 30 intervention needs described in section 5.2.1, this process resulted in a total of 33 needs for interventions derived from the views of the vulnerable groups of MSM selected by this review.

Upon inspection of these intervention needs it became apparent that several related to interventions that would not necessarily have met the inclusion criteria for our review. The review's scope was deliberately restricted by intervention type at the start in ways that would have excluded, for example, clinical interventions (see intervention need C2, identified by HIV positive MSM). Importantly, it would also have excluded interventions that aimed to improve services or policies for MSM unless these also explicitly were aimed at influencing sexual HIV exposure. This restriction, while necessary to make the review manageable, means that five of the eight intervention needs identified via the views of men selling sex (A1, A2, A4, A5, A8) and two of those identified via HIV positive MSM's views (C2, C13)



would not be well served by the cross-study stage of our review (see Chapter Six). Interventions meeting these needs might have been identified by our searches, but were possibly disadvantaged by them. This suggests a need for further developing systematic review methodology in such areas to explore the gaps revealed by comparing findings for qualitative and experimental research.

## 6. SYNTHESIS ACROSS STUDY TYPES

### *Outline of Chapter*

*This chapter presents a synthesis of the findings from the different sections of the report. This is a particularly challenging exercise, in view of the different types of research included. Specifically, the chapter looks at:*

- *the ways in which the barriers to HIV-related sexual health identified from the views of particular groups of vulnerable MSM are similar to, or different from the barriers addressed in the intervention studies; and*
- *the extent to which the facilitators as inferred from MSM's views have been used as the basis or a component of evaluated interventions.*

*This chapter should be read by:*

- ***practitioners, policy specialists, and others** who are interested in whether evaluated interventions match the intervention needs identified by MSM and to what extent these are effective; and*
- ***researchers or research commissioners** who are interested in evaluating interventions identified as appropriate to and matching the needs of MSM.*

*This chapter will be useful to all audiences.*

### *Key Messages*

- *Full matches between intervention needs revealed by qualitative research and evaluations were only found for two of 33 intervention needs.*
- *A further six needs were partially matched by evaluated interventions.*
- *These matches were made in several cases with soundly evaluated interventions found to be effective in reducing sero-discordant / unknown status UAI but also potentially harmful in terms of increasing STI incidence. In other cases the matches were with interventions judged to have no evidence of effect or judged as unclear.*
- *For 19 intervention needs no evaluated interventions were identified. Notably, none of the needs that were derived from barriers and facilitators inherent to the community, services or policy makers were matched fully or partially by any of the interventions included in the in-depth review.*
- *Few evaluated interventions fully matched the needs identified from the views of MSM. However there are promising interventions which partially matched the views of MSM that should be evaluated further.*

## **6.1 Matching MSM's views to evaluated interventions**

The analysis of barriers to, and facilitators of, MSM's HIV-related sexual health in the qualitative research reviewed in Chapter Five resulted in the identification of 30 different intervention needs which were derived explicitly from the expressed needs of MSM. A further three intervention needs were derived from overarching themes inferred by the reviewers, resulting in a total of 33 intervention needs. This chapter assesses the extent to which the evaluated interventions in the in-depth review (described in Chapter Four) address each of these needs.

Evaluated interventions were classified according to whether they fully matched the intervention need in terms of both intervention aim/contents and the included population ('match') or matched in terms of intervention aim/content but not the included population ('partial match'). The 'partial matches' were with evaluations of interventions which had been targeted at a general population of MSM. In some cases the study populations included 'vulnerable' MSM but in no cases were these presented in sub-groups that could be analysed separately.

Full matches between intervention needs and evaluations were only found for two of the 33 intervention needs. In both cases these were needs that had been inferred by the reviewers from overarching themes from two or more groups of vulnerable MSM. A further five needs were partially matched by intervention evaluations. For 19 intervention needs no evaluated interventions were identified; none of the needs that were derived from barriers and facilitators inherent to the community, services or policy makers were matched fully or partially by any of the interventions included in the in-depth review. Table 6.1 details the matches and partial matches and gaps found for the intervention needs and evaluations identified by this review. The following sections describe the ways in which evaluated interventions fully or partially matched intervention needs. The sections are ordered in terms of the populations from which the needs were identified.

Seven needs for interventions could have been matched by interventions which fell outside the scope of this review. These needs were therefore not included in the table for the cross study synthesis but appear again in the recommendations for future research in Chapter Seven.

**Table 6.1 Matches, partial matches and gaps between intervention needs and evaluations**

	Sound evaluations		Evaluations judged not sound
Need	Matching evaluations (intervention and population)	Partially matching evaluations (intervention not population)	Matching or partially matching interventions
<b>Need derived across groups of vulnerable MSM</b>			
D1. Interventions to take into account the ways in which MSM's responses to sexual HIV risks necessarily take place within a broad context of competing risks which may impact upon MSM's psychological, social and physical well-being.	Dilley <i>et al.</i> (2002b) Imrie <i>et al.</i> (2001c) Picciano <i>et al.</i> (2001) Rosser <i>et al.</i> (2002)	None identified	Dockrell <i>et al.</i> (1999)
D2. Interventions to inform all MSM of the various markers that they or their potential sexual partners might be using to determine HIV status and clarify the extent to which these can be relied upon.	Gold and Rosenthal (1998)	None identified	None identified
D3. Interventions to target all MSM to develop the communication and strategic skills needed to deal with communication over HIV status (disclosure).	None identified	None identified	None identified
<b>Needs derived from men who sell sex</b>			
A3. Resources to be made available to provide meeting places and befriending networks for young MSM A6. Specialist services tailored to their needs as men (or young men) who sell sex. A7. Interventions to ensure that condoms are freely accessible to sex workers	None identified		

**Table 6.1 Matches, partial matches and gaps between intervention needs and evaluations (cont'd)**

Need	Sound evaluations		Evaluations judged not sound
	Matching evaluations (intervention and population)	Partially matching evaluations (intervention not population)	Matching or partially matching interventions
<b>Needs derived from young MSM</b>			
B1. Interventions for young MSM to take into consideration the complicating factors surrounding condom use and the impact of condoms on sexual pleasure.	None identified	Picciano <i>et al.</i> (2001) Dilley <i>et al.</i> (2002b)	None identified
B3. Interventions specifically for young MSM to support inclusive conceptualisations of MSM identity(s).	None identified	Rosser <i>et al.</i> (2002)	None identified
B4. Interventions to address the gaps in young MSM's knowledge of the risks oral sex. B5. Help for family and friends of MSM to support MSM's HIV information and other support needs. B6. Support for young MSM's testing decisions to address fears around confidentiality.	None identified		
<b>Needs derived from HIV positive MSM</b>			
C1. Interventions targeting HIV positive MSM to take into consideration the conflicts inherent to balancing sexual intimacy and pleasure with condom use and communication about HIV.	None identified	Picciano <i>et al.</i> (2001)	None identified
C3. Interventions to help men to deal with the psychological impact of HIV diagnosis and subsequent life as a sexual being.	None identified	Flowers <i>et al.</i> (2002)	None identified
C5. Interventions for HIV positive MSM to address the communication and strategic skills needed to deal with situations HIV positive MSM find difficult (e.g. disclosure, condom use).	None identified	Dilley <i>et al.</i> (2002b) Elford <i>et al.</i> (2001) Imrie <i>et al.</i> (2001c) Flowers <i>et al.</i> (2002) Rosser <i>et al.</i> (2002) Shepherd <i>et al.</i> (1997)	Turner and Heywood (2000) Dockrell <i>et al.</i> (1999)

**Table 6.1 Matches, partial matches and gaps between intervention needs and evaluations (cont'd)**

	<b>Sound evaluations</b>		<b>Evaluations judged not sound</b>
<b>Need</b>	<b>Matching evaluations (intervention and population)</b>	<b>Partially matching evaluations (intervention not population)</b>	<b>Matching or partially matching interventions</b>
<p>C4. Interventions to reduce the stigma of HIV and attributions of blame within both the gay community and society as a whole.</p> <p>C6. Interventions for all MSM to highlight the difficulties HIV positive men face in disclosing their status and communicating around HIV risks</p> <p>C7. Interventions for all MSM to develop an understanding of the shared responsibility for making sex safer (regardless of HIV status), and an appreciation that this includes disclosure as well as negotiation over sex acts.</p> <p>C8. Interventions to support all MSM to become more aware of the lives of men with a different status to them.</p> <p>C9. Interventions to help all MSM have awareness of the range of approaches positive men have to disclosure, and to enable them to develop strategies for dealing with disclosure.</p> <p>C10. Interventions to provide family and friends with freely available and accurate information on sexual health issues.</p> <p>C11. Support for an authoritative source to collate and co-ordinate the dissemination of accurate and consistent information (in particular around viral load and re-infection) to MSM, HIV services and informal networks.</p> <p>C12. Interventions to enable society as a whole develop an understanding of the HIV sexual health needs of MSM, the means to address these and to provide knowledge about where to go for further information on the HIV sexual health needs of MSM.</p> <p>C14. Training in HIV specific communication skills for health professionals.</p> <p>C15. Specialist HIV services to ensure the necessary time is spent on HIV positive MSM's information needs. This to be supported by accessible and understandable information</p> <p>C16. Drop in centres to be supported to review their practices to ensure that services to all users are inclusive, relevant and non-judgmental.</p> <p>C17. Information and advice that is personally relevant to be provided by sources considered to be authoritative e.g. specialist HIV clinicians.</p>		None identified	

### **6.1.1 Matching interventions to needs derived from research with different groups of vulnerable men**

Full matches were found for two out of the three intervention needs inferred by the reviewers from themes that were overarching across two or more groups of vulnerable MSM.

#### **D1. Interventions to take into account the ways in which MSM's responses to sexual HIV risks necessarily take place within a broad context of competing risks which may impact upon MSM's psychological, social and physical well-being.**

This intervention need was considered to be fully matched by five interventions, four of which had been soundly evaluated (Dilley *et al.*, 2002b; Imrie *et al.*, 2001c; Picciano *et al.*, 2001; Rosser *et al.*, 2002), and one which was judged not to be a sound (Dockrell *et al.*, 1999).

The studies by Dilley *et al.* (2002b) and Imrie *et al.* (2001c) evaluated interventions that utilised cognitive-behavioural techniques (CBT). Both studies attempted to help men to balance risk and pleasure, and to examine the context behind risk-taking behaviours. The CBT element in Dilley *et al.* examined self-justifications for high-risk behaviour provided by the participants in a questionnaire; the aim was to help the client to continue to have the most satisfying sexual life possible whilst decreasing or eliminating unsafe behaviours. In Imrie *et al.* the CBT element of the intervention was delivered in a group workshop and attempted to identify losses and gains linked to personal behavioural change. As is outlined in Chapter Four, a meta-analysis of the data on the effect of these interventions on sero-discordant or unknown status UAI found them to be effective for this outcome in that they reduced by 51% the number of participants reporting sero-discordant or unknown status UAI at six months. However this finding was no longer statistically significant at 12 months. Of the two studies, only Imrie *et al.* presented data for any other of the review's prioritised outcomes. Reviewers agreed with the authors that the intervention had a harmful impact on all-STI incidence (there was no evidence of effect when incidence of bacterial-only STI was considered).

This intervention need was considered to be matched by two further interventions, both soundly evaluated (Picciano *et al.*, 2001; Rosser *et al.*, 2002). The first of these was a telephone counselling intervention which used motivational enhancement techniques to guide participants to review their current sexual practices and reasons for having sex. Discussion included the perceived benefits and losses of condom use and safe sex strategies. Reviewers concluded that there was no evidence of effect for the intervention on the incidence of casual UAI. The second, evaluated by Rosser *et al.* (2002), was a human sexuality seminar that aimed to address contextually, sexual behaviour and decision-making. Reviewers concluded that the two-day, 18-hour seminar showed no evidence of effect upon practical skill development, or upon reported rates of UAI with a casual partner. When data from both these studies were entered into a meta-analysis no evidence of effect was seen on reports of UAI with a casual partner.

The fifth match with this intervention need was with an intervention judged as not sound. Dockerell *et al.* (1999) evaluated an intervention where a broad conceptualisation of risk was encouraged amongst participants who were invited (using self-completion workbooks and structured group work) to focus on their

own personal risks, situations that led to risks, thoughts and feelings generated by those situations and changing their behaviour. Mention is also made of the losses and benefits that might accompany behaviour change. Reviewers found this intervention not to have been soundly evaluated and therefore judged the effect of the intervention to be unclear.

The implication for policy and practice of the above is that there are soundly evaluated interventions which show evidence of effect in reducing sero-discordant / unknown UAI whilst also matching (to differing degrees) a need identified from the views of vulnerable groups of MSM. Whilst there is also evidence of potential harm from one of the two trials included in the meta-analysis, the intervention in the other trial was shown to be effective at 12 months. Research is needed to measure the comparative effectiveness of individual CBT or group based CBT, including, in particular, careful monitoring of the incidence of STI following implementation.

**D2. Interventions to inform all MSM of the various markers that they or their potential sexual partners might be using to determine HIV status and clarify the extent to which these can be relied upon.**

One intervention, soundly evaluated, matched this intervention need (Gold and Rosenthal, 1998). Participants in one of the three arms of this study were asked to look at a set of posters which explored self-justifications for UAI. These self-justifications included using markers to determine HIV status of a partner and subsequent sexual behaviour. Reviewers judged the effects of the intervention to be unclear for all prioritised outcomes due to a lack of reporting of relevant data.

The implications of this match are for future research. Whilst a component of this intervention matches the need to inform men about the reliability of the markers for HIV status that they use, further, rigorously reported research is needed to measure the effectiveness of such an intervention against outcomes.

**D3. Interventions to target all MSM to develop the communication and strategic skills needed to deal with communication over HIV status (disclosure).**

No interventions were identified which matched this implication.

**6.1.2 Matching interventions to needs derived from men who sell sex**

Of the eight intervention needs derived from the views of men who sell sex, five were unmatched but could have been matched by interventions which fell outside the scope of this review (see section 6.1 above). No matching interventions were identified for the remaining three intervention needs (A3, A6, A7).

**6.1.3 Matching interventions to needs derived from young MSM**

Of the six intervention needs derived from the views of young MSM, two were partially matched by evaluated interventions and one was unmatched but could have been matched by interventions which fell outside the scope of this review. For the remaining three intervention needs, no relevant interventions were identified.



**B1. Interventions for young MSM to take into consideration the complicating factors surrounding condom use and the impact of condoms on sexual pleasure.**

Two partial matches were found for this need. Both interventions were judged to have been soundly evaluated (Dilley *et al.*, 2002b; Picciano *et al.*, 2001). In the first of these, participants were told that the goal of the intervention was to help them continue to have the most satisfying sexual life possible while helping to decrease unsafe sexual behaviours. Participants then recounted a recent episode of UAI and were asked to describe the exact thoughts, feelings, attitudes or ideas they had at the time. The second study involved participants reviewing the perceived benefits and losses regarding condom use in a way that was described as tailored to their needs. Neither intervention was aimed specifically at young MSM. Both studies are described further in section 6.1.1 above.

**B3. Interventions specifically for young MSM to support inclusive conceptualisations of MSM identity(s).**

One partial match was found for this need (Rosser *et al.*, 2002). This intervention, based on a human sexuality seminar was judged to have been soundly evaluated. The seminar included work aimed at affirmation of self and identity. However, it was not targeted specifically at young MSM.

No interventions were identified which matched intervention needs B4, B5 and B6.

**6.1.4 Matching interventions to needs derived from HIV positive MSM**

Seventeen intervention needs were derived from the views of HIV positive MSM. Three of these were partially matched by evaluated interventions. Two were unmatched but could have been matched by interventions which fell outside the scope of this review. For 12 of the implications no relevant evaluated interventions were identified.

**C5. Interventions for HIV positive MSM to address the communication and strategic skills needed to deal with situations HIV positive MSM find difficult (e.g. disclosure, condom use)**

This need was partially matched by six soundly evaluated interventions (Dilley *et al.*, 2002b; Elford *et al.*, 2002; Flowers *et al.*, 2002; Imrie *et al.*, 2001c; Rosser *et al.*, 2002; Shepherd *et al.*, 1997) and by two interventions which were not soundly evaluated (Dockrell *et al.*, 1999; Turner and Heywood, 2000).

The two partially matching interventions studied by Dilley *et al.* (2002b) and Imrie *et al.* (2001c) are discussed in greater detail above. Both included cognitive-behavioural interventions which aimed to impact upon the development of communication and strategic skills needed for dealing with difficult situations around HIV-related sexual health. In Dilley *et al.* (2002b), counsellors worked with participants to identify self-justifications and differences between on-line and off-line perceptions of risk. Reviewers judged this intervention as potentially aiming to influence strategic skills because agreements were often made about how the participant might manage such situations differently in the future. One of the components of the intervention evaluated by Imrie *et al.* (2001c) was entitled, 'Dealing with high risk situations, for example, in the heat of the moment' and aimed for participants to gain experience of positive self talk. Both were only

partial matches, however, because they were not targeted specifically at HIV positive men, whose experiences with dealing with condoms and disclosure are likely to be far more complex than those of HIV negative MSM. Evidence for the effectiveness of these interventions is discussed in 6.1.1 above.

The third partially matching intervention was evaluated by Flowers *et al.* (2002). One of the components of the intervention, peer led health promotion in gay bars, included distribution of sexual health promotion materials and one-to-one interactions between MSM and peer health promoters. Topics covered included negotiating safety, although it is unclear how much men would have gained skills from what were, on average, ten-minute encounters centred on an exchange of information. Reviewers concluded that there was no evidence for an effect of this intervention at a community level for any of the outcomes prioritised by this review.

The fourth partially matching intervention was evaluated by Elford *et al.*, (2001). This intervention also used peer led health promotion, but in gyms. Peer educators were asked to have conversations with other gym members about safer sex, sex within relationships, new therapies for HIV and steroid use. Again, the authors report that most interactions were short. Furthermore, only 3% of gym members surveyed at follow-up said that they had met a peer educator. It is therefore unclear as to how much gym members could have learned strategic skills from this intervention as it was implemented. Reviewers concluded that there was no evidence of effect for the intervention on reported rates of UAI with partners of unknown HIV status, UAI with casual partners, or HIV testing. Effects on attitudes were unclear, as data for this outcome were not reported.

One further peer education intervention studied by Shepherd *et al.* (1997), and judged to have been soundly evaluated, was again a partial match for this intervention need. Whilst it did not specifically target HIV positive MSM, the intervention was aimed at promoting HIV prevention through information provision and the facilitation of safer sexual negotiation skills. Reviewers concluded that there was no evidence of effect for the intervention on the incidence of casual UAI, and that the effect on attitudes, beliefs and knowledge was unclear.

The sixth intervention that partially matched this intervention need was evaluated by Rosser *et al.*, (2002) and is described in further detail in 6.1.1 above. These authors describe a human sexuality seminar that aimed to help MSM improve their communication skills by enabling them to discuss sex and sexuality, and so to engage in healthy sexual behaviour and decision-making. Reviewers concluded that the evaluation showed no evidence of effect upon practical skill development, however, or upon reported rates of UAI with a casual partner.

Two further partial matches were found with interventions judged not to have been soundly evaluated. Turner and Heywood (2000) evaluated workshops that aimed to help participants to analyse their sexual health-related behaviour and assist them in using new skills. The cognitive-behavioural intervention evaluated by Dockrell *et al.* (1999) is discussed in greater depth above (section 6.1.1). A component of the intervention aimed to help participants develop strategies for dealing with high-risk situations. The effects of both interventions were judged to be unclear due to the evaluations not being sound.

The implications of these partial matches for policy and practice is that there are soundly evaluated interventions based on CBT techniques which show evidence of effect in reducing sero-discordant / unknown UAI. There is also evidence of potential harm from one of the trials included in the meta-analysis. However

whilst the interventions also address (to differing levels) the need for HIV positive MSM to develop the communication and strategic skills they need to deal with negotiating condom use and disclosure, the interventions did not target HIV positive men specifically. Whether they are acceptable to HIV positive MSM is unclear.

Research is needed to measure the comparative effectiveness of individual or group based cognitive-behavioural interventions to help HIV positive MSM develop these skills. Research should in particular monitor the incidence of STI as well as other key outcomes. Rigorous research is also needed to evaluate peer led interventions targeting the same need identified by HIV positive men, as the effectiveness of such interventions remains unclear.

**C1. Interventions targeting HIV positive MSM to take into consideration the conflicts inherent to balancing sexual intimacy and pleasure with condom use and communication about HIV.**

Only one partial match was found with this intervention need (Picciano *et al.*, 2001). This intervention is already discussed above in section 6.1.1. These authors state that the intervention aimed to guide participants to review their current sexual practices, including the perceived benefits and losses regarding condom use and safe sex strategies. Reviewers concluded that there was no evidence of effect on practical skill development. Furthermore, the meta-analysis in Chapter 4.2 found no evidence of effect for this intervention on rates of UAI with a casual partner.

**C3. Interventions to help men to deal with the psychological impact of HIV diagnosis and subsequent life as a sexual being.**

Only one partial match was found for this intervention need. The intervention evaluated by Flowers *et al.* (2002) and discussed above in section 6.1.4, included the provision of gay specific GUM services promoted by peer educators in bars. While these services would probably have aimed to reduce the psychological impact of a diagnosis, is not clear as to how much they would have dealt with issues around sex when HIV positive. Interactions with peer educators in bars covered topics that included HIV testing and HIV risks within relationships, however it is again unclear as to how much this would have been appropriate for men who had received a positive diagnosis. As is detailed in Chapter Four, reviewers concluded that there was no evidence for an effect of this intervention at a community level for HIV testing or for any of the other outcomes prioritised by this review.

For the remaining 12 intervention needs identified by HIV positive men (C4, C6, C7, C8, C9, C10, C11, C12, C14, C15, C16, C17), no full or partial matches were found.

## 7. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

### *Outline of Chapter*

*This chapter considers the implications of the findings of the review for current policy and practice and future research. It also reflects on the methods used to conduct the review.*

*The chapter ends by drawing conclusions from the findings of all the stages of the review and makes recommendations for policy, practice and further research. It lists interventions that have been shown to be effective in methodologically robust studies and those interventions which appear to be acceptable to MSM but need further rigorous evaluation; and makes recommendations for conducting and reporting research.*

*The chapter will be useful to **all audiences** (practitioners, policy specialists, researchers, MSM, and community leaders).*

### **Key Messages**

- *There is a relatively large evidence base for informing policy and practice in the area of MSM and the barriers to and facilitators of HIV-related sexual health. It is limited, however, in terms of its coverage of UK-based interventions, the extent of use of unreliable evaluation designs and the study of selected vulnerable groups of MSM.*
- *This review supports the findings of previous systematic reviews that interventions can influence the behaviour of MSM. Similar to previous reviews, it finds very few rigorous evaluations of HIV health promotion interventions for MSM.*
- *This review appears to be unique in that it synthesises data on sero-discordant / unknown status UAI*
- *This review appears to be unique in synthesising findings from studies of MSM's views.*

### 7.1 Summary of principal findings

This is the first review of which we are aware that analyses and synthesises in a systematic way the findings from studies of vulnerable MSM's views and experiences of HIV-related sexual health, and integrates these with findings from effectiveness studies.

It is also one of the first systematic reviews conducted by EPPI–Centre researchers to involve an Advisory Group that included representatives from practitioner and MSM groups. The aim of the group was to inform the scope and development of the project so as to increase its relevance to policy and practice. The group comprised people with interests in as many different aspects of HIV health promotion as possible in order to obtain a balance of views. The group met

with the reviewers at key stages of the review when significant decisions needed to be made. Formal consensus development methods were used to prioritise outcomes and this led to the review's primary focus upon the outcome of sero-discordant/unknown status UAI. Several key modifications were also made to the review's scope as a result of the group's work. The two most notable followed the group's first meeting, when it was decided that the review needed to build upon the concept of control over HIV being important in influencing HIV transmission (Hickson *et al.*, 2003a), and the second meeting, when a presentation of the mapping exercise identified the large size of the non-intervention literature and discussion prioritised the importance of work done since the start of 1996 and the need to focus upon particular vulnerable groups of MSM.

A potential weakness in the review is that it was restricted to English language publications only. Recent research (Moher *et al.*, 2003) has indicated that language restrictions in systematic reviews do not appear to bias the estimate of intervention effectiveness in the case of standard allopathic medical treatments. However, the same study found that not including studies in languages other than English resulted in substantial bias in systematic reviews of complementary and alternative medicine interventions. We are not aware of any empirical research that has considered the potential for this type of publication bias in reviews limited to health promotion interventions, so the impact on our findings of the focus on English language studies is unclear.

### ***Mapping exercise***

The results of our mapping exercise revealed a relatively large evidence base for informing policy and practice in the area of MSM and the barriers to and facilitators of HIV-related sexual health. However, there are limitations in its coverage.

Firstly, there may be limitations in its relevance to a UK context. As has been found in previous reviews of HIV health promotion (e.g. Kegeles and Hart, 1998; Oakley *et al.*, 1996) many more evaluations of interventions have been implemented in the USA than elsewhere in the world. Compared with these earlier reviews, this review identified a larger proportion of UK-implemented evaluations (almost a third were implemented in the UK), probably reflecting recent work in this area. Secondly, the evaluation designs used in these studies may often not have been the most reliable. Despite considerable support for randomised controlled trials (RCTs) among behavioural researchers (Stephenson *et al.*, 2003a), less than a quarter of these evaluations used this design. The same proportion used comparison groups without random allocation. This can be compared with a recent survey by the US Center for Disease Control's Prevention Research Synthesis (PRS) project of evaluations of US-based HIV risk reduction interventions measuring behavioural or biologic outcomes. This found 61% to use what they called 'rigorous study designs' (RCT or other comparison group designs) (Semaan *et al.*, 2002). A recent review of the promotion of healthy eating in children found that almost three-quarters of the evaluations used these designs (Thomas *et al.*, 2004; Thomas *et al.*, 2003). Thirdly, while a relatively large number of non-intervention studies conducted in the UK have attempted to access MSM's perspectives and experiences of different aspects of HIV-related sexual health, very few have the vulnerable groups of MSM studied by this review as their sole focus.

## **Effectiveness synthesis**

Synthesising the findings of eight studies evaluating the effectiveness of post 1996 HIV health promotion interventions for MSM using a mixture of meta-analysis and narrative synthesis revealed:

- that counselling or workshops using cognitive-behavioural techniques for men at risk of sero-discordant /unknown status UAI can reduce the number of men who have sero-discordant /unknown status UAI, but that such interventions may increase the incidence of other STIs;
- that there is no evidence of effect on casual UAI of counselling or workshops that contextualise sexual risks;
- no evidence of the effect of peer-delivered community-based interventions for any of the prioritised outcomes. The 'diffusion of innovation' that underpins some of these interventions may not always have occurred as planned. It is possible that structural and cultural barriers exist to such interventions in some situations in the UK.

It needs to be said that the conclusion about the effects of cognitive-behavioural interventions is based only on two studies. Only one of these measured impact upon other STIs. The positive effect of these interventions' on sdUAI was found to be statistically significant and therefore indicates that interventions of this type have a role to play in reducing sdUAI. More needs to be known however, about which particular form of intervention using cognitive-behavioural techniques should be implemented in different settings. One of the interventions included in the meta-analysis was evaluated in the USA, one in the UK. Neither evaluation looked at intervention implementation or acceptability, although the intervention by Imrie *et al.*, was piloted in the UK.

Furthermore, one of these studies (Imrie *et al.*, 2001c ) measured impact on other STIs, and found there to be a statistically significant and undesirable increase in STI incidence. As previously discussed, this could have been due to an increase in sero-concordant UAI. The potential for exposure to other STIs needs to be addressed as part of these interventions.

As a result of these limitations in the post-1996 evidence base, there is a need for implementation of cognitive-behavioural interventions with concurrent evaluation. This evaluation needs to measure both sdUAI and STI outcomes. As is the case for all interventions, evaluations need concurrently to examine implementation and acceptability in specific contexts.

We found no evidence of effect for peer-delivered community-based interventions delivered in the UK in 1996 or after on any of our prioritised outcomes. This finding needs to be put in the context of the studies of similar interventions prior to this date. Authors of studies included in this review found no evidence of effect on any outcomes at the community-level. They describe in integral process evaluations several difficulties in implementing their interventions as planned. Two of these (Elford *et al.*, 2001; Flowers *et al.*, 2002) were based to differing degrees on an intervention evaluated and found to be effective by Kelly and colleagues in several different community trials in the USA (Kelly *et al.*, 1991, 1992, 1997). In the earlier studies by Kelly popular MSM opinion leaders were identified and served as behaviour change endorsers, with the idea that innovations in behaviour would diffuse throughout the target community.

In a recent series of discussion papers Kelly, Elford and Flowers, present their arguments explaining the different effectiveness findings of different evaluations (Kelly 2004; Elford *et al.*, 2004; Hart *et al.*, 2004). The authors of the UK community studies argue that their findings could reflect the difficulties of transferring an intervention from one context to another. Integral process evaluations for two of the three community studies synthesised in this review identified difficulties in recruiting and retaining peer educators, and all three described the difficulties that these peer educators had in talking about some areas of sexual health with their peers. There do seem to be considerable differences between the contexts of the USA and the UK based evaluations. For example the former were all conducted before the advent of Highly Active Anti-Retroviral Treatment in 1996, since which time, it is widely felt, that attitudes to the risks associated with HIV have changed. While one of the UK interventions was developed with formative research in the intervention city (Flowers *et al.*, 2002), none was piloted to test implementability before it was evaluated. Work done by the UK's Medical Research Council on the different phases of evaluating complex interventions may well be useful when commissioning and planning such research in future (Campbell *et al.*, 2000).

As such, there is insufficient evidence from the UK community peer delivered intervention evaluations synthesised in this review to make specific practice recommendations about the implementation of peer-led community level interventions in the UK. There is no evidence to support discontinuing such interventions. What is needed, instead, is further work on evaluation. This needs to include initial, further development that tailors such interventions to different post 1996 UK contexts, sufficient piloting to ensure interventions are implementable and evaluation of implementation and acceptability alongside rigorous outcome evaluation.

In general, more rigorous evaluation of HIV health promotion interventions needs to occur in order to determine whether specific interventions are effective or not. Better reporting of data in all studies and the presentation of an intra-class correlation co-efficient in cluster trials would have resulted in a higher number of studies being included in meta-analyses. Similar recommendations were contained within the earlier review conducted by the EPPI-Centre (Oakley *et al.*, 1996). While it is evident that considerable progress has been made in developing the effectiveness evidence-base for HIV health promotion for MSM, it is clear that financial and other forms of all support for research in this area remain vital.

### **Synthesis of MSM's views**

Combining the findings from 10 studies of the views of selected groups of vulnerable UK MSM provided valuable insights into these MSM's experiences of HIV-related sexual health that any programmes of HIV health promotion for MSM need to consider.

It is important to say that selection of certain groups of MSM for study in this review should not be taken to mean that these groups are necessarily more of a priority for HIV-health promotion activities than other MSM. We have described how certain groups were initially selected for study by the Department of Health in England who commissioned the review. The review's Advisory Group, which included individuals with a variety of roles in health promotion for MSM, then advised the review team to prioritise work on HIV positive and young MSM in particular, because of a particular interest amongst practitioners in working with

these groups. All MSM are vulnerable in different ways to reduced control over sexual HIV exposure and to reduced sexual health. This review appears to be the first synthesis of the views of MSM who could be considered vulnerable. Further work is needed to pull together and appraise studies of the views of other MSM. This would also put the views synthesised here within a broader context.

Several limitations of the views synthesis within this review stem from the characteristics of the individual studies themselves. These studies were so scarce that the description of views of both working class and young men had each to be based upon only one study. Studies for other groups that it was hoped could be included (e.g. black and ethnic minority MSM) were either limited methodologically or missing altogether. The descriptions of the views of men who sell sex and HIV positive MSM can be considered to be more reliable in that reviewers were able to look for and give more weight to views that were expressed in more than one study; however these studies, too, were limited in their range. Most of the MSM whose views were tapped in these studies lived in urban areas, so the perspectives of vulnerable MSM who live in rural settings are missing.

The aspects of HIV-related sexual health that were studied and the ways in which they were studied also influenced the synthesis. The men who sold sex were asked solely about their behaviours when selling sex or the services that they used: the views for this group tell us nothing about these men's lives outside their work. Furthermore, many of the studies tend to treat their participants as a relatively homogenous group, something that in part reflects their exploratory nature and small size. Some explored differences between the range of perspectives of different sub-groups of men (e.g. those men who had experienced UAI in the previous 12 months compared with those who had not), but only rarely were differences explored between men in relation to socio-economic factors. As a result, we are in danger of getting a fragmented picture of what control over HIV and other aspects of HIV-related sexual health might mean to the groups of MSM we studied. We know nothing about how the perspectives of men experiencing multiple exclusions from society compare with those who are less excluded, for example.

In terms of the robustness of the findings from the views syntheses, one synthesis stands out in particular. The synthesis for HIV positive MSM included the most studies (five), two of which were rated as having a high weight of evidence. The only other views study to be rated as high was the one study of working class MSM, which was alone in terms of contributing to findings about this particular vulnerable group.

### ***Integrating the findings of MSM's views with findings on intervention effects***

The findings of our views synthesis suggested 30 implications for the development of appropriate interventions which were derived explicitly from the expressed needs of MSM. A further three implications were derived from overarching themes inferred by the reviewers. Comparison of evaluated interventions to these implications in our cross-study synthesis revealed matches, mismatches and gaps.

Because interventions, in all but one case, were not aimed at the vulnerable groups of MSM studied in this review, full matches between intervention needs and evaluations were only found for only two of the 34 intervention needs. This is



an important finding in itself. Very little sound evaluation research exists of interventions that are targeting the vulnerable groups examined by this review. It should be noted that this by no means undermines the value of implementing effective interventions for MSM as a whole.

A further five needs were partially matched by intervention evaluations. These matches were made in several cases with soundly evaluated interventions found to be effective in reducing sero-discordant / unknown status UAI but also potentially harmful in terms of increasing STI incidence. In other cases the matches were with interventions judged to have no evidence of effect or judged as unclear.

For 19 intervention needs no evaluated interventions were identified. Notably, none of the needs that were derived from barriers and facilitators inherent to the community, services or policy makers were matched fully or partially by any of the interventions included in the in-depth review.

Few evaluated interventions fully matched the needs identified from the views of MSM. However, there are promising interventions which partially matched the views of MSM that should be evaluated further.

It is important to acknowledge that this type of cross-study synthesis looks for matches between needs and interventions evaluated using a comparison group design. It in no way indicates the extent of current practice. While there are a large number of initiatives currently underway in the UK that would match many of the intervention needs identified in Chapter Five, these interventions are unevaluated, or being evaluated using designs that may produce unreliable findings. The real need here is for funds and activity to be directed towards rigorous evaluation of promising interventions (see 7.2 below).

### ***Comparison of findings with previous reviews***

This review had a similar population scope to four previous systematic reviews (Johnson *et al.*, 2002; Johnson *et al.*, 2003; Kegeles and Hart, 1998; Oakley *et al.*, 1996). Since the introduction of Highly Active Anti Retroviral Treatment in 1996 may have altered the ways in which MSM respond to interventions, studies of interventions before and after this time would not be comparing like with like. Our review's requirement that evaluations for the in-depth review be of interventions implemented in 1996 or after, means that none of the evaluations in our review are synthesised in these previous reviews and vice versa. So this review both builds on previous syntheses and constitutes an important new contribution to the evidence base in this area.

Furthermore, as far as we know, no review has synthesized the effects of interventions on the primary outcome prioritised for this review sero-discordant or unknown status UAI. Previous reviews have pooled data on UAI in general, condom use or numbers of sexual partners (Johnson *et al.*, 2002; Johnson *et al.*, 2003) or have conducted narrative syntheses without prioritising outcomes (Kegeles and Hart, 1998; Oakley *et al.*, 1996). Again this complicates comparison.

Our review supports the summary finding of the most recent of these reviews that behavioural interventions can have an effect on the behaviour of MSM (Johnson *et al.*, 2003). However, our review's focus on different outcomes along with poor reporting of these outcomes means that only a very small number of studies

could be entered into our meta-analyses. We were therefore unable to conduct sub-group analyses or further meta-analyses to support or counter this earlier review's more specific findings that effects were slightly more favourable (although not statistically significantly so) for: community-level interventions (as opposed to group or one-to-one interventions); interventions targeting populations in their 20s rather than their 30s; and interventions that promote interpersonal skills. Data on the effectiveness of specific interventions presented by the Cochrane review suggests statistically significant effects on priority outcomes for only one intervention. Similarly, the meta-analysis of a sub-set of these studies (Johnson *et al.*, 2002) suggests statistically significant effects were seen for only one intervention (a different one, delivered at the community level).

In contrast to these earlier reviews, we did find one individual level intervention to be effective in its own right (Imrie *et al.*, 2001c). When pooled in a meta-analysis with one other study of a small group intervention, the study by Imrie and colleagues contributed to a statistically significant reduction in the proportion of MSM reporting sero-discordant/unknown status UAI at six months follow-up (see Fig D1). None of the other studies in our syntheses (two individual level, two group and three community studies) were found to be effective in their own right. As section 4.3 describes, however, for many outcomes we were only able to conclude that there was no evidence of effect (the individual studies possibly being too small to identify an effect) or that effectiveness was unclear. We would therefore argue that it is not possible to say at this point that either individual, group or community interventions are more or less effective than each other.

One finding of our review that echoes that of the two Johnson reviews and other recent studies (e.g. Semaan *et al.*, 2002) is the extremely small number of studies with rigorous design that evaluate interventions for the HIV prevention needs of MSM. Given that MSM is the group at greatest risk of acquiring HIV in most Western countries, the lack of reliable evidence of effectiveness for this group is unacceptable. Johnson *et al.* (2002)'s searches were for US studies only. They were conducted up until June 1998 and so cover a period of approximately 17 years since the first reported case of HIV. Ten studies were found that used 'rigorous' (RCT or other comparison group) designs to evaluate behavioural interventions. Our review's comprehensive searches up to March 2003 found 12 RCT or comparison group studies implemented in or after 1996. This might suggest that there has been an increase over the entire period of the epidemic in the rate with which rigorous evaluations of interventions for MSM are being conducted. Comparisons of the searches for the US-based interventions used by Johnson *et al.* (2003) and reported by Semaan *et al.* (2002), however, indicate that MSM as a group are poorly served when compared with other groups. While only ten rigorous evaluations had been conducted with MSM in the US, figures were higher for all other groups included in their scope. A total of 48 focused on drug-related HIV transmission, for example, while 24 focused on heterosexual youth and 17 on heterosexual adults.

## **7.2 Recommendations**

### **7.2.1 Recommendations for policy and practice**

#### **Reducing sero-discordant / unknown UAI**

Policy makers should consider implementing counselling based upon cognitive-behavioural techniques, or workshops using these techniques, in place of standard counselling for MSM at high risk of engaging in UAI with partners of unknown or sero-discordant HIV status, because it is likely to decrease the proportion of MSM reporting this activity. Any implementation of these interventions should be accompanied by consideration of addressing STIs in the intervention and sound evaluation of impact on sdUAI and STI incidence.

#### **Community peer delivered interventions**

There is insufficient evidence to support discontinuing community peer delivered interventions. Instead, further work on evaluation is strongly recommended. This needs to include initial, further development that tailors such interventions to different post 1996 UK contexts, sufficient piloting to ensure interventions are implementable and evaluation of implementation and acceptability alongside rigorous outcome evaluation.

### **7.2.2 Recommendations for future research**

In this section we recommend several interventions for further evaluation. These interventions have been singled out because they matched ideas for appropriate interventions derived from MSM's views, but were not evaluated in a sufficiently rigorous way. We also recommend several interventions suggested by MSM's views and experiences that have not yet been evaluated. All such evaluation, to be of use, needs to ensure that it is rigorously conducted and reported, as outlined further in section 7.2.3.

Further rigorously conducted and reported research (primary and secondary) is required on the views of all groups of MSM. Research is needed, in particular on young MSM, working class MSM, black and ethnic minority MSM, disabled MSM and other groups of MSM who are especially vulnerable to reduced control over HIV-related sexual health. Work is required to synthesise the views of these men and to put the views of especially vulnerable MSM in the context of other MSM's views.

The following three recommendations are based on the need for further evaluation of interventions which have been soundly evaluated and fully match implications arising from MSM's views, but which have not been evaluated sufficiently to inform policy and practice. Further rigorous research is needed:

- to explore the comparative effectiveness of individual versus group level interventions based on cognitive-behavioural techniques;
- to explore the effectiveness of interventions which address the complexity of the competing risks that MSM have to balance when making decisions about their HIV-related sexual health; and
- to explore the effectiveness of interventions which aim to inform MSM of the various markers that they or their sexual partners might be using to determine HIV status, and the extent to which these can be relied upon.

The following recommendations for future research are based on the need for rigorous evaluation of interventions that are targeted at specific vulnerable groups of MSM. The recommendations are derived from evaluated interventions that only partially matched implications for interventions because they did not target the vulnerable groups identified in this review.

Research is needed to evaluate the following:

- Interventions for young MSM to take into consideration the complicating factors surrounding condom use and the impact of condoms on sexual pleasure.
- Interventions specifically for young MSM to support inclusive conceptualisations of MSM identity(s).
- Interventions for HIV positive MSM to address the communication and strategic skills needed to deal with situations HIV positive MSM find difficult (e.g. disclosure, condom use).
- Interventions targeting HIV positive MSM to take into consideration the conflicts inherent to balancing sexual intimacy and pleasure with condom use and communication about HIV.
- Interventions to help men to deal with the psychological impact of HIV diagnosis and subsequent life as a sexual being.

The following recommendations for future research are based on the need for rigorous evaluation of interventions that match implications derived from the views of particular groups of vulnerable MSM. The recommendations are derived from implications for which no matching interventions were identified. Intervention areas that call for evaluation since they are lacking in sound evaluations and yet match needs identified by vulnerable MSM:

- interventions aimed at young MSM to address gaps in their knowledge about the HIV risks of oral sex and to support their testing decisions;
- interventions aimed at all MSM that develop understanding of the way lives vary with HIV status, understanding of the range of approaches men have to disclosing status, shared responsibility for sexual safety between positive, negative and untested MSM, and communication about HIV status;
- interventions aimed at family and friends of MSM that enable them to support their HIV information and other support needs;
- interventions aimed at the gay community and at society in general to reduce the stigma of HIV and attributions of blame for HIV;
- interventions aimed at society in general that enable development of an understanding of the HIV sexual health needs of MSM, the means to address these and to provide knowledge about where to go for further information on the HIV sexual health needs of MSM;
- interventions aimed at health professionals to provide training in HIV specific communication skills;
- support for drop-in centres to develop inclusive, relevant and non-judgemental services;
- support for specialist HIV services to provide personally relevant information and advice that is accessible and understandable and to ensure the necessary time is spent on HIV positive MSM's information needs;
- accessible provision of free condoms for MSM who sell sex; and
- provision of resources for meeting places and befriending networks for young MSM.

Future systematic reviews should consider using a broader conceptualisation of sexual health interventions in order to examine the intervention needs identified by vulnerable groups in this review which we did not examine further because they fell outside the scope of our review question.

### **7.2.3 Recommendations for conducting and reporting research**

All recommendations for future effectiveness research require trials that are rigorously conducted, and fully powered to detect effects on a range of key outcomes. More detailed recommendations are that:

- outcome measures relating to sexual behaviour should measure and report the number of men reporting these outcomes as well as the number of episodes;
- measures of sexual behaviour should include, where possible, identification of the HIV status of the respondent and his partner;
- any outcome measure of UAI with a casual partner should clearly state a shared definition of 'casual' used by both the participants and researchers;
- any trials which are targeted at a broad population of MSM, should consider *a priori* the need for collecting outcomes data on vulnerable sub-groups of the population;
- MSM should be directly consulted on matters concerning the promotion of their HIV-related sexual health. This is not only an ethical imperative but also critical in developing effective and acceptable interventions. Most of the (otherwise sound) current intervention research has not consulted MSM about intervention development or evaluation;
- when possible, outcome evaluations should be designed as randomised controlled trials using individuals, communities, geographical areas or local primary care trusts as units of allocation. Although there may be circumstances in which this might not be possible, there are currently many missed opportunities for employing this design to evaluate effectiveness. Researchers need to work with health promotion and clinical practitioners, community leaders and local and national policy makers to identify opportunities for setting up such evaluations. Policy-makers and research commissioners need to allocate sufficient funds to support such work;
- outcome evaluations should include integral process evaluations. Well-conducted process evaluations can offer valuable insights into the reasons for the success (or otherwise) of interventions, and can elicit the views of those involved in delivering or receiving the intervention and monitor the contextual variables impacting on its implementation;
- key aspects of the methodology and results of outcome evaluations need to be reported in a detailed and consistent manner in order to promote confidence in their rigour. The outcome evaluations reviewed in this report did not consistently describe pre-test and post-test data of all participants; establish the equivalence of intervention and control groups; or report the impact of the intervention for all outcomes targeted. These are minimum benchmarks of quality. As complete information as possible should also be provided on the aims of the study; on the method of randomisation where used; on numbers of participants assigned to intervention and control groups; on attrition rates; and on the design, content and delivery of the intervention. Now that internet access and use is so widespread, authors are able to report their results and key messages in journals whilst publishing their full analyses on the World Wide Web. Authors of outcome evaluations should adhere to the conventions of published statements on

the reporting of randomized controlled trials (Moher *et al.*, 2001) and non-randomized trials (Des Jarlais *et al.*, 2004);

- full details of the interventions being evaluated need to be reported in a way that facilitates replication. Some of the outcome evaluations in this report did not describe their interventions in sufficient detail for the reviewers to gain an understanding of key aspects of the programmes being evaluated. Whether or not the study finds any effect, it is important for readers to know what was done – and how – in order to plan future initiatives and learn what might have been the most important features of the intervention in question;
- studies which allocate groups (clusters) of individuals to control / comparison conditions need to take account of this in their analysis and reporting. Some studies allocated clusters of individuals and then conducted their analysis as though the individuals themselves had been assigned to intervention / comparison groups; this assumes unwarranted statistical power. Analysis should take account of cluster allocation and the intra-class correlation (ICC) should be published with the results of the study. Specialist statistical advice may need to be sought. Authors of such studies should refer to published statements on reporting (Campbell *et al.*, 2004);
- studies examining MSM's views need to engage men in a way that respects them as research participants. This can be accomplished by: ensuring that consent and confidentiality are negotiated; developing methods of data collection which minimise power differences between researchers and MSM; using data collection methods that allow MSM to feel comfortable about expressing their opinions; ensuring that appropriate methods are used to ground the data analysis in MSM's own perspectives; and actively involving MSM in the design and conduct of studies; and
- the reporting of studies of MSM's views and process evaluations needs to be more complete, as basic data are often missing. Detailed descriptions of the selection, recruitment and characteristics of the sample and the methods used to collect and analyse data should always be presented. It is desirable that some attempts are made (and reported) to ensure the reliability and validity of the data collection and data analysis methods. An outline of how the study's findings contribute to the existing knowledge base is always helpful.

Many of the above suggestions do, of course, apply to health promotion research and research evaluating social interventions much more generally. The specific points about research with MSM can be extended to other areas of research involving MSM, and apply also to many areas of research where data are collected from other social minority groups.

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# **APPENDIX A: Inclusion/Exclusion Criteria**

## **Mapping Exercise Exclusion Criteria**

### ***Round A: exclusion on the grounds of scope***

There were three 'scope' criteria. Studies were excluded if:

1. the study's focus, or main focus, was NOT HIV/AIDS
2. the study's focus was NOT HIV health promotion, or barriers to/facilitators of or perceptions/experiences of sexual health in the context of HIV
  - a. Intervention studies were excluded if they focused solely on:
    - Drug treatment to reduce symptoms resulting from HIV or AIDS
    - Therapy (non drug) to reduce symptoms (unless study also examined influence on sexual risk reduction)
    - Condom efficacy (functioning of condoms in controlled conditions)
    - Post-exposure prophylaxis (PEP), microbicides, treatment of other STIs, circumcision, for purposes of reducing HIV transmission following exposure
  - b. Studies of barriers/facilitators were excluded if:
    - focus was solely on biological/physical influences on HIV transmission/exposure - e.g. STDs, modality of intercourse
    - focus was on sexual health but sexual health is not being studied in the context of HIV
3. the study's focus, or main focus was NOT about
  - a. men who are gay or bisexual or
  - b. men who have sex with men, but who do not identify as either gay or bisexual.

### ***Round B: exclusion on the grounds of study type***

Studies were excluded if they were NOT any of the following:

1. an outcome evaluation (with or without integral process evaluation)
2. a process only evaluation conducted in UK
3. a non-intervention study
4. a systematic review

### ***Round C: exclusion on grounds of where study was carried out***

If non-intervention study, NOT conducted in the UK.

### ***Round D: exclusion on the grounds of language of the report***

NOT published in the English language.

### ***Round E: exclusion on date***

Not reported in 1992 or after.

**Definitions:**

1. HIV health promotion is carried out through formal interventions which have as an ultimate aim the reduction or prevention of HIV transmission. These could include individual level interventions (e.g. voluntary counselling and testing; other types of advice and counselling); group level interventions (e.g. group counselling in mainstream clinics); community level interventions (e.g. recruiting gay men to deliver interventions within their communities); and structural or societal level interventions (e.g. anti-discriminatory policies, increasing access to resources or services, modifying organisation of services).
2. sexual health is enjoyment of the following:
  - the ability to be intimate with a partner, to communicate explicitly about sexual needs and desires, to be sexually functional (to have desire, become aroused and obtain sexual fulfilment), to act intentionally and responsibly and to set appropriate sexual boundaries;
  - acceptance and respect for self and others, including respect and appreciation for individual differences and diversity, as well as a feeling of belonging to and involvement in one's sexual culture(s);
  - a sense of self-esteem, personal attractiveness and competence;
  - freedom from sexual dysfunction, sexually transmitted diseases, and sexual assault and coercion.

## APPENDIX B: Search strategies and sources

Sources	Availability	Time Period of Search
<b>Major Databases</b>		
MEDLINE	OVID Web version	1992 – 02/2003
Embase	OVID Web version	1992 - 02/2003
CINAHL (Cumulative Index to Nursing and Allied Health Literature)	WinSPIRS CD-Rom, Silver Platter	1992 – 03/2003
ERIC (Educational Resource Index and Abstracts)	OVID Web version via BIDS	1992 - Feb 2003
SSCI (Social Science Citation Index)	ISI Web of Science via BIDS	1992 – 03/2003
PsycINFO	WinSPIRS CD-Rom, Silver Platter	1993 – 03/2003
BEI (British Education Index)	OVID Web version	1992 – 03/2003
<b>Specialist Registers</b>		
BiblioMap (the EPPI-Centre register of health promotion research)	<a href="http://eppi.ioe.ac.uk">http://eppi.ioe.ac.uk</a>	Searched 03/2003
PrevRev (an internal EPPI-Centre database containing references from previous reviews)	Mediated search, not freely available	03/2003
DARE (Database of Abstracts of Reviews of Effectiveness)	<a href="http://agatha.york.ac.uk/darehp.htm">http://agatha.york.ac.uk/darehp.htm</a> and Cochrane Library via National Electronic Library for Health (NeLH) <a href="http://www.nelh.nhs.uk/">http://www.nelh.nhs.uk/</a>	Cochrane Library 2003 issue 1
HealthPromis (Health Development Agency register)	<a href="http://healthpromis.had-online.org.uk">http://healthpromis.had-online.org.uk</a>	Searched 02/2003
CCTR (Cochrane Controlled Trials Register)	Cochrane Library via National Electronic Library for Health (NeLH) <a href="http://www.nelh.nhs.uk/">http://www.nelh.nhs.uk/</a>	Cochrane Library 2003 issue 1
CDSR (Cochrane Database of Systematic Reviews)	Cochrane Library via National Electronic Library for Health (NeLH) <a href="http://www.nelh.nhs.uk/">http://www.nelh.nhs.uk/</a>	
CHAG (Cochrane HIV/AIDS Group, trials register)	Mediated search requested, database was not available	
African Trials Register	<a href="http://www.mrc.ac.za">http://www.mrc.ac.za</a>	03/2003
Health Promotion Library Scotland Catalogue (HPLS)	<a href="http://194.83.73.130/olibcgi/ntxcgi.exe">http://194.83.73.130/olibcgi/ntxcgi.exe</a>	Searched 1993 – 2003
SIGLE	British Library	1992 – 2002
NGC	<a href="http://www.guideline.gov/indx.asp">http://www.guideline.gov/indx.asp</a>	Searched 02/2003
HIV /AIDS Prevention Research	Mediated search, by staff of	Searched 05/2003

Synthesis (PRS) database.	the PRS project, Centre for Disease Control, Atlanta GA USA. Database not freely available.	
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## **STRATEGIES**

### **MEDLINE**

- 1 exp homosexuality/ (12827)
- 2 homosexuality male/ (2603)
- 3 exp bisexuality/ (1051)
- 4 men who have sex with men.mp. (410)
- 5 gay.mp. (2249)
- 6 (Male adj (prostitut\$ or 'sex worker')).mp. (1413)
- 7 or/1-6 (14571)
- 8 exp health promotion/ (19894)
- 9 exp health education/ (80297)
- 10 preventive medicine/ (6947)
- 11 public health/ (27345)
- 12 primary prevention/ (5812)
- 13 exp preventive health services/ (146328)
- 14 exp behavior therapy/ (26837)
- 15 knowledge attitudes practice/ (2217)
- 16 patient education/ (34796)
- 17 exp health behavior/ (38462)
- 18 attitude to health/ (35788)
- 19 risk factors/ (207747)
- 20 risk-taking/ (6064)
- 21 knowledge/ (3473)
- 22 attitude/ (30448)
- 23 culture/ (18004)
- 24 choice behavior/ (6375)
- 25 cognition/ (24690)
- 26 exp patient acceptance of health care/ (67027)
- 27 health services accessibility/ (18247)
- 28 exp self-concept/ (31772)
- 29 (prevent\$ or reduc\$ or promot\$ or increase\$ or decreas\$ or program\$ or curricul\$ or educat\$ or inequalit\$ or project\$ or campaign\$ or impact\$ or vulnerab\$ or resilien\$ or correlat\$ or predict\$ or determin\$ or mediat\$ or barrier\$ or facilitat\$).ti,ab. (4200223)
- 30 (health\$ or ill or illness or well or wellbeing or sick\$ or disease\$ or transmission or transmit\$ or infect\$ or HIV or aids or acquired immunodeficiency syndrome or std or sexually transmitted disease or condom\$ or "safe sex" or "unsafe sex" or choice\$ or behavio?r\$ or esteem or confiden\$ or assert\$ or risk\$ or serodiscord\$ or sero-discord\$ or stigma or communicat\$).ti,ab. (3233042)
- 31 ((prevent\$ or reduc\$ or promot\$ or increase\$ or decreas\$ or program\$ or curricul\$ or educat\$ or inequalit\$ or project\$ or campaign\$ or impact\$ or vulnerab\$ or resilien\$ or correlat\$ or predict\$ or determin\$ or mediat\$ or barrier\$ or facilitat\$) adj3 (health\$ or ill or illness or well or wellbeing or sick\$ or disease\$ or transmission or transmit\$ or infect\$ or HIV or aids or acquired immunodeficiency syndrome or std or sexually transmitted disease or condom\$ or "safe sex" or "unsafe sex" or choice\$ or behavio?r\$ or esteem or confiden\$ or assert\$ or risk\$ or serodiscord\$ or sero-discord\$ or stigma or communicat\$)).ti,ab. (497142)
- 32 sex education/ (7438)

- 33 contraceptive devices male/ (1194)
- 34 condoms/ (5294)
- 35 sex behavior/ (30023)
- 36 Acquired Immunodeficiency Syndrome/pc [Prevention & Control] (11018)
- 37 exp hiv infections/pc (21937)
- 38 sexually transmitted diseases/pc (3622)
- 39 lifestyle/ (17315)
- 40 prejudice/ (11340)
- 41 homophobi\$.ti,ab. (303)
- 42 discriminat\$.ti,ab. (59041)
- 43 section 28.ti,ab. (36)
- 44 exp politics/ (29509)
- 45 family/ (37948)
- 46 minority groups/ (5321)
- 47 social class/ (22499)
- 48 social conditions/ (4940)
- 49 social control formal/ (10174)
- 50 social control informal/ (1677)
- 51 social environment/ (21263)
- 52 social isolation/ (6878)
- 53 social problems/ (7172)
- 54 socioeconomic factors/ (64648)
- 55 assertiveness/ (1075)
- 56 truth disclosure/ (6472)
- 57 AIDS Serodiagnosis/ (4149)
- 58 ((hiv or aids) adj (test\$ or diagnos\$ or counsel\$)).ti,ab. (4948)
- 59 ((hiv or aids) adj (test\$ or diagnos\$ or counsel\$ or expos\$)).ti,ab. (5378)
- 60 homeless\$.ti,ab. (2832)
- 61 ((emotional or sex\$ or physical\$) adj abuse\$).ti,ab. (5533)
- 62 ((gay or negative or positive) adj identi\$).ti,ab. (989)
- 63 community networks/ or social support/ (20433)
- 64 peer pressure.ti,ab. (251)
- 65 (social\$ adj (exclusion or exclud\$)).ti,ab. (82)
- 66 Stress, Psychological/ or Adaptation, Psychological/ or psychosocial.mp. (87881)
- 67 Culture/ (18004)
- 68 bareback\$.ti,ab. (11)
- 69 cottag\$.ti,ab. (311)
- 70 alcohol drinking/ (26733)
- 71 ((substance or drug\$) adj (abuse or use\$ or misuse\$ or take\$ or taking)).ti,ab. (24544)
- 72 or/8-28,31-71 (1297117)
- 73 exp hiv infections/ (133850)
- 74 exp hiv/ (41989)
- 75 exp hiv-1/ (32195)
- 76 exp hiv-2/ (2673)
- 77 Acquired Immunodeficiency Syndrome/ (65875)
- 78 hiv seropositivity/ (14737)
- 79 hiv seronegativity/ (1805)
- 80 ((HIV or aids) adj (positive or negative or transmi\$ or status)).ti,ab. (12805)
- 81 or/73-80 (151899)
- 82 and/7,72,81 (5243)
- 83 limit 82 to yr=1992-2002 (3177)

## **EMBASE**

- 1 exp Homosexuality/ (6885)
- 2 exp bisexuality/ (927)
- 3 men who have sex with men.mp. (371)
- 4 ((homosexual\$ or gay) adj2 (men or man or male or males)).ti,ab. (5128)
- 5 (male adj (prostitute\$ or sex worker)).mp. (32)
- 6 or/1-5 (8927)
- 7 exp health education/ (36336)
- 8 Preventive Medicine/ (5403)
- 9 public health/ (14780)
- 10 Primary Prevention/ (3474)
- 11 Preventive Health Service/ (1833)
- 12 exp Attitude/ (14936)
- 13 exp Health Behavior/ (18328)
- 14 Risk Factor/ (103758)
- 15 risk/ or infection risk/ (31377)
- 16 Decision Making/ (17374)
- 17 Cognition/ (30301)
- 18 exp Patient Attitude/ (43526)
- 19 Health Care Delivery/ (18816)
- 20 exp Self-concept/ (17406)
- 21 (prevent\$ or reduc\$ or promot\$ or increas\$ or decreas\$ or program\$ or curricul\$ or educat\$ or inequalit\$ or project\$ or campaign\$ or impact\$ or vulnerab\$ or resilien\$ or correlat\$ or predict\$ or determin\$ or mediat\$ or barrier\$ or facilitat\$).ti,ab. (3490501)
- 22 (health\$ or ill or illness or well or wellbeing or sick\$ or disease\$ or transmission or transmit\$ or infect\$ or HIV or AIDS or acquired immunodeficiency syndrome or std or sexually transmitted disease or condom\$ or safe sex or unsafe sex or choice\$ or behavio?r\$ or esteem or confiden\$ or assert\$ or risk\$ or serodiscord\$ or sero-discord\$ or stigma or homophobi\$ or communicat\$).ti,ab. (2447110)
- 23 ((prevent\$ or reduc\$ or promot\$ or increas\$ or decreas\$ or program\$ or curricul\$ or educat\$ or inequalit\$ or project\$ or campaign\$ or impact\$ or vulnerab\$ or resilien\$ or correlat\$ or predict\$ or determin\$ or mediat\$ or barrier\$ or facilitat\$) adj3 (health\$ or ill or illness or well or wellbeing or sick\$ or disease\$ or transmission or transmit\$ or infect\$ or HIV or AIDS or acquired immunodeficiency syndrome or std or sexually transmitted disease or condom\$ or safe sex or unsafe sex or choice\$ or behavio?r\$ or esteem or confiden\$ or assert\$ or risk\$ or serodiscord\$ or sero-discord\$ or stigma or homophobi\$ or communicat\$)).ti,ab. (410012)
- 24 Sexual Education/ (1006)
- 25 contraception/ or exp contraceptive device/ or condom/ (14667)
- 26 exp contraceptive device/ or condom/ (7731)
- 27 exp Sexual Behavior/ (25399)
- 28 exp Acquired Immune Deficiency Syndrome/pc, di [Prevention, Diagnosis] (7968)
- 29 exp Human Immunodeficiency Virus Infection/pc, di [Prevention, Diagnosis] (18959)
- 30 exp Sexually Transmitted Disease/pc, di [Prevention, Diagnosis] (4860)
- 31 exp "Lifestyle and Related Phenomena"/ (28208)
- 32 Social Psychology/ (8795)
- 33 (homophob\$ or stigma\$ or discriminat\$ or section 28).ti,ab. (52610)
- 34 exp Politics/ (21985)
- 35 exp FAMILY/ (40807)
- 36 Minority Group/ (1648)

- 37 exp social problem/ or exp social status/ or social structure/ or exp socioeconomics/ (192458)
- 38 Social Control/ (322)
- 39 Assertiveness/ (613)
- 40 exp Interpersonal Communication/ (56170)
- 41 ((HIV or AIDS) adj (test\$ or diagnos\$ or status or counsel\$ or expos\$ or positive or negative)).ti,ab. (11097)
- 42 homeless\$.ti,ab. (1951)
- 43 ((emotional or sex\$ or physical\$) adj abuse\$).ti,ab. (4962)
- 44 ((gay or negative or positive) adj identi\$).ti,ab. (851)
- 45 Social Support/ (6655)
- 46 peer pressure.mp. (153)
- 47 (social\$ adj (exclusion or exclud\$)).ti,ab. (70)
- 48 Mental Stress/ (6091)
- 49 Adaptation/ (12333)
- 50 exp "Psychological and Psychosocial Phenomena"/ (461605)
- 51 bareback\$.ti,ab. (10)
- 52 cottag\$.ti,ab. (161)
- 53 Alcohol Consumption/ (19558)
- 54 ((substance\$ or drug\$) adj (abuse or use\$ or misuse\$ or take\$ or taking)).ti,ab. (21986)
- 55 or/7-54 (4743419)
- 56 exp Human Immunodeficiency Virus Infection/ (96938)
- 57 exp Human Immunodeficiency Virus/ (45505)
- 58 exp Acquired Immune Deficiency Syndrome/ (51132)
- 59 ((HIV or AIDS) adj2 (seropositivity or seronegativity or positive or negative or transmit\$ or transmission or status)).ti,ab. (16187)
- 60 or/56-58 (118426)
- 61 ((HIV or AIDS) adj (positive or negative or status)).ti,ab. (8072)
- 62 55 not 61 (4735347)
- 63 and/6,60,62 (4744)
- 64 limit 63 to yr=1992-2003 (2695)

## **CINAHL**

- 1 explode 'health-promotion'/ all topical subheadings / all age subheadings (3562 records)
- 2 explode 'health-education'/all topical subheadings / all age subheadings (16089 records)
- 3 explode 'public-health'/all topical subheadings / all age subheadings (52797 records)
- 4 explode 'Preventive-Health-Care' / all topical subheadings / all age subheadings in DE (21699 records)
- 5 ( 'Patient-Attitudes' / all topical subheadings / all age subheadings in DE) or ( 'Patient-Education' / all topical subheadings / all age subheadings in DE) (9871 records)
- 6 explode 'Health-Services-Accessibility' / all topical subheadings / all age subheadings in DE (2516 records)
- 7 health\* or ill or illness or well or wellbeing or sick\* or disease\* or transmit or transmission or infect\* or HIV or AIDS or condom\* or 'safe sex' or 'unsafe sex' or choice\* or behvio?\* or esteem or confidence or assert\* or serodiscord\* or sero-discord\* or risk\* (206703 records)
- 8 prevent\* or reduc\* or promot\* or increas\* or decreas\* or program\* or curricul\* or educat\* or inequalit\* or project\* or campaign\* or impact\* or correlat\* or predict\* or determin\* or barrier\* or facilitat\* (178917 records)
- 9 #7 near 3 #8 (20812 records)

- 10 sex education (799 records)
- 11 HIV-Infections-Prevention-and-Control in MJ (672 records)
- 12 Sexually-Transmitted-Diseases-Prevention-and-Control in MN (126 records)
- 13 explode 'condoms'/all topical subheadings / all age subheadings (714 records)
- 14 explode 'SAFE-SEX'/all topical subheadings / all age subheadings (231 records)
- 15 explode 'SEX-EDUCATION'/all topical subheadings / all age subheadings (598 records)
- 16 explode 'safe-sex'/all topical subheadings / all age subheadings (231 records)
- 17 explode 'hiv-education'/all topical subheadings / all age subheadings (914 records)
- 18 prejudic\* or homophob\* or discriminat\* (3372 records)
- 19 'section 28' (21 records)
- 20 bareback\* or cottag\* (76 records)
- 21 (emotional\* or physical\* or sex\*) near (abuse\*) (2010 records)
- 22 (gay or negative or positive) near ident\* (534 records)
- 23 social\* near (exclud\* or exclusion) (110 records)
- 24 (hiv or aids) near (test\* or diagnos\* or counsel\*) (2356 records)
- 25 explode 'AIDS-Serodiagnosis' /all topical subheadings / all age subheadings (908 records)
- 26 #1 or #2 or #4 or #5 or #6 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 (53745 records)
- 27 (explode 'Homosexuality-' / all topical subheadings / all age subheadings in DE) or (explode 'Homosexuals-Male' / all topical subheadings / all age subheadings in DE) or (explode 'Homosexuals-' / all topical subheadings / all age subheadings in DE) (811 records)
- 28 (explode 'Bisexuality-' / all topical subheadings / all age subheadings in DE) or (explode 'Bisexuals-' / all topical subheadings / all age subheadings in DE) (63 records)
- 29 gay or bisexual\* or homosexual\* (1602 records)
- 30 'men who have sex with men' (54 records)
- 31 (male or m?n) near (prostitut\* or 'sex worker\*') (40 records)
- 32 #27 or #28 or #29 or #30 or #31 (1707 records)
- 33 (explode 'HIV-1' / all topical subheadings / all age subheadings in DE) or (explode 'Human-Immunodeficiency-Virus' / all topical subheadings / all age subheadings in DE) or (explode 'HIV-Infected-Patients' / all topical subheadings / all age subheadings in DE) or (explode 'HIV-Infections' / all topical subheadings / all age subheadings in DE) or (explode 'HIV-Seropositivity' / all topical subheadings / all age subheadings in DE) (10120 records)
- 34 (explode 'Acquired-Immunodeficiency-Syndrome' / all topical subheadings / all age subheadings in DE) or (explode 'AIDS-Patients' / all topical subheadings / all age subheadings in DE) or (explode 'AIDS-Serodiagnosis' / all topical subheadings / all age subheadings in DE) (6215 records)
- 35 (HIV or AIDS) near (positive or negative or status or expos\* ) (1866 records)
- 36 #33 or #34 or #35 (10972 records)
- 37 (#26 and #32 and #36) and (PY=1992-2003) and (PY=1992-2003) (466 records)
- 38 (#26 and #32 and #36) and (PY=1992-2003) and (PY=1992-2003) (614 records)



**ERIC**

1	exp comprehensive school health education/ or exp health education/ or exp health promotion/ or exp health services/ or exp prevention/ or exp preventive medicine/ or exp well being/ or Health programs/	22327
2	exp patient education/	316
3	Health facilities/	176
4	exp primary health care/	417
5	risk-taking behavior.id.	433
6	Social cognition/	1924
7	(prevent\$ or reduc\$ or promot\$ or increas\$ or decreas\$ or program\$ or curricul\$ or educat\$ or inequalit\$ or project\$ or campaign\$ or impact\$ or vulnerab\$ or resilien\$ or correlat\$ or predict\$ or determin\$ or mediat\$ or barrier\$ or facilitat\$).ti,ab.	370213
8	(health\$ or ill or illness or well or wellbeing or sick\$ or disease\$ or transmission or transmit\$ or infect\$ or HIV or AIDS or acquired immun?deficiency syndrome or condom\$ or safe sex or unsafe sex or choice\$ or behavio?r\$ or esteem or confiden\$ or assert\$ or risk\$ or serodiscord\$ or sero-discord\$ or stigma or communicat\$ or homophob\$ or discriminat\$).ti,ab.	165600
9	((prevent\$ or reduc\$ or promot\$ or increas\$ or decreas\$ or program\$ or curricul\$ or educat\$ or inequalit\$ or project\$ or campaign\$ or impact\$ or vulnerab\$ or resilien\$ or correlat\$ or predict\$ or determin\$ or mediat\$ or barrier\$ or facilitat\$) adj3 (health\$ or ill or illness or well or well being or sick\$ or disease\$ or transmission or transmit\$ or infect\$ or HIV or AIDS or acquired immun?deficiency syndrome or condom\$ or safe sex or unsafe sex or choice\$ or behavio?r\$ or esteem or confiden\$ or assert\$ or risk\$ or serodiscord\$ or sero-discord\$ or stigma or communicat\$ or homophob\$ or discriminat\$)).ti,ab.	41832
10	Sex education/	1015
11	condom\$.mp.	290
12	Social bias/	1152
13	exp homophobia/	310
14	section 28.ti,ab.	3
15	legislation/	851
16	exp social attitudes/ or exp social background/ or exp social behavior/ or exp social characteristics/ or exp social class/ or exp social discrimination/ or exp social influences/ or exp social isolation/ or exp social life/ or exp social networks/ or exp social status/ or exp social structure/ or exp social support groups/	25281
17	risk reduction.id.	385
18	((HIV or AIDS) adj (test\$ or diagnos\$ or counsel\$ or expos\$)).ti,ab,id.	140
19	homeless\$.ti,ab.	1346
20	((emotional or sex\$ or physical\$) adj abuse\$).ti,ab,id.	2054
21	((gay or negative or positive) adj (experience or identi\$)).ti,ab,id.	213
22	Peer acceptance/ or Peer counseling/ or Peer evaluation/ or Peer groups/ or Peer influence/ or Peer relationship/ or Peer teaching/	10014

23	(social\$ adj exclu\$.ti,ab,id.	88
24	exp attitudes/	68156
25	Drinking/ or Drug abuse/ or Drug use/ or Illegal drug use/	4807
26	or/1-25	442456
27	exp homosexuality/	1291
28	homosexual\$.mp.	1344
29	exp bisexuality/	207
30	bisexual\$.mp.	335
31	gay.mp.	1046
32	men who have sex with men.mp.	10
33	(male adj2 (prostitut\$ or sex worker\$)).mp.	7
34	or/27-33	1702
35	exp acquired immune deficiency syndrome/	2340
36	HIV\$.mp.	1346
37	AIDS\$.mp.	9024
38	((Acquired or human) adj immun\$).mp.	2596
39	or/35-38	9716
40	and/26,34,39	324
41	limit 40 to yr=1992-2002	186

## **SSCI**

((homosexual\* or gay man or gay male or gay men or men who have sex with men or msm or bisexual man or bisexual men) and (health promotion or safe sex or condom\* or HIV\* prevent\* or HIV\* control\* or AIDS\* prevent\* or AIDS\* control\* or health educ\* or prevent\* health or health prevent\* or sex\* risk\* or sex\* behavio?\* or homophob\* or discriminat\* or section 28 or prejudic\* or HIV-seropositive or social support or discordant or Seropositive men or risk prevention or predictor\* or bathhouses or SEXUAL RISK BEHAVIOR or AIDS-PREVENTION or SUBSTANCE USE or PREVENTION or NETWORKS or RISK BEHAVIOR or HIV-RISK or SEXUAL ABUSE or RISK REDUCTION INTERVENTION or BEHAVIORAL INTERVENTION or cottag\* or bareback\* or alcohol\*) and (HIV\* or AIDS\* or acquired immun\* or HUMAN-IMMUNODEFICIENCY-VIRUS or HIV-INFECTIION))

## **PsycInfo**

#1 (explode "Homosexuality-" in DE) or (explode "Male-Homosexuality" in DE)(4754 records)  
 #2 explode "Bisexuality-" in DE(1044 records)  
 #3 men who have sex with men(565 records)  
 #4 gay near2 (m?n or male\*)(2078 records)  
 #5 male\* near2 (prostitut\* or sex worker\*)(66 records)  
 #6 (male\* near2 (prostitut\* or sex worker\*)) or (gay near2 (m?n or male\*)) or (men who have sex with men) or (explode "Bisexuality-" in DE) or ((explode "Homosexuality-" in DE) or (explode "Male-Homosexuality" in DE))(5589 records)  
 #7 (explode "Health-Attitudes" in DE) or (explode "Health-Behavior" in DE) or (explode "Health-Care-Psychology" in DE) or (explode "Health-Care-Utilization" in DE) or (explode "Health-Education" in DE) or (explode "Health-Promotion" in DE) or (explode "Primary-Health-Care" in DE) or (explode "Public-Health" in DE)(15813 records)  
 #8 (explode "Risk-Taking+" in DE) or (explode "Sexual-Risk-Taking" in DE)(4344 records)  
 #9 (explode "AIDS-Prevention" in DE) or (explode "Condoms-" in DE) or (explode "Prevention-" in DE) or (explode "Preventive-Medicine" in DE) or (explode "Risk-Perception" in DE)(11900 records)

- #10 explode "Psychosexual-Behavior-+" in DE(14237 records)
- #11 explode "Health-Knowledge" in DE(1596 records)
- #12 explode "Client-Education" in DE(738 records)
- #13 gay or (homosexual\* near2 (m?n or male\*)) (4860 records)
- #14 (gay or (homosexual\* near2 (m?n or male\*))) or ((male\* near2 (prostitut\* or sex worker\*)) or (gay near2 (m?n or male\*)) or (men who have sex with men) or (explode "Bisexuality-" in DE) or ((explode "Homosexuality-" in DE) or (explode "Male-Homosexuality" in DE))) (6491 records)
- #15 ( (prevent\* or reduc\* or promot\* or increas\* or decreas\* or program\* or curricul\* or educat\* or inequalit\* or project\* or campaign\* or impact\* or vulnerab\* or resilien\* or correlat\* or predict\* or determin\* or mediat\* or barrier\* or facilitat\*) ) or ( (health\* or ill or illness or well or wellbeing or sick\* or disease\* or transmission or transmit\* or infect\* or HIV or AIDS or acquired immun\* or std or sexually transmitted disease\* or condom\* or safe sex or unsafe sex or choice\* or behavio?r\* or esteem or confiden\* or assert\* or risk\* or serodiscord\* or sero-discord\* or stigma or prejudice\* or homophobi\* or discriminat\* or communicat\*) ) (524932 records)
- #16 "Sex-Education" in DE(466 records)
- #17 condom\*(2247 records)
- #18 explode "HIV-Testing" in DE(244 records)
- #19 (AIDS or HIV) near2 (prevent\* or control\*)(3401 records)
- #20 "Lifestyle-" in DE(1049 records)
- #21 (explode "Prejudice-" in DE) or (explode "Stigma-" in DE)(1577 records)
- #22 heterosexism\*(332 records)
- #23 explode "Homosexuality-Attitudes-Toward" in DE(1009 records)
- #24 section 28(2 records)
- #25 explode "Self-Concept" in DE(13697 records)
- #26 (explode "Social-Acceptance" in DE) or (explode "Social-Approval" in DE) or (explode "Social-Class" in DE) or (explode "Social-Control" in DE) or (explode "Social-Equality" in DE) or (explode "Social-Groups" in DE) or (explode "Social-Identity" in DE) or (explode "Social-Influences" in DE) or (explode "Social-Interaction" in DE) or (explode "Social-Isolation" in DE) or (explode "Social-Networks" in DE) or (explode "Social-Norms" in DE) or (explode "Social-Skills" in DE) or (explode "Social-Support-Networks" in DE) or (explode "Social-Values" in DE) or (explode "Socioeconomic-Class-Attitudes" in DE)(43703 records)
- #27 (HIV or AIDS) near (test\* or diagnos\* or counsel\*)(3484 records)
- #28 ("Disadvantaged-" in DE) or ("Homeless-" in DE) or ("Poverty-" in DE) or ("Social-Deprivation-+" in DE)(2941 records)
- #29 (emotional\* or sex\* or physical\*) near abuse\*(13091 records)
- #30 (gay or negativ\* or positiv\*) near (ident\* or experienc\*)(21162 records)
- #31 ("Peer-Counseling" in DE) or ("Peer-Evaluation" in DE) or ("Peer-Pressure" in DE) or ("Peer-Relations" in DE)(4544 records)
- #32 social\* near (exclud\* or exclus\*)(1342 records)
- #33 bareback\*(9 records)
- #34 cottag\*(41 records)
- #35 explode "Alcohol-Drinking-Patterns" in DE(8109 records)
- #36 explode "Drug-Usage" in DE(20007 records)
- #37 (explode "Client-Education" in DE) or (explode "Health-Knowledge" in DE) or (explode "Self-Concept" in DE) or (explode "Psychosexual-Behavior-+" in DE) or ((explode "AIDS-Prevention" in DE) or (explode "Condoms-" in DE) or (explode "Prevention-" in DE) or (explode "Preventive-Medicine" in DE) or (explode "Risk-Perception" in DE)) or ((explode "Risk-Taking-+" in DE) or (explode "Sexual-Risk-Taking" in DE)) or ((explode "Health-Attitudes" in DE) or (explode "Health-Behavior" in DE) or (explode "Health-Care-Psychology" in DE) or (explode "Health-Care-Utilization" in DE) or (explode "Health-Education" in DE) or (explode

"Health-Promotion" in DE) or (explode "Primary-Health-Care" in DE) or (explode "Public-Health" in DE))(52943 records)  
 #38 ("Lifestyle-" in DE) or ((AIDS or HIV) near2 (prevent\* or control\*)) or ((explode "Prejudice-" in DE) or (explode "Stigma-" in DE)) or (explode "HIV-Testing" in DE) or (condom\*) or ("Sex-Education" in DE) or ((prevent\* or reduc\* or promot\* or increas\* or decreas\* or program\* or curricul\* or educat\* or inequalit\* or project\* or campaign\* or impact\* or vulnerab\* or resilien\* or correlat\* or predict\* or determin\* or mediat\* or barrier\* or facilitat\*) or (health\* or ill or illness or well or wellbeing or sick\* or disease\* or transmission or transmit\* or infect\* or HIV or AIDS or acquired immun\* or std or sexually transmitted disease\* or condom\* or safe sex or unsafe sex or choice\* or behavio?r\* or esteem or confiden\* or assert\* or risk\* or serodiscord\* or sero-discord\* or stigma or prejudice\* or homophobi\* or discriminat\* or communicat\*)))(525019 records)  
 #39 (explode "Homosexuality-Attitudes-Toward" in DE) or (heterosexis\*) or (explode "Drug-Usage" in DE) or (explode "Alcohol-Drinking-Patterns" in DE) or (cottag\* or bareback\* or social\* near (exclud\* or exclus\*)) or (("Peer-Counseling" in DE) or ("Peer-Evaluation" in DE) or ("Peer-Pressure" in DE) or ("Peer-Relations" in DE)) or ((gay or negativ\* or positiv\*) near (ident\* or experienc\*)) or ((emotional\* or sex\* or physical\*) near abuse\*) or (("Disadvantaged-" in DE) or ("Homeless-" in DE) or ("Poverty-" in DE) or ("Social-Deprivation-+" in DE)) or ((HIV or AIDS) near (test\* or diagnos\* or counsel\*)) or ((explode "Social-Acceptance" in DE) or (explode "Social-Approval" in DE) or (explode "Social-Class" in DE) or (explode "Social-Control" in DE) or (explode "Social-Equality" in DE) or (explode "Social-Groups" in DE) or (explode "Social-Identity" in DE) or (explode "Social-Influences" in DE) or (explode "Social-Interaction" in DE) or (explode "Social-Isolation" in DE) or (explode "Social-Networks" in DE) or (explode "Social-Norms" in DE) or (explode "Social-Skills" in DE) or (explode "Social-Support-Networks" in DE) or (explode "Social-Values" in DE) or (explode "Socioeconomic-Class-Attitudes" in DE)) or (explode "Self-Concept" in DE) or (section 28)(108309 records)  
 #40 #37 or #38 or #39(538225 records)  
 #41 (explode "Acquired-Immune-Deficiency-Syndrome" in DE) or (explode "Human-Immunodeficiency-Virus" in DE)(8621 records)  
 #42 HIV\* or AIDS\*(13484 records)  
 #43 (HIV\* or AIDS\*) or ((explode "Acquired-Immune-Deficiency-Syndrome" in DE) or (explode "Human-Immunodeficiency-Virus" in DE))(13505 records)  
 #44 ((HIV\* or AIDS\*) or ((explode "Acquired-Immune-Deficiency-Syndrome" in DE) or (explode "Human-Immunodeficiency-Virus" in DE))) and (#37 or #38 or #39) and ((gay or (homosexual\* near2 (m?n or male\*))) or ((male\* near2 (prostitut\* or sex worker\*)) or (gay near2 (m?n or male\*)) or (men who have sex with men) or (explode "Bisexuality-" in DE) or ((explode "Homosexuality-" in DE) or (explode "Male-Homosexuality" in DE))))(1930 records)

**BEI**

1	homosexual\$.mp.	84
2	bisexual\$.mp.	4
3	gay.mp.	27
5	section 28.mp.	2
6	or/1-5	85
7	limit 6 to yr=1992-2002	66

## APPENDIX C: Descriptive map tables

### C.1 Outcome evaluations

**Table C1: Outcome evaluations in the mapping exercise (N=64) according to country**

	<b>N</b>
Australia	3
Brazil	2
Canada	2
The Netherlands	2
UK	19
USA	31
Other*	5
<b>Total</b>	<b>64</b>

\* Italy; Jamaica; Mexico; Puerto Rico; Switzerland

**Table C2a: Outcome evaluations in the mapping exercise (N=64) according to their focus on Black and ethnic minority (BME) MSM**

	<b>N</b>
Focused solely on BME MSM	3
BME MSM used in analysis	3
BME MSM participation reported only	30
Participation not reported by BME MSM	27
BME MSM question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2b: Outcome evaluations in the mapping exercise (N=64) according to their focus on HIV positive MSM**

	<b>N</b>
Focused solely on HIV positive MSM	6
HIV status used in analysis	3
Participation of HIV positive MSM reported only	20
HIV positive MSM not represented	1
Participation not reported by HIV status	33
HIV positive MSM question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2c: Outcome evaluations in the mapping exercise (N=64) according to their focus on low income MSM**

	<b>N</b>
Focused solely on low income MSM	1
Income level used in analysis	1
Participation of low income MSM reported only	15
Participation not reported by income level	46
Low income MSM question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2d: Outcome evaluations in the mapping exercise (N=64) according to their focus on MSM sex workers**

	<b>N</b>
Focused solely on sex workers	2
Sex work status used in analysis	1
Participation of sex workers reported only	5
Sex workers not represented	1
Participation not reported by sex work status	54
Sex working MSM question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2e: Outcome evaluations in the mapping exercise (N=64) according to their focus on MSM who inject illegal drugs**

	<b>N</b>
Focused solely MSM who inject illegal drugs	1
Participation of MSM who inject illegal drugs reported only	8
MSM who inject illegal drugs not represented	3
Participation not reported by MSM who inject illegal drugs status	51
MSM who inject illegal drugs question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2f: Outcome evaluations in the mapping exercise (N=64) according to their focus on MSM with lower educational achievement (LEA)**

	<b>N</b>
Focused solely on MSM with LEA	1
LEA status used in analysis	1
Participation of MSM with LEA reported only	29
Participation not reported by MSM with LEA	32
MSM with LEA question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2g: Outcome evaluations in the mapping exercise (N=64) according to their focus on MSM who do not identify as gay**

	<b>N</b>
MSM who do not identify as gay sole focus	0
MSM who do not identify as gay used in analysis	1
MSM who do not identify as gay participation reported only	13
MSM who do not identify as gay not represented	11
Participation not reported by MSM who do not identify as gay	38
MSM who do not identify as gay question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2h: Outcome evaluations in the mapping exercise (N=64) according to their focus on young MSM (aged 16 to 25 years)**

	<b>N</b>
Focused solely on young MSM	1
Young MSM group used in analysis	2
Young MSM participants reported only	31
Participation not reported by age group	29
Age of MSM question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>

**Table C2i: Outcome evaluations in the mapping exercise (N=64) according to their focus on 'other' vulnerable group of MSM**

	<b>N</b>
Focus solely on 'other' vulnerable group of MSM	1
Participation of 'other' vulnerable group of MSM reported only	14
'Other' vulnerable group of MSM group not represented	1
Participation not reported by 'other' vulnerable group of MSM	47
'Other' vulnerable group of MSM question not applicable, no MSM participants provide data	1
<b>Total</b>	<b>64</b>



**Table C3: Intervention sites studied in the outcome evaluations in the mapping exercise (N=64)**

	<b>N</b>
Community site	26
Educational institution	3
Home	7
Hospital	4
Health care unit	3
Mass media	7
Outreach	7
Specialist clinic	9
Workplace site	1
Unspecified site	14
<b>Total*</b>	<b>81</b>

\*Total adds up to 81 rather than 64 as studies could evaluate interventions implemented within more than one site

**Table C4: Intervention type according to CHAPS classification studied the outcome evaluations in the mapping exercise (N=64)**

	<b>N</b>
Direct contact intervention	62
Community intervention	16
Organisational intervention	2
Equality intervention	1
<b>Total*</b>	<b>81</b>

\*Total adds up to 81 rather than 64 as studies evaluated interventions which fit into more than one CHAPS study type

**Table C5: Personnel delivering interventions the outcome evaluations in the mapping exercise (N=64)**

	<b>N</b>
Community	1
Community worker	6
Counsellor	9
Health professional	12
Health promotion practitioner	5
Peer	23
Psychologist	2
Researcher	7
Social worker	2
Unspecified personnel	17
<b>Total*</b>	<b>84</b>

\*Total adds up to 84 rather than 64 as studies could evaluate interventions delivered by more than one type of personnel

**Table C6: Theoretical models as stated by authors underpinning interventions evaluated by outcome studies in the mapping exercise (N=64)**

	<b>N</b>
AIDS Risk Reduction Model (ARRM)	3
Health Belief Model	3
Relapse Prevention	6
Social Cognitive Theory	2
Stages of Change	2
Social Learning Theory	3
Other Model	10
No model named	42
<b>Total*</b>	<b>71</b>

\*Total adds up to 71 rather than 64 as studies could evaluate interventions underpinned by more than one theoretical model.

**Table C7: Outcomes measured by outcome evaluations in the mapping exercise (N=64)**

	<b>N</b>
Attitudes/motivations/intentions	21
Beliefs/perceptions	20
Episodes of AI	20
Episodes of UAI	38
Episodes of other sexual practices	23
HIV incidence/prevalence	8
HIV status disclosure	2
HIV test use	8
Knowledge/awareness	18
Number of partners	13
Skills	10
Psychological well being	3
Service use	5
STD incidence/prevalence	2
Structural outcome	2
Substance use	4
Other type of outcome	6
<b>Total*</b>	<b>207</b>

\*Total adds up to 207 rather than 64 as studies usually measured multiple outcomes.

## **C.2 UK non-intervention studies**

**Table C8a: Non-intervention studies in the mapping exercise (N=90) according to their focus on Black and ethnic minority (BME) MSM**

	<b>N</b>
Focused solely on BME MSM	1
BME MSM used in analysis	10
BME MSM participation reported only	30
BME MSM not represented	2
Participation not reported by BME MSM	43
BME MSM question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8b: Non-intervention studies in the mapping exercise (N=90) according to their focus on HIV positive MSM**

	<b>N</b>
Focused solely on HIV positive MSM	5
HIV status used in analysis	23
Participation of HIV positive MSM reported only	10
HIV positive MSM not represented	1
Participation not reported by HIV status	47
HIV positive MSM question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8c: Non-intervention studies in the mapping exercise (N=90) according to their focus on low income MSM**

	<b>N</b>
Focused solely on low income MSM	0
Income level used in analysis	2
Participation of low income MSM reported only	3
Low income MSM not represented	1
Participation not reported by income level	80
Low income MSM question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8d: Non-intervention studies in the mapping exercise (N=90) according to their focus on MSM sex workers**

	<b>N</b>
Focused solely on sex workers	2
Sex work status used in analysis	6
Participation of sex workers reported only	0
Sex workers not represented	1
Participation not reported by sex work status	77
Sex working MSM question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8e: Non-intervention studies in the mapping exercise (N=90) according to their focus on MSM who inject illegal drugs**

	<b>N</b>
Focused solely MSM who inject illegal drugs	0
Injecting illegal drugs used in analysis	4
Participation of MSM who inject illegal drugs reported only	2
MSM who inject illegal drugs not represented	1
Participation not reported by MSM who inject illegal drugs status	79
MSM who inject illegal drugs question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8f: Non-intervention studies in the mapping exercise (N=90) according to their focus on MSM with lower educational achievement (LEA)**

	<b>N</b>
Focused solely on MSM with LEA	0
LEA status used in analysis	13
Participation of MSM with LEA reported only	12
MSM with LEA not represented	1
Participation not reported by MSM with LEA	60
MSM with LEA question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8g: Non-intervention studies in the mapping exercise (N=90) according to their focus on MSM who do not identify as gay**

	<b>N</b>
MSM who do not identify as gay sole focus	0
MSM who do not identify as gay used in analysis	5
MSM who do not identify as gay participation reported only	21
MSM who do not identify as gay not represented	25
Participation not reported by MSM who do not identify as gay	35
MSM who do not identify as gay question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8h: Non-intervention studies in the mapping exercise (N=90) according to their focus on young MSM (aged 16 to 25 years)**

	<b>N</b>
Focused solely on young MSM	4
Young MSM group used in analysis	24
Young MSM participants reported only	36
Young MSM not represented	3
Participation not reported by age group	19
Age of MSM question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C8i: Non-intervention studies in the mapping exercise (N=90) according to their focus on 'other' vulnerable group of MSM**

	<b>N</b>
Focus solely on 'other' vulnerable group of MSM	1
'Other' vulnerable group status used in analysis	14
Participation of other' vulnerable group of MSM reported only	15
'Other' vulnerable group of MSM group not represented	6
Participation not reported by 'other' vulnerable group of MSM	50
'Other' vulnerable group of MSM question not applicable, no MSM participants provide data	4
<b>Total</b>	<b>90</b>

**Table C9: Aspects of health or risk studied in the non-intervention studies included in the mapping exercise (N=90)**

	<b>N</b>
Equity and access	28
HIV test and other service use	35
Psychosocial aspects of sex	54
Sexual activity	72
<b>Total*</b>	<b>189</b>

\*Total adds up to 189 rather than 90 as studies usually included more than one aspect of health or risk.

**Table C10: Theoretical models as stated by authors studied by the non-interventions studies included in the mapping exercise (N=90)**

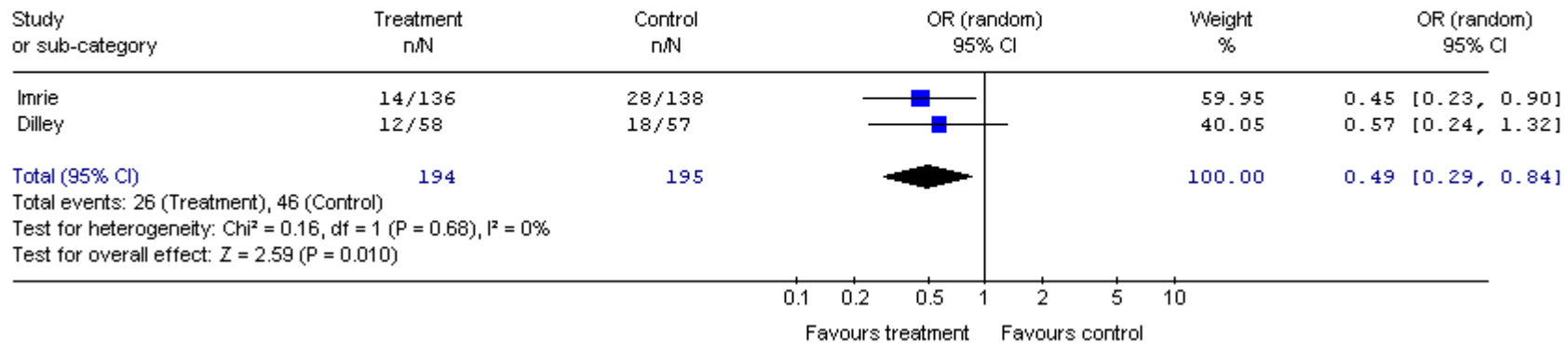
	<b>N</b>
AIDS Risk Reduction Model (ARRM)	1
Health Belief Model	2
Other model	2
No model specified	85
<b>Total</b>	<b>90</b>

## APPENDIX D: Results of the statistical meta-analyses

**Figure D1. Meta-analysis 1: Forest plot of sero-discordant/unknown status UAI at 6 months post-intervention**

**Comparison:** Cognitive Techniques vs. Standard Counselling

**Outcome:** Proportion of MSM reporting sero-discordant/unknown status UAI at six months

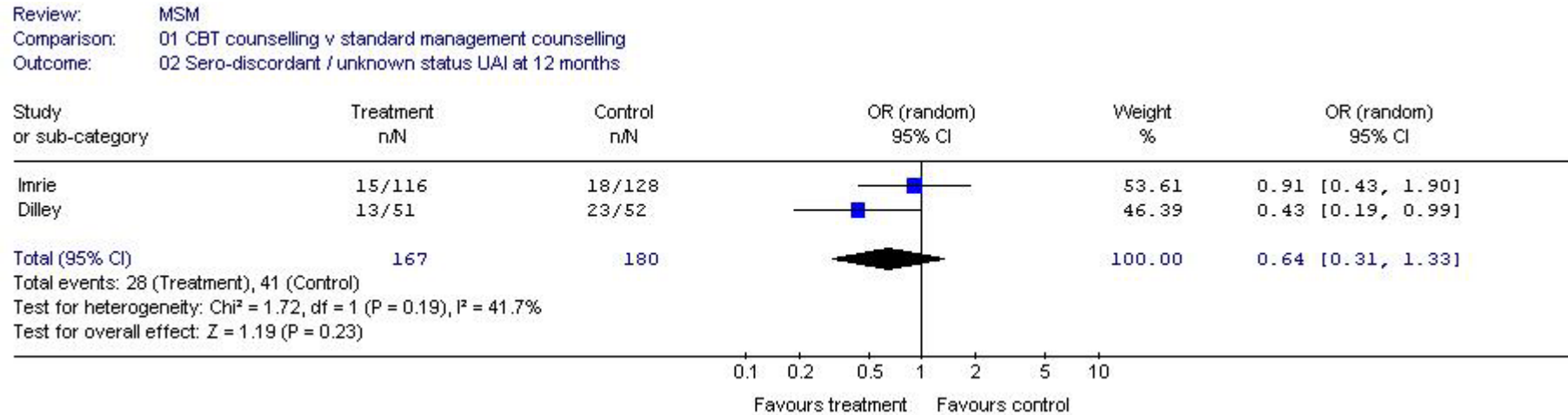


Reanalysis of this Odds Ratio as a Number Needed to Treat (NNT) using McQuay and Moores formula for calculating the NNT for a preventive intervention as quoted in Egger *et al.* (2001: p. 380) results in a figure of 9.6.



## Appendix D: Results of the statistical meta-analyses

**Figure D2. Meta-analysis 2: Forest plot of sero-discordant/unknown status UAI at 12 months post-intervention**

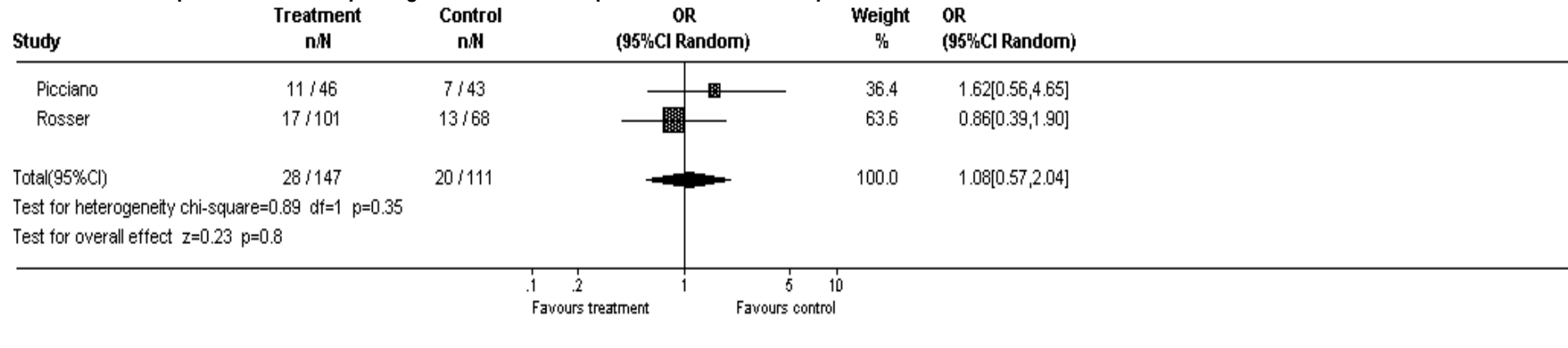


## Appendix D: Results of the statistical meta-analyses

### Figure D3. Meta-analysis 3: Forest plot of UAI with a casual partner

Comparison: Contextualised workshop or counselling vs. usual services

Outcome: Proportion of MSM reporting UAI with a casual partner at first follow-up



## **APPENDIX E: Summaries of included outcome evaluation studies**

The following summaries are based on reviewers' appraisal of the authors' descriptions of their own studies.

### **Dahl *et al.*, 1997 (not sound)**

A social marketing intervention studied by Dahl and colleagues (1997) aimed to understand the effects of coupon promotion on the sales of condoms (and what effect the level of discount has). A total of 1,600 coupons offering either 10% or 75% value off the price of a box of condoms were distributed at a gay pride parade in Vancouver (Canada). Researchers distributed coupons in allotments of 200 according to discount value, alternating coupon values with two minute breaks (with no coupon distribution) between each distribution. Coupons were valid at any retail location for two months after the parade. No information about participants was reported. Redeemed coupons were returned to investigators after being processed by sponsoring brand. Reviewers determined the intervention effects to be unclear because the study was not sound. Specifically it did not provide pre-intervention data, or complete post-intervention data, or information on group equivalence at baseline.

### **Dilley *et al.*, 2002 (sound)**

A cognitive-behavioural counselling intervention studied by Dilley and colleagues (2002b) aimed to reduce future high-risk sexual behaviours among HIV-negative men. A total of 248 self-identified high-risk MSM attending a San Francisco (USA) anonymous HIV testing clinic were recruited and randomly allocated to one of three intervention groups or the control group. All groups received standard counselling for HIV testing. One intervention group completed a sexual diary for 90 days. Another intervention group completed a self-justifications questionnaire and received a one-hour face-to-face cognitive-behavioural counselling session, which examined self-justifications of high-risk behaviour. The third intervention group completed both the sexual diary and the self-justifications questionnaire and received the cognitive-behavioural counselling session. Participants were 18-49 years old, 23% had attended high school or received a General Equivalency Diploma only, 12% had incomes below \$15,000 per year; 74% were white and 3% were HIV positive at baseline. Reviewers agreed with the authors that the intervention was effective on the basis of the authors' analyses since, after six months, the proportion of men reporting UAI with partners of unknown HIV status decreased significantly more in the group which received self-justifications counselling alone, and in the group which received both self-justifications counselling and a sexual diary, when compared to the control group; the decrease in the sexual diary alone group was not significantly greater than that of the control group. At 12 months, all three intervention groups had significantly greater decreases in UAI with partners of sero-discordant or unknown HIV status than the control group. The numerical data for this outcome for the second intervention group (self-justifications questionnaire and cognitive-behavioural counselling but no sexual diary) were standardised and entered into a meta-analysis (see 2.4.3).

### **Dockrell *et al.*, 1999 (not sound)**

A cognitive-behavioural intervention by Dockrell and colleagues (1999), while not specifically stating its aims, was developed to address current challenges to sexual health risk-taking in gay men that went beyond providing information and advice. Participants were described as 62 gay men, but other socio-economic

characteristics were not given. Participants were randomised to one of three conditions: (1) structured group work; (2) self-completion workbooks or (3) a control condition which received no intervention. The first two of these both invited men to focus on their own personal risks, the situations that led to risks and feelings and thoughts generated by the situation, strategies for responding to risk-taking, and refining new strategies. Reviewers determined the intervention effects to be unclear for all outcomes because the study was not sound. Authors did not describe baseline equivalence between groups and reported incomplete data for both pre-test and post-test measures. Whether they had reported on all outcomes measured was also unclear.

**Elford *et al.*, 2001 (sound despite discrepancies)**

A peer education intervention studied by Elford and colleagues (2001) with a cluster controlled trial aimed to reduce the risk of HIV transmission among gay men. In four London (UK) gyms, 27 popular opinion leaders were recruited and trained as peer educators to engage gay men in conversations, to promote and endorse HIV risk reduction. A fifth gym acted as a control. The intervention lasted for four to five months; in one gym it was repeated after 12 months. In terms of the demographics of participants, reviewers noted that: only 3% of those surveyed for baseline/follow up had spoken to peer educators, so their demographics were not necessarily the same as those of men who had peer interactions. Most were currently employed (87.5%), educated (11.3% had GCSE or equivalent only) and white (88.9%). The median age was 33 years. Reviewers concluded that there was no evidence of effect for the intervention on reported rates of UAI with partners of unknown HIV status, UAI with casual partners, or HIV testing. Effects on attitudes were unclear, as data for this outcome were not reported. The authors of the study reported that the intervention was not implemented as planned. The study also had high attrition rates.

**Flowers *et al.*, 2002 (sound despite discrepancies)**

A community-level intervention evaluated in a controlled cluster trial by Flowers and colleagues (2002) aimed to promote sexual health amongst gay men in Glasgow (UK), and to encourage homosexual men to reduce their sexual risk behaviour for HIV infection and increase their use of sexual health services, in particular the uptake of HIV tests. The interventions within the city included nine months of peer education in gay bars, nine months of gay-specific GUM services and six months of a free-phone hotline. Edinburgh acted as a control city. Reviewers noted that, as with Elford *et al.*, those surveyed at baseline/follow up had not necessarily interacted with peer educators or used the gay-specific GUM services or hotline. The mean age of those surveyed was 31.7 years; 12.6% were in social classes IV and V; 21% of intervention sample were unemployed (not stated for control); 40% had at least degree level education; ethnicity was not stated. At follow-up (three years) reviewers concluded the study showed no evidence of effect on reported rates of sero-discordant/unknown status UAI, UAI with a casual partner or HIV testing at the community level. The results of this study may be limited due to bias in allocation, differences at baseline in timing of baseline measures (baseline measure were taken from the intervention group in February 1996 and from the control group ten months later in November 1996). The authors noted that there were concerns with the implementation of this intervention.

**Gold and Rosenthal, 1998 (sound despite discrepancies)**

An intervention with questionnaire and sexual-diary components studied by Gold and Rosenthal (1998) aimed to reduce the incidence of 'slip ups' (the breaking of one's own safe sex rules). A total of 109 men who had 'slipped up' were recruited from gay bars in two Australian cities. After keeping a sexual diary for four weeks,

men were randomly allocated to one of two intervention conditions or the control condition. All participants continued to complete the sexual diary for a further 12 weeks. One intervention group completed a questionnaire about a recent slip up, whilst the other group were sent two sets of posters (the first set illustrating 'on-line' and 'off-line' thinking and the second set, self-justifications) and a questionnaire about the posters. Participants' mean age was 29.1 years (range 17-47 years). A total of 59% had at least some tertiary education or training, ethnicity was not stated; 16% were HIV positive. The effects of the intervention on knowledge were judged to be unclear because outcome data were reported for intervention groups but not for the control group. The effectiveness of the intervention on both sero-discordant / unknown status UAI and casual UAI was also unclear due to incomplete reporting of this data.

**Imrie *et al.*, 2001c (sound)**

A cognitive-behavioural group-based intervention studied by Imrie and colleagues (2001c) aimed to reduce the incidence of sexually transmitted infections among gay men. A total of 343 homosexual men at a sexual health clinic in London (UK) who either had an acute STI or reported sero-discordant UAI or were concerned about their sexual practices were recruited to the trial. Participants were randomly allocated to the intervention group, where they received a one-day cognitive-behavioural group workshop, or the control group. All participants in both groups received standard management consisting of a brief (20 minutes) one to one counselling session about sexual risk behaviour, contact tracing offered to those with a newly diagnosed infection and the possibility of referral to HIV prevention and counselling services. The median age of participants was 29 years (range 18-58 years); 57% had skilled non-manual jobs; 86% had been educated beyond secondary school; 2% were known HIV positive (40% were unknown status). Reviewers determined that the intervention had a harmful impact on all-STI incidence at six months as the effect size was statistically significant, but that there was no evidence of an effect on bacterial-only STI incidence (since no statistically significant difference was seen between groups for this measure). The intervention effects for sero-discordant/unknown UAI were not statistically significant and so reviewers concluded that there was no evidence of effect from this individual study on the basis of the authors' analyses. Data were incomplete for attitude/beliefs and so reviewers concluded that the intervention effects were unclear for this outcome. The numerical data for the first of these outcomes were standardised and entered into a meta-analysis (see 2.4.3). This study may be limited because of potential bias due to the high rate of attrition.

**Martin *et al.*, 2001 (not sound)**

A support group intervention studied by Martin and colleagues (2001) aimed to assess the effects of participation in support groups offered by Los Angeles (USA) Shanti (a local community based HIV/AIDS service organisation) and the effects on rates of high risk sexual behaviour of being told that one has an undetectable viral load. A total of 46 HIV positive intervention participants were recruited from Shanti support group attendees; 22 HIV positive comparison subjects were recruited from a gay pride festival. The intervention group continued to attend weekly Shanti support group meetings. Intervention group participants' mean age was 38.54 years; 50% had incomes of less than \$40,000 per year; 71% were white; 61% had at least a college degree. Comparison group participants' mean age was 40.40 years; 65% had incomes of less than \$40,000 per year; 75% were white; 45% had at least a college degree. Reviewers determined the intervention effects to be unclear on all outcome measures because the study was not sound. Specifically it did not provide pre-intervention data, or information on group equivalence at baseline.

**Picciano *et al.*, 2001 (sound despite discrepancies)**

A telephone counselling intervention studied by Picciano and colleagues (2001) aimed to reduce sexual risk-taking among MSM in Seattle (USA) by facilitating a commitment to, and adoption of, safer sex behaviours among MSM. A total of 103 MSM who had engaged in UAI or unprotected oral intercourse (UOI) and were not in a mutually monogamous or negotiated safety relationship were recruited via advertisements and outreach. To be included in the study participants had to have engaged in at least three occasions of UAI or unprotected oral intercourse in the previous six weeks and not be in a mutually monogamous or negotiated safety relationship with a male partner. Following a 90-minute baseline assessment telephone call, participants were randomly assigned to either the intervention (immediate counselling) group or the control (delayed counselling group). One week after the baseline call, the intervention group received a 90-120 minute telephone counselling session using a motivational interviewing style. A 90-minute follow-up assessment call took place six weeks after the counselling session. The control group completed a follow-up call seven weeks after baseline. The mean age of participants was 36.6 years (range 18-70 years); the mean time, in education was 15.3 years (range eight to 25 years); 76.4% were described as 'Caucasian'; 20.2% of those tested were HIV positive (96.6% had tested). Reviewers concluded that whilst no evidence of effect was seen in the reported rates of casual UAI, a small statistically significant effect was found in the incidence of casual UAI amongst a sub-group of non-white participants. The numerical data for casual UAI were standardised and entered into a meta-analysis (see 2.4.3). Reviewers concluded the effect of the intervention on practical skill development (in this instance developing strategies for avoiding unsafe sex) was unclear because data were not presented.

**Rosser *et al.*, 2002 (sound despite discrepancies)**

A group seminar intervention studied by Rosser and colleagues (2002) aimed to promote long term individual and community sexual health. A total of 422 MSM in Minneapolis (USA) were recruited using adverts and outreach. At baseline, 14% had had UAI in the previous 3 months outside of a sero-concordant, long term, monogamous relationship. Participants were randomly allocated to the intervention or control group. The intervention group participated in a two-day (18 hour) 'Man-to-Man' sexual health seminar involving a range of activities covering a wide range of contextual issues relevant to sexuality. The control group attended 'Men Speaking Out', viewing six HIV prevention videos during a three-hour session and completing surveys on each video. Participants were aged from 18-55+ years; 10.1% were aged 18-24 years; 34.3% had annual incomes of \$20,000 or less; 9.5% were high school graduates or less; 89.3% were white; 8.9% were HIV positive. Although there was a positive trend for reducing casual UAI at three months, the result was statistically non-significant, and reviewers concluded that there was no evidence of effect for this outcome from this individual study. The numerical data for this outcome were standardised and entered into a meta-analysis (see 2.4.3).

**Shepherd, 1997 (sound despite discrepancies)**

A peer education intervention studied by Shepherd and colleagues (1997) aimed to promote HIV prevention as well as other aspects of sexual health among peers, and to enable peer educators to develop the knowledge, skills and abilities that they would need in order to promote sexual health among peers. In a controlled cluster trial, twenty young gay and bisexual men were recruited and eleven were trained as peer educators in Southampton (UK). Peer educators carried out the baseline interviews, which were followed by a discussion about HIV prevention. Further health promotion discussions may have occurred between participants and educators, but to what extent was unclear. Peer

educators then carried out follow up peer education interviews followed by a further discussion about HIV prevention. As a control group, twenty young gay and bisexual men were interviewed at baseline and at follow-up in a neighbouring gay community. The average age of participants was 24 years (range 18-38 years); 98% were white; SES, education and HIV status were not stated. Reviewers concluded that there was no evidence of effect for the intervention on incidence UAI with a casual partner. Reviewers considered the effect of the intervention upon attitudes/beliefs and knowledge to be unclear. This judgement was made because statistical test results for these were for within group differences only.

**Turner and Heywood, 2000 (not sound)**

A controlled trial of social marketing strategy, risk assessment, workshops and weekend sessions was conducted by Turner and Heywood (2000). This study aimed to target risk-taking by providing knowledge, skills and other support to homosexual and bisexual men in Southampton (UK). After extensively marketing the intervention in local gay pubs and venues, an unspecified number of men were recruited to a risk assessment session. Those agreeing to participate were assigned to receive four workshop sessions of two and a half hours per session. The workshops used quizzes, games, teamwork, discussions, role-playing, story telling and presentations to help participants analyse their behaviour and assist them in using new skills. Some participants went on to take part in a weekend 'residential' session at a local hotel, which further reinforced these skills. An unspecified number of men were selected 'at random from the same setting' to act as the control group. Participants were on average 22 years old (range 18-28 years). Authors did not provide any further socio-economic indicators. Reviewers determined the intervention effects to be unclear because the study was not sound. Authors did not describe baseline equivalence between groups and reported incomplete data for both pre-test and post-test measures. Whether they had reported on all outcomes measured was also unclear.

## APPENDIX F: Outcome evaluations included in the effectiveness synthesis

	Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
1	Dilley <i>et al.</i> (2002b)	<p><b>Number recruited:</b> 248 participants</p> <p><b>Age:</b> 18-49 years median = 33 years</p> <p><b>SES:</b> Income: &lt;\$15,000 = 12%</p> <p><b>Education:</b> high school/GED only =23%</p> <p><b>Ethnicity:</b></p> <ul style="list-style-type: none"> <li>*74% white</li> <li>*6% Asian/Pacific Islander</li> <li>*3% African American</li> <li>*11% Latino</li> <li>*6% other</li> </ul> <p><b>Region:</b> Urban</p> <p><b>Sexuality:</b> MSM</p> <p><b>HIV status:</b> 3% HIV positive</p> <p><b>Risk status:</b> participants all reported sdUAI in the previous 12 months</p>	<p><b>Location:</b> USA (San Francisco)</p> <p><b>Setting:</b> Health care unit - an anonymous HIV-testing clinic</p>	<p>* To reduce future high-risk sexual behaviours among HIV-negative men.</p>	<p>Health professional - licensed mental health professionals</p>	<p><b>Name:</b> not stated</p> <p><b>Summary:</b></p> <p>* Comparison of three intervention groups and control. All groups received standard counselling for HIV testing. Intervention groups differed in terms of whether or not they received an additional cognitive-behavioural counselling session examining self-justifications (SJ) of high risk behaviour and/or a sexual diary</p> <p><b>INTEVENTION GROUPS</b></p> <p><b>Content –</b> 1. standard counselling &amp; sexual diary; 2. standard and SJ counselling; 3. standard and SJ counselling &amp; sexual diary</p> <p><b>Delivery -</b> Counselling: one to one; sexual diary: self-completion</p> <p><b>Intensity -</b> Standard counselling: in accord with US federal guidelines; Intervention counselling: single, one hour session, 5-9 days after initial assessment; Sexual diary: completed over 90 days</p> <p><b>CONTROL</b></p> <p><b>Content etc -</b> Standard counselling as above</p>



## APPENDIX F: Outcome evaluations included in the effectiveness synthesis (cont'd)

Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
2	<p>Elford <i>et al.</i> (2001)</p> <p>Number recruited -            * <b>four</b> gyms as intervention sites; one gym as control            * 27 peer educators            * 1,004 baseline questionnaires completed            * 3% of gym members surveyed had spoken to a peer educator.  <b>Age:</b> median = 33 yrs  <b>SES:</b> 87.5% currently employed  <b>Education:</b> 11.3% up to GCSE or equivalent  <b>Ethnicity:</b>            88.9% white            3.3% black            2.1% South East Asian            5.7% 'other'  <b>Region:</b> urban  <b>Sexuality:</b> homosexual &amp; bisexual  <b>HIV status:</b> not stated  <b>Risk status:</b> community sample</p>	<p><b>Location:</b> UK (London)  <b>Setting:</b> Community - gyms with large gay membership</p>	<p>* reducing the risk of HIV transmission among gay men</p> <p>inferred aims:            primary            * a reduction in status-unknown UAI</p> <p>secondary:            * an increase in HIV testing and a reduction in needle or syringe sharing</p>	<p>Health professional – Gay Men’s HIV Prevention Team trained peer educators</p> <p>Peer educators - gay men attending gyms</p>	<p><b>Name:</b> The 4 gym project  <b>Summary:</b> Comparison of four intervention gyms with control gym. Peers/ popular opinion leaders recruited and trained to deliver HIV risk reduction messages to gym members.  <b>INTERVENTION</b>  <b>Content</b> - in four gyms, peers/ popular opinion leaders recruited and trained to engage in conversations with gay men, to promote and endorse HIV risk reduction. Posters &amp; leaflets distributed.  <b>Delivery</b> - peer training: group based; Conversations: not stated  <b>Intensity</b> - peer training: single, one-day session; Conversations: most were 'brief and information giving'. Intervention took place over 4-5 months in three gyms; one gym repeated intervention after 12 months.  <b>CONTROL</b>  <b>Content etc:</b> fifth gym had no peer educators</p>

## APPENDIX F: Outcome evaluations included in the effectiveness synthesis (cont'd)

Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
3 Flowers <i>et al.</i> (2002)	<p>Number recruited:            * six gay bars used for peer education            * 42 peer educators            * three gay specific GUM projects            * 2687 participants completed baseline questionnaire  <b>Age:</b> 15-37+ years  <b>mean</b> = 31.7 years  <b>SES:</b> * Class: 12.6% social class IV and V            * Employment: Unclear (21% unemployed in intervention group; unclear for control group)  <b>Education:</b> 40% degree level or higher  <b>Ethnicity:</b> not stated  <b>Region:</b> mainly urban (based in city; minority from outside the city – unclear if these are urban or rural)  <b>Sexuality:</b> MSM  <b>HIV Status:</b> not stated  <b>Risk status:</b> community sample</p>	<p><b>Location:</b> UK, Scotland (Glasgow = intervention city; Edinburgh = control city)  <b>Setting:</b>            * Community - commercial gay scene.            - gay-specific GUM services in gay community settings            * Specialist health care unit - gay-specific GUM services in hospital settings            * Other: free-phone 'hotline'</p>	<p>* The Gay Men's Task Force (GMTF) was a community level intervention to promote sexual health amongst gay men in Glasgow.            * To encourage homosexual men to reduce their sexual risk behaviour for HIV infection and increase their use of sexual health services, in particular the uptake of hepatitis B vaccination.            * To increase the visibility of sexual health services</p>	<p>* Peers            - 38 men &amp; four women            * Health professionals            - in gay-specific GUM services            *            Counsellors            - free-phone hotline</p>	<p><b>Name:</b> Gay Men's Task Force  <b>Summary:</b> Cluster trial comparing intervention in one city with control city. Intervention included peer education in gay bars, gay-specific GUM services and free-phone hotline.  <b>INTERVENTION</b>  <b>Content:</b> three components:            1. <u>Peer-led sexual health promotion</u> within bars            * peer educator training &amp; continual support for peer educators throughout the programme            * distribution of sexual health promotion materials within bars by peer educators            * 'focused interactions' between peer educators and peers about sexual health issues (primarily hepatitis B, HIV antibody testing and HIV risks within relationships)            2. <u>Gay-specific GUM services</u> in both hospital and gay community settings            3. <u>free-phone 'hotline'</u> providing sexual health information and details of local sexual health services  <b>Delivery:</b>            1. Peer interactions            2. Health service provision            3. Telephone  <b>Intensity:</b>            1. Peer training: two days + continual support; peer education ran for nine months; most interactions lasted 5-10 minutes            2. ran for nine months; length of visits not known            3. ran for six months; length of calls not known  <b>CONTROL</b>  <b>Content etc:</b> routine sexual health services</p>

## APPENDIX F: Outcome evaluations included in the effectiveness synthesis (cont'd)

	Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
4	Gold and Rosenthal (1998)	<p><b>Number recruited:</b> 109 participants  <b>Age:</b> 17 to 47 years  <b>mean</b> = 29.1 years  <b>SES:</b> not stated  <b>Education:</b> at least some tertiary education or training = 59%  <b>Ethnicity:</b> not stated  <b>Region:</b> urban  <b>Sexuality:</b> homosexual (99% regarded themselves as gay or homosexual)  <b>HIV Status:</b> 16% HIV positive  <b>Risk status:</b> participants had all broken their own safe-sex rules.</p>	<p><b>Location:</b> Australia (Melbourne &amp; Sydney)  <b>Setting:</b> Home</p>	<p>* Not specified by author. Assume it is to reduce the incidence of 'slip ups' (breaking of own safe sex rules).  * Whether an intervention focusing on self justifications would still work if translated into posters suitable for the mass media</p>	<p>Not relevant  <i>(Assumed participants had no direct contact with intervention providers.)</i></p>	<p><b>Name:</b> not stated  <b>Summary:</b> Comparison of two interventions with control. Participants in all three groups kept sexual diaries detailing 'slip ups'. One group completed questionnaire about a recent slip up; one group received posters and questionnaire about posters; one group kept diary only.  <b>INTERVENTION</b>  <b>Content:</b> two conditions:  1. sexual diary (see control for details) &amp; slip-up questionnaire  2. sexual diary, posters &amp; posters questionnaire  <b>Delivery:</b> Self-completion  <b>Intensity:</b> Sexual diary completed for 16 weeks; questionnaires' length not stated  <b>CONTROL</b>  <b>Content:</b>  <i>Sexual diary detailed 'slip-ups' (type of partner, knowledge of partner's antibody status, sexual acts which took place).</i>  <b>Delivery:</b> Self-completion  <b>Intensity:</b> Completed for 16 weeks</p>

## APPENDIX F: Outcome evaluations included in the effectiveness synthesis (cont'd)

Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
5	<p>Imrie <i>et al.</i> (2001c)</p> <p><b>Number recruited:</b> 343 participants  <b>Age:</b> 18-58 years  <b>Median</b> = 29 years  <b>SES:</b> Occupation: 57% skilled non-manual  <b>Education:</b> 86% beyond secondary  <b>Ethnicity:</b> 91% white  <b>Region:</b> urban  <b>Sexuality:</b> homosexual  <b>HIV Status:</b> 2% HIV positive (40% were status unknown)  <b>Risk status:</b> participants had an acute STI, or reported sdUAI in the past year or were concerned about their sexual practices</p>	<p><b>Location:</b> UK (London)  <b>Setting:</b> sexual health clinic</p>	<p>* To reduce the incidence of sexually transmitted infections among gay men</p>	<p>Counsellor – not further specified</p>	<p><b>Name:</b>  The BIG (Behavioural Intervention in Gay Men) Project  <b>Summary:</b> Comparison of a one-day cognitive-behavioural workshop to standard HIV counselling  <b>INTERVENTION</b>  <b>Content:</b> standard management (see control content for details) &amp; cognitive-behavioural workshop.  <b>Delivery:</b> Group workshop  <b>Intensity:</b> one day  <b>CONTROL</b>  <b>Content:</b> standard management, consisting of:  * brief (20minutes) one to one counselling session about sexual risk behaviour  * contact tracing offered to those with a newly diagnosed infection  * possibility of referral to clinic based or community based education on HIV prevention and counselling services  <b>Delivery:</b> Counseling: one to one; contact tracing/referrals: not known  <b>Intensity:</b> counselling: one 20 minute session; contact tracing/referrals: not known</p>

**APPENDIX F: Outcome evaluations included in the effectiveness synthesis (cont'd)**

Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
6	<p>Picciano <i>et al.</i> (2001)</p> <p><b>Number recruited:</b> 103 participants  <b>Age:</b> 18-70 years  <b>mean</b> = 36.6 years  <b>SES:</b> not stated  <b>Education:</b> 8-25 years  <b>Mean</b> = 15.3 years  <b>Ethnicity:</b>            76.4% 'Caucasian'            6.7% African American            5.6% Hispanic            3.4% Asian American            1.1% Native American            6.8% Other  <b>Region:</b> Urban  <b>Sexuality:</b> homosexual and bisexual  <b>HIV Status:</b> 20.2% of those tested were HIV positive (96.6% had tested)  <b>Risk status:</b> participants were currently having UAI or UOI and were not in a mutually monogamous relationship</p>	<p><b>Location:</b> USA (Seattle)  <b>Setting:</b> Telephone</p>	<p>* To reduce sexual risk-taking among MSM in Seattle            * To facilitate a commitment to and adoption of safer sex behaviors among men who have sex with men.</p>	<p>Counsellors            - masters level counsellors</p>	<p><b>Name:</b> The Sex Check Up  <b>Summary:</b> Comparison of contextual, tailored one-off telephone counselling session with control (delayed counselling condition)  <b>INTERVENTION</b>  <b>Content:</b> baseline assessment call + telephone counselling session + follow-up assessment call  <b>Delivery:</b> Telephone  <b>Intensity:</b> baseline call: 90 minutes; counselling session: 90-120 minutes one week after baseline; follow-up call: 90 minutes six weeks after counselling  <b>CONTROL</b>  <b>Content:</b> baseline assessment call + follow-up assessment call  <b>Delivery:</b> Telephone  <b>Intensity:</b> baseline call: 90 minutes; follow-up call: 90 minutes seven weeks after baseline</p>

## APPENDIX F: Outcome evaluations included in the effectiveness synthesis (cont'd)

Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
7 Rosser <i>et al.</i> (2002)	<p><b>Number recruited:</b> 422 (169 completed three &amp; 12 month follow up)</p> <p><b>Age:</b> 18-55+ years 10.1% = 18-24 years</p> <p><b>SES:</b> Income: 34.3% ≤ \$20k</p> <p><b>Education:</b> 9.5% ≤ high school graduate</p> <p><b>Ethnicity:</b> 89.3% White 2.4% Black 2.4% Asian/Pacific Islander 1.2% American Indian 2.4% Latino/Chicano 2.4% Other</p> <p><b>Region:</b> urban</p> <p><b>Sexuality:</b> homosexual &amp; bisexual</p> <p><b>HIV Status:</b> 8.9% positive</p> <p><b>Risk status:</b> &gt;14% reported UAI in previous 3 months</p>	<p><b>Location:</b> USA (Minnesota)</p> <p><b>Setting:</b> University</p>	<p>* to promote long-term individual &amp; communal sexual health,...which ...addresses the contextual cofactors of HIV risk...[enabling participants] to confront risk within the wider context of their sexual lives</p> <p>* community health aim...is to increase the ability, within the gay and sexual communities, to discuss sex and sexuality, foster intimacy and health, identify barriers to healthy sexuality, and promote health</p>	Health professionals (MSM identified)	<p><b>Name:</b> 'Man-to-Man' Sexual Health Seminars</p> <p><b>Summary:</b> Comparison of 2-day seminars with control condition (HIV prevention videos).</p> <p><b>INTERVENTION</b></p> <p><b>Content:</b> Seminar on the context of sexual health covering: talking about sex; culture and sexual identity; sexual anatomy and functioning; sexual health care and safer sex; challenges; body image; masturbation and fantasy; positive sexuality; intimacy and relationships; spirituality.</p> <ul style="list-style-type: none"> <li>- Activities included:</li> <li>- multimedia presentations</li> <li>- presentations by health professionals</li> <li>- videos</li> <li>- panels</li> <li>- behaviour modelling</li> <li>- story-telling</li> <li>- assessments</li> <li>- exercises</li> <li>- small-group discussions</li> </ul> <p><b>Delivery:</b> Group sessions</p> <p><b>Intensity:</b> one two-day (18 hour) seminar (over one weekend)</p> <p><b>CONTROL</b></p> <p><b>Content:</b> 'Men Speaking Out': viewing of HIV prevention videos, each followed by survey</p> <p><b>Delivery:</b> Video</p> <p><b>Intensity:</b> One 3-hour session with six videos</p>

### APPENDIX F: Outcome evaluations included in the effectiveness synthesis (cont'd)

Item	Population	Setting	Aim(s) of the intervention	Intervention provider	Content of intervention package
8 Shepherd <i>et al.</i> (1997)	<p><b>Number recruited:</b> * 20 peer educators in one intervention site * 66 participants <b>Age:</b> 18-38 years <b>average = 24 years</b> <b>SES:</b> not stated <b>Education:</b> not stated <b>Ethnicity:</b> 'almost exclusively white' [2% non-white] <b>Region:</b> Intervention in urban community; unclear for control (= 'neighbouring gay community') <b>Sexuality:</b> homosexual &amp; bisexual <b>HIV Status:</b> not stated <b>Risk status:</b> community sample</p>	<p><b>Location:</b> UK (Southern England) <b>Setting:</b> Community Home Outreach</p>	<p>* to promote HIV prevention as well as other aspects of sexual health (hepatitis B, gonorrhoea, testicular cancer) among peers * to enable the peer educators to develop the knowledge, skills and abilities that they would need in order to promote sexual health among their peers</p>	<p>Community Worker: - project workers from Southampton Gay Men's Health Project trained the peer educators</p> <p>Peers: - young gay and bisexual men</p> <p>Other: - independent trainer trained peer educators</p>	<p><b>NAME:</b> HAPEER Project <b>Summary:</b> Comparison of peer education with control condition (no peer education). <b>INTERVENTION</b> <b>Content:</b> - training of peer educators - baseline peer educator interviews with peers, followed by HIV prevention discussion - interim period, 'during which further health promotion discussions may take place' - follow up peer educator interviews with peers, followed by HIV prevention discussion <b>Delivery:</b> Peer educators' training: group sessions Peer interviews/discussions: mainly one-to-one <b>Intensity:</b> Peer educators' training: once a week for 6-8 weeks + ongoing training and support throughout intervention Initial interviews: most took 5-10 minutes; following conversations: 20 minutes on average Follow-up: 3-6 months after initial interview <b>CONTROL</b> <b>Content:</b> no peer education intervention; interviewed at baseline and follow-up only. <b>Intensity:</b> not known</p>

## **APPENDIX G: Details of sound outcome evaluations: methodology and methods employed to calculate effect sizes**

<b>Author</b>	<b>Study Design</b>	<b>No of conditions</b>	<b>Measurement of outcomes prioritised by the advisory group</b>	<b>Participation rate/attrition</b>	<b>Follow-up interval</b>	<b>Data presented and unit of analysis</b>
Dilley <i>et al.</i> (2002b)	RCT	4 conditions: 1. control group 2. sexual diary 3. self-justifications (SJ) counselling 4. SJ counselling and sexual diary	UAI with non-primary partners of unknown HIV status	Overall retention at six and 12 months was 87% and 83%, respectively. 1 - 62 started, five dropped out at baseline, five dropped out by 6mo, 52 left at 12 months (84%) 2 - 62 started, four dropped out at baseline, six dropped out by 6mo, 52 left at 12 month (84%) 3 - 62 started, seven dropped out at baseline, four dropped out by 6mo, 51 left at 12 month (82%) 4 - 62 started, five dropped out at baseline, 13 dropped out by 6mo, 44 left at 12 month (71%)	6 month 12 month	frequencies  means



**APPENDIX G: Details of sound outcome evaluations: methodology and methods employed to calculate effect sizes (cont'd)**

Author	Study Design	No of conditions	Measurement of outcomes prioritised by the advisory group	Participation rate/attrition	Follow-up interval	Data presented and unit of analysis
Elford <i>et al.</i> (2001)	Controlled cluster trial	3 conditions: 1. control group (1 gym) 2. intervention group (3 gyms: 4-5 months of peer education) 3. 'top up' intervention group (1 gym: intervention repeated after 12 months)	UAI with casual partner  UAI with main and casual partner  UAI with one partner of unknown or sero-discordant HIV status  UAI with more than one partner of unknown or sero-discordant HIV status  Attitudes  HIV testing	No gyms dropped out. The study population comprised a series of cross sectional cohorts rather than a longitudinal cohort. In this respect attrition is not relevant as study participants were only measured at one point in time.	6 months 12 months 18 months	percentages
Flowers <i>et al.</i> (2002)	Controlled cluster trial	2 communities: 1. Glasgow, intervention city  2. Edinburgh, control city	UAI with casual partner of known HIV status  HIV testing	No city dropped out. The study population comprised a series of cross sectional cohorts rather than a longitudinal cohort. In this respect attrition is not relevant as study participants were only measured at one point in time.	3 year follow –up.	frequencies

**APPENDIX G: Details of sound outcome evaluations: methodology and methods employed to calculate effect sizes (cont'd)**

<b>Author</b>	<b>Study Design</b>	<b>No of conditions</b>	<b>Measurement of outcomes prioritised by the advisory group</b>	<b>Participation rate/attrition</b>	<b>Follow-up interval</b>	<b>Data presented and unit of analysis</b>
Gold and Rosenthal (1998)	RCT	3 conditions: 1. control group (sexual diary only) 2. posters & questionnaire group (+ sexual diary) 3. specific encounter questionnaire (+ sexual diary)	UAI with sero-discordant partners  UAI with casual partners  Knowledge/awareness	16% attrition overall (not stated for each condition)	3 months post intervention at latest (unclear)	means

**APPENDIX G: Details of sound outcome evaluations: methodology and methods employed to calculate effect sizes (cont'd)**

Author	Study Design	No of conditions	Measurement of outcomes prioritised by the advisory group	Participation rate/attrition	Follow-up interval	Data presented and unit of analysis
Imrie <i>et al.</i> (2001c)	RCT	2 conditions: 1. control group 2. One-day workshop	UAI of partners when status is unknown or discordant  Attitudes to HIV (social norms, communication, self-labelling, safer sex efficacy, interpersonal barriers)  Beliefs re: sexual risk behaviour  STI incidence	29% attrition overall 24% = control group 34% = workshop	6 months 12 months	frequencies

**APPENDIX G: Details of sound outcome evaluations: methodology and methods employed to calculate effect sizes (cont'd)**

Author	Study Design	No of conditions	Measurement of outcomes prioritised by the advisory group	Participation rate/attrition	Follow-up interval	Data presented and unit of analysis
Picciano <i>et al.</i> (2001)	RCT	2 conditions: 1. delayed counselling control group 2. immediate counselling group	UAI number of primary and casual partners  Practical skills (developing strategies to avoid unsafe sex)	14% attrition overall 12% = control group E: 15% - although this is slightly unclear. It states on p. 255 that 46 of the 54 recruited to E completed both baseline and follow-up assessments. However on p. 259 it states that 45 of the 54 attended their scheduled counselling session. [it appears that 45 completed counselling but 46 completed follow up – intention to treat?] If 45 then 17% attrition	7 weeks [after baseline - six weeks after intervention]	means and SDs

**APPENDIX G: Details of sound outcome evaluations: methodology and methods employed to calculate effect sizes (cont'd)**

Author	Study Design	No of conditions	Measurement of outcomes prioritised by the advisory group	Participation rate/attrition	Follow-up interval	Data presented and unit of analysis
Rosser <i>et al.</i> (2002)	RCT	2 conditions: 1. control group (HIV prevention videos) 2. Two-day seminar	Casual UAI (outside of existing long term sero-concordant relationship)	In terms of the analysis run by the authors = 40% participation rate (of 422 men randomized, 169 provided sufficient data at baseline, three months AND 12 months)  In terms of those completing questionnaires at the different time points: 2% attrition at post-test 13% at three months 17% at 12 months.	3 months 12 months (approx.)	frequencies
Shepherd <i>et al.</i> (1997)	Controlled cluster trial?	2 conditions: 1. control community 2. peer education community	UAI with casual partners  Attitudes/beliefs  Knowledge ( risks of UAI and oral sex, HIV, STIs, HIV testing and service use)	13% attrition in control group 16% attrition in intervention group	3-6 months after baseline/initial discussion	frequencies

## APPENDIX H: Details of views studies: methodology (n=14)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Studies focused on men living with HIV (n=7; 5 sound)</b>						
<b>Davis et al. (2002)</b>	In-depth interviews with 25 HIV positive MSM.	<b>Selection &amp; recruitment:</b> MSM attending a London outpatient HIV clinic. Participants recruited via direct contact, leaflets, via another study and from 'purposive sampling' not further described to increase the number of younger & black MSM <b>Consent:</b> Not stated / unclear	60-90 minute in-depth face-to-face interview. *Early interview topics included: living with HIV; HIV history; AIDS illness & treatment; sexual lifestyle; HIV transmission; risk beliefs & viral load; HIV service use; STIs; ideas for HIV prevention. *Later interview topics included: sexual health services; disclosure of HIV status in sexual encounters; use of outpatient clinic. * Men asked to comment on a sexual episode that had concerned them	<b>Reliability:</b> Interview topic guides used. Interviews tape recorded & transcribed. <b>Validity:</b> Interviews evolved over the course of the study	Transcripts catalogued on NUDIST according to topic guide summary. Transcripts analysed for themes relevant to research questions and in light of research team discussions.	<b>Reliability:</b> Used NUDIST <b>Validity:</b> peer debriefing

**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Docherty (2002)</b>	Survey of 60 HIV positive gay men using a self-completion questionnaire and one focus group.	<b>Selection &amp; recruitment:</b> Men at a London HIV clinic were randomly chosen to receive study information. Researcher gave additional verbal information and participant information sheet. <b>Consent:</b> Informed consent sought	Self-completion questionnaire. Topics included: personal details; sexual history; general health question (GHQ-12); past (pre-HIV diagnosis), current & future sexual practices (researcher took field notes of discussions) Focus group – no details provided.	<b>Reliability:</b> not explicitly mentioned. - some questions came from other standard questionnaires (e.g. General Health Questionnaire) <b>Validity:</b> - questionnaire piloted at another HIV clinic with 10 participants, asking about its design, relevance and sensitivity. - 'participants checked summary field notes for accuracy and interpretation' - importance of confidentiality and informed consent stressed	Use of grounded theory & content analysis reported.	<b>Reliability:</b> Used accepted named analysis process <b>Validity:</b> not stated
<b>Kelly and Murphy (1998b)</b>	12 face-to-face interviews with HIV positive gay men	<b>Selection &amp; recruitment:</b> not stated/unclear <b>Consent:</b> Not stated/unclear	One to one interviews. Topics included: knowledge & attitudes to HIV before diagnosis, attitudes to sex; experiences of/attitudes to HIV testing; sexual health information/support and needs; disclosure; relationships.	<b>Reliability:</b> - topic guide used. Reviewer assumes interviews tape recorded based on previous research and detailed quotes provided (not stated by authors) <b>Validity:</b> - informal interview structure, directed by individual not researcher - interviewer acknowledged as skilful, sensitive and willing to listen.	Unclear	<b>Reliability:</b> - not stated <b>Validity:</b> Not stated

**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Keogh et al. (1999)</b>	64 in-depth semi-structured interviews with HIV positive gay men	Selection & recruitment: Posters and adverts were distributed through national gay press at AIDS service organisations in London and other urban centres. Interviewees were gay men who had diagnosed HIV infection and had engaged in UAI in the previous year. <b>Consent:</b> not stated	In-depth one-to-one semi-structured interviews lasting 1-2 hours. Risk and UAI examined through an analysis of critical incidents in previous year. Respondents chose the accounts of UAI they remembered best or wanted to talk about.	<b>Reliability:</b> Interviews tape recorded & transcribed. <b>Validity:</b> not stated	A full thematic content analysis was carried out on each interview transcript.	<b>Reliability:</b> Used named analytic technique. <b>Validity:</b> not stated.



**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Rooney and Taylor (1997)</b>	40 one-to-one interviews with HIV positive men	<p>Selection &amp; recruitment: Advertising cards distributed to: gay venues, a Vancouver conference briefing; a mailing list of attendees at a Health First seminar; positive gay men known by participants; displayed in the Landmark HIV drop-in centre. Advertised in the Pink Paper and Boz. Potential participants called advertised number for more information.</p> <p><b>Consent:</b> study information provided. Participants signed a consent form for their interview to be taped.</p>	<p>Approximately one-hour long interviews using topic guide. Consultative style used.</p> <p>Topics included: Importance of sex/being sexual; learning HIV positive status; sexual activity &amp; changes in behaviour; condoms; advice for HIV positive gay service developers; information/support.</p>	<p><b>Reliability:</b> All conducted by the same two interviewers. Use of topic guide. Interviews tape-recorded &amp; transcribed.</p> <p><b>Validity:</b> Unclear, although authors note flexibility in the topics and direction of interviews &amp; sharing power with participants.</p>	<p>2 stages of analysis:</p> <p>1) Transcripts categorised according to topic. Sections of text sorted according to category and examined between and within individual participants.</p> <p>2) Content analysis and a 'Grounded theory approach' used</p>	<p><b>Reliability:</b> Used named analytic techniques</p> <p><b>Validity:</b> not stated</p>

## APPENDIX H: Details of views studies: methodology (n=14) (cont'd)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Stephenson <i>et al.</i> (2003b)</b>	Survey of 420 HIV positive MSM using a self-completion questionnaire	<b>Selection &amp; recruitment:</b> All known HIV positive MSM attending routine clinics at a large London HIV outpatient clinic were 'invited to take part'. <b>Consent:</b> Not stated/unclear	Self-completion questionnaire (CASI) which assessed the net impact of HAART- treatment optimism & reduced viral load optimism on HIV transmission risk factors.	<b>Reliability:</b> Questionnaire was self-complete and stored electronically. Questionnaire results were combined with data from clinic and laboratory databases. <b>Validity:</b> Questionnaire informed by prior qualitative research (Davis <i>et al.</i> , 2002)	Data analysed using SPSS and STATA software.	<b>Reliability:</b> Not reported <b>Validity:</b> Use of power calculation to ensure number recruited had power to show statistical significance.
<b>Ward <i>et al.</i> (2002)</b>	Study design summary Focus group with 11 of 18 participants involved in a consultative intervention with HIV positive MSM.	<b>Selection &amp; recruitment:</b> Leaflets distributed at Body Positive groups, treatment centres and other service providers and drop-in facilities. Recruitment methods unclear, possible use of quota sampling. Attendance at the focus group was voluntary and therefore the group self-selected. <b>Consent:</b> Not stated/unclear	One hour focus group with facilitated discussion prompted by open questions and flip-charted responses on which the group reached consensus. Topics included: identification of services used; quality of service provided; service improvement; value of peer support; level of inclusion and involvement	<b>Reliability:</b> Answers written down on flip chart during focus group meeting <b>Validity:</b> A range of steps were taken to ensure safe enough space created for discussion e.g. exclusion of providers, HIV positive gay men facilitating.	Unclear	<b>Reliability:</b> Not stated <b>Validity:</b> Not stated

**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Studies focused on men selling sex (n=3 all sound)</b>						
<b>Darch (2002)</b>	Semi-structured interviews with 20 sex workers	<b>Selection &amp; recruitment:</b> Sampling frame not stated. Men recruited through direct contact. Random opportunistic sampling, with times for site visits selected randomly. <b>Consent:</b> Participant consent sought	Data collection methods Face to face, semi-structured interviews. Pre-interview guidance for interviewers provided. [topic guide and response form used?] Topics included: first homosexual experience; view of sexuality & others perceptions of it; sexual behaviour; views about selling sex; views on what may help them stop selling sex	<b>Reliability:</b> Interview guidance included need to explain the meaning of questions and words, but to 'make sure the explanations do not lead'; and on use of simplified language and clarifying meanings. Interviews tape recorded <b>Validity:</b> Interview questions piloted with two known sex workers from Bristol.	Unclear – authors refer to consensus approach with group but no detail given.	<b>Reliability:</b> not stated <b>Validity:</b> Not reported

**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Hudson and Rivers (2002)</b>	Face to face semi-structured interviews, with seven sex workers from the Bradford area.	<b>Selection &amp; recruitment:</b> Sampling frame not stated. Participants recruited through adverts in local papers and magazines; networking with local agencies; contact with men who advertised sexual services for men. Participants approached by telephone, text message, e-mail or by personal introduction, and invited to take part in the study <b>Consent:</b> for tape recording only	Data collection methods: All interviews followed the same basic outline [topic guide?]. The 'Men selling sex interview schedule' is published in the appendices. Topics included: details of their sex work; views of sex work scene; first experience of sex work; perception of risks & barriers/facilitators; knowledge & use of services; views on how services could be improved/what they think should be provided/what could help them stop sex work	<b>Reliability:</b> All interviews followed the same interview schedule. Five of seven interviews tape recorded & transcribed. <b>Validity:</b> The authors state that the interview schedule was drawn up after consultation with the multi-disciplinary steering committee.	Data analysis methods: Content analysis used.	<b>Reliability:</b> Use of named analytic process. <b>Validity:</b> Not reported

## APPENDIX H: Details of views studies: methodology (n=14) (cont'd)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Kelly and Murphy (1998b)</b>	Study design summary 12 face-to-face interviews using semi-structured questionnaire with men who sell sex	<b>Selection &amp; recruitment:</b> not stated <b>Consent:</b> Not stated	Data collection methods: Interviews used an adapted version of the 'Men in Prostitution' questionnaire. Topics included: First experiences of sex and sex work; details of sex work; condom use; knowledge of HIV & STDs; HIV testing history and attitudes; drug use; health problems; reasons for selling sex	<b>Reliability:</b> Interview schedule used. Interviews tape-recorded. <b>Validity:</b> - interview based on an adaptation of a previously used questionnaire for Dublin based research 'Men in Prostitution' . - authors state, '[research organisation] have been objective regarding both the interview process and in the analysis of the subjective experience of the men being interviewed.' (unclear how this was ensured)	Data analysis methods Not stated	<b>Reliability:</b> not stated <b>Validity:</b> not stated.

**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Studies focused on ethnic minority MSM (n=1 not sound study)</b>						
<b>Patel et al. (1999)</b>	Face to face interviews with 16 South Asian men	Selection & recruitment: The sampling frame was the pool of South Asian MSM who have previously contacted or accessed Naz Project London services. Recruitment methods not stated. <b>Consent:</b> Not stated	Data collection methods: No details given on the length, setting, style of interview, or type, nature and range of questions asked.	<b>Reliability:</b> Staff trained in interview techniques to ensure a consistent approach. Interview schedule used. <b>Validity:</b> Interview schedule was tested (no details given)	Data analysis methods Unclear	<b>Reliability:</b> Not stated <b>Validity:</b> Not stated

**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Studies focused on working class MSM (n=1 sound study)</b>						
<b>Keogh and Dodds (2004)</b>	Face to face semi structured in depth interviews with 38 working class men.	<b>Selection &amp; recruitment:</b> A variety of recruitment methods were used, including direct contact, adverts and networking; via gay commercial scene & press and HIV prevention/gay community organisations. People interested phoned SIGMA to arrange an interview. <b>Consent:</b> Participant consent sought	Data collection methods: In depth one to one, semi-structured interview lasting 1-2 hours. Topics included: family history; health; education; gay sexuality & coming out; friendship & social networks; sex & HIV risk; experience of / attitudes towards HIV prevention Men who reported UAI in previous year were asked to discuss the last episode in detail	<b>Reliability:</b> Interviews conducted by trained interviewers using an interview schedule. Interviews tape-recorded & transcribed <b>Validity:</b> Interviews informed by focus groups. Interviewers debriefed and interview schedule regularly revised as a result.	Analysis was conducted in three phases. 1) Transcripts recorded, annotated & summarised 2) Synopses used to generate themes which were used to re-analyse the original transcripts. 3) Synopses and themes used to conduct full thematic analysis. A separate analysis was conducted for HIV positive men in sample.	<b>Reliability:</b> Use of recognised analytical technique. Various tests and further analyses were conducted to check internal reliability of initial analyses. <b>Validity:</b> Analysis carried out independently by two researchers. Tests and further analysis (to check internal reliability) reported.

**APPENDIX H: Details of views studies: methodology (n=14) (cont'd)**

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Studies focused on young MSM (n=1 sound study)</b>						
<b>Warwick et al. (2001)</b>	Interactive research workshops with 77 young (under 25) gay men	<b>Selection &amp; recruitment:</b> Participants were recruited from gay commercial venues in London via lesbian & gay youth groups, and via a cohort set up for other research <b>Consent:</b> not stated	Group interview (interactive workshops) Participants wrote vignettes on: their first and most recent positive & negative experiences; first and most recent experiences that made them stop and think about HIV/AIDS; what makes them anxious about HIV/AIDS; changes they would like to make to themselves. Participants voted to prioritise changes they wanted to make to themselves, others & society.	<b>Reliability:</b> not stated <b>Validity:</b> pilot carried out	Data analysed thematically by topic area to draw out commonalities and differences in responses. Record of votes kept.	<b>Reliability:</b> not stated <b>Validity:</b> not stated



## APPENDIX H: Details of views studies: methodology (n=14) (cont'd)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
<b>Studies focused on MSM with disabilities (n=1 not sound study)</b>						
<b>Reeves (1999)</b>	Self-completion questionnaires with 47 deaf gay men and six semi-structured interviews	<b>Selection &amp; recruitment:</b> Adverts/questionnaires distributed via deaf and gay internet sites, groups, ceefax and organisations. Also recruited using snowballing technique. <b>Consent:</b> not stated	Self-completion questionnaire. Covered demographics, views on unsafe sex situations, HIV status, sexual activity and risk, being deaf and gay. Methods unclear for interviews.	<b>Reliability:</b> questionnaires included items from other studies which were known to be reliable. Not stated for interviews. <b>Validity:</b> questionnaires included items from other studies which may have been tested for validity. Deaf gay organisations were asked to comment on the questionnaire before distribution to check whether it was too complex. No details are provided on the results of this. Not stated for interviews.	Questionnaires: data analysed using descriptive & inferential statistics. SPSS was used. Open-ended data were either back coded or included as an extension to the existing pre-codes. Interviews: unclear	<b>Reliability:</b> questionnaires: use of SPSS interviews: not stated <b>Validity:</b> not stated

## APPENDIX I: Details of views studies: aims, sample, and quality (n=14)

Study	Aims and methods (brief)	Sample characteristics	Quality
<b>Studies focused on men living with HIV (n=7)</b>			
<b>Davis et al. (2002)</b>	<p>To examine how gay men with HIV deal with the impact of treatment on HIV risk management.</p> <p>Cross-sectional study using in-depth interviews to collect data.</p>	<p><b>Location:</b> London, England  <b>Sample number:</b> 25  <b>Age range:</b> 25 –55 years  <b>Socio-economic status:</b> Not stated  <b>Ethnicity:</b> ‘Twenty three men were from northern Europe, North America or Oceania (white Anglo-Irish or continental Europe).’  <b>Other information provided by authors:</b> Viral load; length of diagnosis</p>	<p>Evidence level: HIGH</p> <p>Quality criteria met: A, B, C, D, E F, G, H, I J, K Quality criteria not met: L</p>
<b>Docherty (2002)</b>	<p>To explore the socio-psychological influences amongst gay men that affect decision-making processes regarding sexual practices before and after becoming infected with HIV.</p> <p>Cross-sectional study with two methods of data collection: a questionnaire administered by the researcher and a focus group. This data was supplemented with researcher field notes.</p>	<p><b>Location:</b> London, England  <b>Sample number:</b> 60  <b>Age range:</b> 21 to 54 years (mean age 35)  <b>Socio-economic status:</b> 24 middle class and 36 working class  <b>Ethnicity:</b> Nationality groups are described: 39 ‘white UK’; seven ‘European’; six Irish; six Black/Afro-Caribbean; two Asian  <b>Other information provided by authors:</b> years HIV positive; age of first anal penetration; frequency of current condom use; recreational drug use</p>	<p><b>Evidence level:</b> LOW</p> <p><b>Quality criteria met:</b> A, B, C, J, L  <b>Quality criteria not met:</b> D, E F, G, H, I K</p>

**\*Key**

*Quality of study reporting*

- A: Aims and objectives were clearly reported
- B: Adequate description of context of research
- C: Adequate description of the sample and sampling methods
- D: Adequate description of data collection methods
- E: Adequate description of data analysis methods

*There was good or some attempt to establish the:*

- F: Reliability of data collection tools
- G: Validity of data collection tools
- H: Reliability of data analysis
- I: Validity of data analysis

*Quality of methods for research with MSM*

- J: Used appropriate data collection methods for helping MSM to express their views
- K: Used appropriate methods for ensuring the data analysis was grounded in the views of MSM
- L: Actively involved MSM in the design and conduct of the study

**APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)**

Study	Aims and methods (brief)	Sample characteristics	Quality
<b>Kelly and Murphy (1998a)</b>	To explore experiences of the HIV testing process amongst MSM living with HIV and their subsequent health needs.  Cross-sectional study collecting data via face-to-face semi-structured interviews.	<b>Location:</b> Wirral, England <b>Sample number:</b> 12 <b>Age range:</b> Not stated <b>Socio-economic status:</b> Not stated <b>Ethnicity:</b> Not stated <b>Other information provided by authors:</b> None	Evidence level: MEDIUM  Quality criteria met: A, B, D, F, J, K, L  Quality criteria not met: C, E, G, H, I
<b>Keogh et al. (1999)</b>	To investigate how gay men diagnosed with HIV who engage in unprotected anal intercourse (UAI) conceive of and negotiate this activity. Cross-sectional survey (not included in review) and in-depth semi-structured interviews.	<b>Location:</b> London (75%) and 'other urban centres', England <b>Sample number:</b> 64 <b>Age range:</b> 19-60 years <b>Socio-economic status:</b> 30% employed; 14% unemployed; 55% medically retired; 1% retired <b>Ethnicity:</b> 92% white; 5% African Caribbean; 3% 'Mixed Race' <b>Other information provided by authors:</b> <i>Years since diagnosis:</i> Mean time since diagnosis = five years; range = 4mths - 12 years <i>Anti HIV Treatments:</i> Currently taking 58%; never taken 28%; discontinued 14% <i>Health:</i> Had HIV-related symptoms 72% Had acute HIV-related illness 36% <i>Area of residence:</i> London 69%; Outside London 31%	Evidence level: MEDIUM  Quality criteria met: A, B, C, D, E, F, H J  Quality criteria not met: G, I, K, L

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**APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)**

Study	Aims and methods (brief)	Sample characteristics	Quality
<p><b>Rooney and Taylor (1997)</b></p>	<p>To map the nature of sexual health promotion needs amongst gay men living with HIV in order to inform future patterns of service development.</p> <p>Cross-sectional study collecting data via face to face unstructured interviews.</p>	<p><b>Location:</b> London, England.  <b>Sample number:</b> 40  <b>Age range:</b> Under 25 years = one participant, 25 to 44 = 37 participants                      Over 45 - two participants  <b>Sex:</b> Male  <b>Socio-economic status:</b> Not stated/unclear  <b>Ethnicity:</b> White Irish = 8; White English = 18; White Scottish = 1; Black and OEM English = 3; European = 5; Other (NZ, Australia, Brazil) = 5                      Other information provided by authors:                      Length of diagnosis and health status. Analysis focused on sex and sexual health outside of regular relationships</p>	<p>Evidence level: HIGH</p> <p>Quality criteria met: A, B, C, D, E, F, G, H, I, J, K</p> <p>Quality criteria not met: L</p>

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**APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)**

Study	Aims and methods (brief)	Sample characteristics	Quality
<b>Stephenson et al. (2003b)</b>	<p>To explore the relationship between use of HAART and risk factors for sexual transmission of HIV amongst MSM living with HIV attending an outpatient HIV clinic in central London.</p> <p>Cross-sectional survey collecting data via a self-completion questionnaire with fixed response items.</p>	<p><b>Location:</b> London, England.  <b>Sample number:</b> 413  <b>Age range:</b> 21-64 years (median age 38 years)  <b>Socio-economic status:</b> Education beyond secondary school = 317/413 (77%)                      Working full or part time = 199/412 (48%)                      Unemployed - 77/412 (18%)                      Medically retired = 93/412 (23%)                      'Other' = 203/413 (49%)  <b>Ethnicity:</b> 90% white  <b>Other information provided by authors:</b> Detailed reports of recent sexual episodes; subjective well-being; number of men on HAART; previous AIDS diagnosis; viral load.</p>	<p>Evidence level: MEDIUM</p> <p>Quality criteria met: A, B, C, D, E, F, G, I, J</p> <p><b>Quality criteria not met:</b> H, L, K</p>
<b>Ward et al. (2002)</b>	<p>Authors report that the 'focus group discussion was intended to address how service provision in Scotland is inclusive of the needs and rights of gay men with HIV in design, delivery and content.' (p. 27), but state that this work is not research.</p> <p>Cross-sectional survey collecting data via one focus group.</p>	<p><b>Location:</b> Scotland.  <b>Sample number:</b> 11  <b>Age range:</b> not clear, reported that the predominant age range was 30 to 40 years  <b>Socio-economic status:</b> Not stated  <b>Ethnicity:</b> Not stated  <b>Other information provided by authors:</b> All men identified as gay or bisexual.</p>	<p>Evidence level: LOW</p> <p>Quality criteria met: A, B, D, G, J, L</p> <p>Quality criteria not met: C, E, F, H, I, K</p>

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## APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)

Study	Aims	Sample characteristics	Quality
<b>Studies focused on men with disabilities (n=1)</b>			
<b>Reeves (1999)</b>	<p>To compare risk behaviour patterns and lifestyles between Deaf gay men and those of the hearing gay population</p> <p>A cross-sectional survey collecting data via self-completion questionnaires and face-to-face semi-structured interviews.</p>	<p>Location: Various parts of the UK</p> <p>Sample number: unclear, although authors report that there were 45 men who took part.</p> <p>Age range: 20 to 58 years (median = 33)</p> <p>Socio-economic status: 60% were employed; 26% unemployed; 14% in full time education. Of those employed (6.5% in senior management or professional roles; 74% non-manual or white collar and 19.5% unskilled manual workers).</p> <p>Median age at end of full-time education was 18 years.</p> <p>Ethnicity: 93% 'white'; 5% 'black'; 2% 'Oriental'</p> <p>Other information provided by authors: degree of deafness; sexuality; HIV status; incidence of unsafe sex; relationship status and structure.</p>	<p><b>Level of evidence:</b> LOW</p> <p>Quality criteria met: A, B, C, J</p> <p>Quality criteria not met: D, E F, G, H, I K, L</p>

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- K: Used appropriate methods for ensuring the data analysis was grounded in the views of MSM
- L: Actively involved MSM in the design and conduct of the study

## APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)

Study	Aims	Sample characteristics	Quality
<b>Studies focused on young men (n=1)</b>			
<b>Warwick et al. (2001)</b>	<p>To identify the HIV-related health promotion needs of young gay men in London, in order to highlight potential areas for action</p> <p>A cross-sectional study collecting data via 'interactive workshops'.</p>	<p><b>Location:</b> London, England  <b>Sample number:</b> 77  <b>Age range:</b> 4, 11-16 year olds; 34 17-20 year olds and 36 who were 21 or over.  <b>Socio-economic status:</b> 31% (n=24) were in full time employment; 18% (n=14) worked part time; 18% (n=14) were unemployed; 3% (n=2) were unable to work on medical grounds  <b>Ethnicity:</b> 'white British' (51%, n=38); 'other' white backgrounds (12%, n=9), Irish backgrounds (8%, n=6) . Men of 'Caribbean heritage' (11% n=8); 'mixed' (9%, n=7), Indian (5%, n=4) or 'other' Asian (4%, n=3)  <b>Other information provided by authors:</b> Qualifications; sexual identity; length of time lived in London; London borough in which lived.</p>	<p><b>Level of evidence:</b> MEDIUM</p> <p><b>Quality criteria met:</b> A, B, C, D, E G J, K</p> <p><b>Quality criteria not met:</b> F, H, I L</p>

**\*Key**

*Quality of study reporting*

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- K: Used appropriate methods for ensuring the data analysis was grounded in the views of MSM
- L: Actively involved MSM in the design and conduct of the study

## APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)

Study	Aims	Sample characteristics	Quality
<b>Studies focused on working class men (n=1)</b>			
<b>Keogh and Dodds (2004)</b>	To examine the experiences of blue collar or working class gay men, focusing on the relationship between socioeconomic status, masculinity, gay identity and HIV morbidity  Cross-sectional study collecting data via face-to-face semi-structured interviews.	<b>Location:</b> London, England <b>Sample number:</b> 39 <b>Age range:</b> 21 to 58 years (mean age = 38). <b>Socio-economic status:</b> all 39 were working class <b>Ethnicity:</b> 30 White British; 4 Mixed ethnicity; 2 Black British; 2 White Irish <b>Other information provided by authors:</b> 11 had positive HIV status; 20 unemployed, 5 unskilled, 11 semi-skilled	<b>Level of evidence:</b> HIGH  <b>Quality criteria met:</b> A, B, C, D, E F, G, H, I J, K, L  <b>Quality criteria not met:</b>
<b>Studies focused on men from ethnic minority groups (n=1)</b>			
<b>Patel et al. (1999)</b>	To explore the sexual health needs of South Asian MSM.  Face to face 'in-depth' interviews.	<b>Location:</b> Not stated <b>Sample number:</b> 16 (interviews) <b>Age range:</b> 18 to 65 years <b>Socio-economic status:</b> Not stated <b>Ethnicity:</b> All South Asian (6 Indian; 1 Pakistani; 2 South Asian; 1 Arabic/Asian; 1 Asian; 1 Asian/Kenyan; 1 Punjabi; 1 Mixed race; 2 not specified.) <b>Other information provided by authors:</b> religious upbringing; parents or own place of birth.	<b>Level of evidence:</b> LOW  <b>Quality criteria met:</b> A,B, J  <b>Quality criteria not met:</b> C, D, E F, G, H, I, K, L

**\*Key**

*Quality of study reporting*

A: Aims and objectives were clearly reported  
B: Adequate description of context of research  
C: Adequate description of the sample and sampling methods  
D: Adequate description of data collection methods  
E: Adequate description of data analysis methods

*There was good or some attempt to establish the:*

F: Reliability of data collection tools  
G: Validity of data collection tools  
H: Reliability of data analysis  
I: Validity of data analysis

*Quality of methods for research with MSM*

J: Used appropriate data collection methods for helping MSM to express their views  
K: Used appropriate methods for ensuring the data analysis was grounded in the views of MSM  
L: Actively involved MSM in the design and conduct of the study



## APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)

Study	Aims	Sample characteristics	Quality
<b>Studies focused on sex workers (n=3)</b>			
<b>Darch (2002)</b>	To identify the influencing factors which lead young men into selling sex to men.  A cross-sectional study collecting data via face to face semi-structured interviews.	<b>Location:</b> Cardiff, Wales; Bristol, England <b>Sample number:</b> 20 <b>Age range:</b> 16-27 years (mean age 18.4 years) <b>Socio-economic status:</b> 100% declared that they were technically homeless; 60% lived in homeless hostels. 25% stayed with punters; 10 stayed with people they knew; 5% slept on street <b>Ethnicity:</b> Not stated <b>Other information provided by authors:</b> engagement in crime; how 'spare' time spent; number of months in social care system.	<b>Level of evidence:</b> MEDIUM  <b>Quality criteria met:</b> A,B,C,D, F,G, J,L  <b>Quality criteria not met:</b> E, H,I, K
<b>Hudson and Rivers (2002)</b>	To explore the experiences and needs of young men who are involved in selling sex in the Bradford district.  A cross-sectional study collecting data via face to face semi-structured interviews.	<b>Location:</b> Bradford, England <b>Sample number:</b> 7 <b>Age range:</b> Not stated <b>Socio-economic status:</b> 3 described themselves as working class; 3 described themselves as middle class; one was unsure. The majority (5) had completed secondary education. <b>Ethnicity:</b> Not stated <b>Other information provided by authors:</b> sexual identity; whether or not they were 'out' to family.	<b>Level of evidence:</b> MEDIUM  <b>Quality criteria met:</b> A,B,C,D,E F,H, J,K  <b>Quality criteria not met:</b> G,I L

**\*Key**

*Quality of study reporting*

- A: Aims and objectives were clearly reported
- B: Adequate description of context of research
- C: Adequate description of the sample and sampling methods
- D: Adequate description of data collection methods
- E: Adequate description of data analysis methods

*There was good or some attempt to establish the:*

- F: Reliability of data collection tools
- G: Validity of data collection tools
- H: Reliability of data analysis
- I: Validity of data analysis

*Quality of methods for research with MSM*

- J: Used appropriate data collection methods for helping MSM to express their views
- K: Used appropriate methods for ensuring the data analysis was grounded in the views of MSM
- L: Actively involved MSM in the design and conduct of the study

**APPENDIX I: Details of views studies: aims, sample, and quality (n=14) (cont'd)**

Study	Aims	Sample characteristics	Quality
<b>Studies focused on sex workers (n=3) (cont'd)</b>			
<b>Kelly and Murphy (1998b)</b>	<p>To highlight the needs of men who sell sex in Wirral, in order to lead to a greater understanding of risk behaviour as well as the context in which it takes place.</p> <p>A cross-sectional study collecting data via face to face semi-structured interviews.</p>	<p><b>Location:</b> Wirral, England  <b>Sample number:</b> 12  <b>Age range:</b> 15 to 29 years (mean age 22)  <b>Socio-economic status:</b> Only two of the men were in regular employment and none of them were homeless. All were educated up until secondary level.  <b>Ethnicity:</b> All white  <b>Other information provided by authors:</b> accommodation; sexuality; relationships; age of first sexual experience</p>	<p><b>Level of evidence:</b> MEDIUM</p> <p><b>Quality criteria met:</b> A, B, C F, G, J L</p> <p><b>Quality criteria not met:</b> D, E, H, I, K</p>

**\*Key**

*Quality of study reporting*

- A: Aims and objectives were clearly reported
- B: Adequate description of context of research
- C: Adequate description of the sample and sampling methods
- D: Adequate description of data collection methods
- E: Adequate description of data analysis methods

*There was good or some attempt to establish the:*

- F: Reliability of data collection tools
- G: Validity of data collection tools
- H: Reliability of data analysis
- I: Validity of data analysis

*Quality of methods for research with MSM*

- J: Used appropriate data collection methods for helping MSM to express their views
- K: Used appropriate methods for ensuring the data analysis was grounded in the views of MSM
- L: Actively involved MSM in the design and conduct of the study

## **APPENDIX J: Methods used for views synthesis**

### ***Methods for production of descriptive themes***

The studies included in the synthesis of MSM's views were examined in three groups. These groups arose partly as a result of a priori groupings (HIV positive MSM vs. other vulnerable groups) and partly as a result of one study of HIV positive MSM being identified only part way through the synthesis as meeting the inclusion criteria.

One reviewer first examined the findings of the studies involving HIV positive MSM in turn and every sentence or paragraph within the report of the findings was assigned a code to describe it (e.g. 'determining HIV status', 'enjoyment of sex'). One further reviewer then examined the findings again, attempting to apply these codes and suggesting additional codes where this seemed appropriate. A total of 19 initial codes resulted. The reviewers then together examined the findings of studies involving men selling sex, working class MSM and young MSM and attempted to assign the 19 codes. An additional two codes resulted. The further study of HIV positive men, noted above, was then added to the synthesis and reviewers together attempted to assign codes to all ten studies. A further six codes resulted.

The reviewers looked for similarities and differences between the total set of 27 codes in order to start grouping them into a hierarchical tree structure. New codes were created to capture the meaning of groups of initial codes. The process resulted in a tree structure with two layers to organize a total of nine descriptive themes. A narrative summary of the findings across the studies organized by the nine descriptive themes was written for each of the four groups of MSM in turn.

### ***Methods for production of analytical themes/ barriers and facilitators***

- 1) To produce an analytical framework, we amalgamated two definitions: i) of sexual health (Robinson *et al.*, 2002) and; ii) of the HIV prevention needs of MSM that could meet the CHAPS strategic aim of reducing sero-discordant UAI, condom failure and HIV positive to HIV negative semen transfer (Hickson *et al.*, 2003a: p. 24).

Robinson and colleagues (2002) definition includes eight aspects of sexual health, the five labelled a, b and d to f below, and the following three: 'ability to act intentionally and responsibly and to set appropriate sexual boundaries', 'freedom from sexually transmitted diseases', 'freedom from sexual assault and coercion'. The latter three were considered similar to, but distinct from, the set of HIV prevention needs outlined in Hickson *et al.* (summarised by c below). A merging of the two definitions took into account: i) our (and CHAPS) understanding that MSM need to be empowered in order to act to reduce their contribution to HIV incidence; and ii) this review's emphasis on HIV-related sexual health. This produced the following operational definition:

**HIV-related sexual health** is enjoyment of the following:

- The ability to be intimate with a partner and to communicate explicitly about sexual needs and desires
- The ability to be sexually functional (to have desire, become aroused and obtain sexual fulfilment)
- Having control over sexual STI exposure (including HIV), which means:
  - having control over the sex that they have

- able to invite/decline sexual contact, to manage/assert own sexual boundaries, no rape/assault/exploitation, own sexuality not a problem, own sex behaviour not a problem if not a problem to sexual partners...
- being equipped/competent to negotiate sex
  - self-confidence, interpersonal skills, access to appropriate condoms and lubricant, skills to use condoms and lubricant correctly, free from internal conflicts and dilemmas about sex and sexuality
- being knowledgeable about HIV /STIs
  - their exposure, transmission and prevention (including no straightforward relationship between viral load and infectiousness)
- being aware of possible consequences of sexual actions
  - that HIV-infected MSM and HIV-uninfected men can be found anywhere, how unreliable many ways of ascertaining HIV status can be, of possibility that HIV infections can remain undiagnosed, that willingness to have UAI doesn't indicate HIV status, that MSM may not reveal their HIV status (whether negative, positive or unknown), that the more partners they have UAI with, the more likely it is to be involved in sexual HIV exposure
- having control over condom failure
- testing, STI and HIV care services/resources (which means):
  - being knowledgeable about/ equipped to use/ aware of/ empowered for/ having access to such services/resources.
- acceptance and respect for self and others, which includes respect and appreciation for individual differences and diversity and a sense of self-esteem, personal attractiveness and competence
- feeling of belonging to and involvement in one's sexual culture(s)
- freedom from sexual dysfunction

We then considered :

- 1) which aspects of their sexual health men themselves attributed to specific factors/situations/circumstances whether these factors/situations/circumstances were seen as helpful or as a hindrance
- 2) the salience of different aspects of men's HIV-related sexual health apparent in men's own descriptions of their lives (i.e. what is most problematic and in what way?)

The first set of factors were then described as barriers or facilitators, dependent on whether they were described as reducing or benefiting HIV-related sexual health

These barriers and facilitators were then ordered into those that were inherent to:

3. MSM themselves (i.e. were attributes belonging to the MSM who were giving their views)
4. a broader community (which could include other MSM, but also other members of the general public)
5. services
6. policy makers

In several cases, the barrier or facilitator appeared to be one that could be inherent to more than one constituency and so appears in a table in two positions. These are cross-referenced where this occurs.

The second set of factors, particularly salient aspects of men's lives, were examined across the four groups of vulnerable MSM. Those that occurred in more than one group were examined to see if barriers to or facilitators of HIV-related sexual health and implications for interventions could be inferred.

## **APPENDIX K: Reports studied in the in-depth review**

Where more than one report was used to complete data extraction and quality appraisal, the report cited in the text of this review has been listed first. All reports are listed in full in the reference list.

### **Reports of outcome evaluations**

- 1. Dahl *et al.* (1997)**
- 2. Dilley *et al.* (2002b)**  
*Dilley et al.* (1997)  
*Woods et al.* (1999a)  
*Woods et al.* (1999b)  
*Dilley et al.* (2002a)
- 3. Dockrell *et al.* (1999)**
- 4. Elford *et al.* (2001)**  
*Elford et al.* (2000)  
*Elford et al.* (2002)
- 5. Flowers *et al.* (2002)**  
*Frankis et al.* (1999)  
*Williamson et al.* (2001)  
*Flowers and Hart* (1999)  
*Williamson and Hart* (2002)  
*Flowers et al.* (2000)
- 6. Gold and Rosenthal (1998)**
- 7. Imrie *et al.* (2001c)**  
*Barrett et al.* (1996)
- 8. Martin *et al.* (2001)**
- 9. Picciano *et al.* (2001)**  
*Rutledge et al.* (2001)  
*Rutledge et al.* (1999)
- 10. Rosser *et al.* (2002)**
- 11. Shepherd *et al.* (1997)**  
*Shepherd* (1995)  
*Shepherd et al.* (1999)  
*Shepherd* (1997)
- 12. Turner and Heywood (2000)**  
*Turner and Mallett* (2000)  
*Turner and Mallett* (1998)

### **Reports of studies of MSM's views**

- 1. Darch (2002)**
- 2. Davis *et al.* (2002b)**
- 3. Docherty (2002)**  
*Lochart-Muir and Docherty* (1999)  
*Docherty* (1999b)  
*Docherty* (1999a)
- 4. Hudson and Rivers (2002)**
- 5. Kelly and Murphy (1998b)**  
*Murphy* (1997)

- 6. Kelly and Murphy (1998a)**  
Murphy (1997)
- 7. Keogh *et al.* (1999)**
- 8. Keogh and Dodds (2004)**
- 9. Patel *et al.* (1999)**
- 10. Reeves (1999)**
- 11. Rooney & Taylor (1997)**
- 12. Stephenson *et al.* (2003b)**  
Imrie *et al.* (2001d)  
Imrie *et al.* (2002)  
Stephenson *et al.* (2002)  
Stephenson (2001)  
Davis *et al.* (2002a)  
Imrie *et al.* (2001a)  
Stephenson *et al.* (2001)  
Imrie *et al.* (2001b)  
Davis *et al.* (2002b)
- 13. Ward (2002)**
- 14. Warwick *et al.* (2001)**

## APPENDIX L: Study-By-Study breakdown of outcome evaluations

Table L1. Methodological quality of outcome evaluations included in the in-depth review (N=12)

Study	Dahl <i>et al.</i> (1997)	Dilley <i>et al.</i> (2002b)	Dockrell <i>et al.</i> (1999)	Elford <i>et al.</i> (2001)	Flowers <i>et al.</i> (2002)	Gold and Rosentha l (1998)	Imrie <i>et al.</i> (2001c)	Martin <i>et al.</i> (2001)	Picciano <i>et al.</i> (2001)	Rosser <i>et al.</i> (2002)	Shepherd <i>et al.</i> (1997)	Turner and Heywood (2000)	T O T A L
<b>Quality Criteria</b>													
Impact of the intervention reported for all outcomes	✓	✓	X	X	✓	X	✓	✓	X	✓	X	X	6
Equivalent study groups at baseline	X	✓	X	X	X	✓	✓	X	✓	✓	✓	X	6
Pre-intervention data reported..	X	✓	X	✓	✓	X	✓	X	X	X	✓	X	5
Post-intervention data reported	X	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	X	9
<b>Final judgement by reviewers</b>													
sound		✓					✓						2
sound despite ...				✓	✓	✓			✓	✓	✓		6
not sound	✓		✓					✓				✓	4



**Table L2: Types of needs assessment which initiated the interventions evaluated by the outcome studies in the in-depth review (N=12)**

Needs assessment type	Dahl <i>et al.</i> (1997)	Dilley <i>et al.</i> (2002b)	Dockrell <i>et al.</i> (1999)	Elford <i>et al.</i> (2001)	Flowers <i>et al.</i> (2002)	Gold and Rosenthal (1998)	Imrie <i>et al.</i> (2001c)	Martin <i>et al.</i> (2001)	Picciano <i>et al.</i> (2001)	Rosser <i>et al.</i> (2002)	Shepherd <i>et al.</i> (1997)	Turner and Heywood (2000)	TOTAL
Based on normative need	X	✓	✓	✓	✓	X	X	✓	✓	✓	✓	✓	9
Based on felt need	X	X	X	X	✓	X	X	X	X	X	✓	✓	3
Based on expressed need	X	X	X	X	X	X	X	X	X	X	✓	X	1
Not stated	✓	X	X	X	X	✓	✓	X	X	X	X	X	3

**Table L3. Processes evaluated and methods used in outcome evaluation studies with integral process evaluations (N=6)**

	Elford <i>et al.</i> (2001)	Flowers <i>et al.</i> (2002)	Gold and Rosenthal (1998)	Picciano <i>et al.</i> (2001)	Shepherd <i>et al.</i> (1997)	Turner and Heywood (2000)	TOTAL
<b>Processes evaluated</b>							
Perceptions, understanding or acceptability	✓	✓	✓	X	✓	✓	5
Accessibility	✓	✓	X	✓	✓	X	4
Content	✓	✓	X	X	✓	X	3
Implementation/delivery	✓	✓	X	✓	✓	✓	5
Skills & training of providers	✓	✓	X	X	✓	X	3
Costs	✓	X	X	X	X	X	1
Management & responsibility	X	✓	X	X	X	X	1
<b>Methods used to collect process data</b>							
Documentation	✓	✓	X	X	X	X	2
Focus group	✓	✓	X	X	✓	✓	4
Interview	X	✓	X	X	✓	✓	3
Self complete	X	✓	✓	✓	X	✓	4