

Report: July 2010

# Partnership patterns and HIV prevention amongst men who have sex with men (MSM)

## Foreword

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How relevant to HIV transmission are the numbers of partners and patterns of sexual partnership amongst men who have sex with men (MSM)? Should our HIV prevention work amongst MSM try to address partnership patterns or should we stick solely to the message ‘use condoms 100% of the time’ as the way to avoid HIV transmission? These are difficult and controversial questions - but they cannot be avoided by the HIV sector in the UK. HIV remains a life-limiting and life-threatening condition, and with over 2,500 new HIV diagnoses amongst MSM each year we must constantly look at what we are doing in HIV prevention and consider how to do better.

The work on this report began with an expert seminar nearly a year ago. In all our expert seminars NAT aims to raise issues for fresh consideration in the HIV sector. We do not claim to know all the answers to the questions we pose, nor have worked out every possible implication. We do, however, address issues which we believe to have been relatively neglected and which require a serious and thought-through response.

MSM partnership patterns is one such issue. Is it possible to address partnership patterns and so reduce HIV incidence, whilst respecting the human rights of MSM and avoiding homophobia and stigma? NAT believes it is both possible and necessary. We also believe that working out how we take on board partnership patterns in our prevention work is best agreed not by just one organisation but by the HIV sector as a whole. As a start, we hope the recommendations in this report are implemented. But we also look forward to working with colleagues across the HIV sector as we consider in more detail how practically and ethically we might influence MSM partnership patterns to reduce HIV harm.

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## Part 1

# Introduction

In 2009 NAT decided to look into the issue of partnership patterns amongst men who have sex with men (MSM) and their relevance to HIV prevention work in the UK. Internationally HIV prevention messages tend to emphasise not just condom use but also reducing the number of sexual partners. But the national HIV prevention framework for MSM in England (and indeed approaches to MSM prevention in comparable contexts elsewhere) has not historically attempted to influence partner numbers. NAT wished to consider the rationale for these differences in approach and whether there is a case for MSM HIV prevention in the UK to aim to influence partnership patterns.

Further impetus to look in detail at the issue came from the recently published African HIV prevention framework in England ('The knowledge, the will and the power') which does seek to influence partner numbers, and a 2008 Report from the Health Protection Agency on 'Sexually Transmitted Infections and Men who have Sex with Men' which recommended that MSM should 'have fewer sexual partners, and avoid overlapping or concurrent sexual partnerships'.<sup>1</sup>

In June 2009 NAT held an expert seminar to encourage HIV sector consideration of this issue and develop NAT's own thinking. There were excellent presentations from Professor Jonathan Elford, City University, Professor Paul Flowers, Glasgow Caledonian University, Professor Graham Hart, University College London, and Dr John Imrie, University of New South Wales, Australia. There was also very engaged discussion by all those attending the event. The presentation slides can be found on NAT's website. We also refer where appropriate in this paper to points made during the expert seminar.

This paper is a product both of material and ideas shared at the seminar, and also of further discussion both within NAT and with other HIV sector colleagues. NAT alone is responsible for the conclusions and recommendations of this paper. We trust it will stimulate consideration of how we might best improve our efforts in HIV prevention amongst MSM.

## The five key principles which guide NAT's consideration of this issue are:

- ▶ **There is no single 'magic bullet' or easy answer to the challenge of HIV prevention among MSM**
- ▶ **The human rights of MSM must be central to MSM health promotion**
- ▶ **MSM health promotion must value and respect gay men, gay communities, gay men's sexuality and gay sex**
- ▶ **MSM have the right to know about behavioural strategies which may reduce their risk of acquiring HIV infection – this is part of the right to healthcare and to universal access to prevention**
- ▶ **Evidence must inform our prevention efforts**

**This paper is drafted on the basis of these principles.**

1: 'Sexually Transmitted Infections and Men who have Sex with Men in the UK: 2008 Report' Health Protection Agency 2008

## Part 2

# Why do partnership patterns matter?

## The impact of multiple partnerships

### Likelihood of acquiring STIs, including HIV, increases with an increasing number of sexual partners.

In recent years there has been increasing interest in the influence of patterns of sexual relationships on the spread of HIV. Rates of unprotected sex do not by themselves adequately explain the significant differences in HIV epidemic between different countries and regions and between different sub-populations.

The national HIV prevention frameworks in England for MSM and for black African men and women ('Making it count' for MSM, and 'The Knowledge, the Will and the Power' for black Africans) both state that **increased numbers of sexual partners are relevant to the risk of HIV infection**. For example 'The Knowledge, the Will and the Power' states, 'The more sexual partners someone has, the more likely one of their partners will have a different HIV status. So people with multiple sexual partners, such as homosexually active men, commercial sex workers, and people in (formal or informal) polygamous relationships, are more likely to have sero-discordant sex than those with fewer partners'.<sup>2</sup> This point was also made by a number

of participants at the NAT expert seminar. It is certainly the case that the probability of having sex with someone of a different HIV status increases with the number of sexual partners you have. This has been a fundamental insight into the spread of sexually transmitted infections, linking numbers of partners to risk of STI infection and STI incidence. Of course incidence is also affected by other factors such as condom use, overall STI prevalence in a population and in a sexual network, and sexual mixing - factors we will consider further.

Recent results from the Gay Men's Sex Survey (GMSS) conducted by Sigma Research suggests the correlation between high numbers of sexual partners and infection with STIs including HIV – 'Numbers of sexual partners was strongly associated to HIV testing history, HIV diagnosis and diagnosis of other STIs'.<sup>3</sup> For example, 20.9% of those with 30 more partners in the last year were HIV positive (i.e had received a positive diagnosis) compared with 6.6% of those with between two and four partners in the last year. Gonorrhoea was reported in the last year for 16.1% of HIV positive men with 30 or more partners and 6.6% of men not tested positive with 30 or more partners, compared with 4.9% and 1.2% respectively for those with

between two and four partners. Sigma Research concluded, 'The probability of acquiring (and currently being infected by) any sexually transmitted infection, including HIV, increases with increasing numbers of sexual partners'.

## Multiple partnerships and the prevalence of STIs on HIV incidence

### Multiple partnerships increase transmission of STIs amongst MSM - and these increasingly prevalent STIs also increase transmission of HIV.

When thinking about partner numbers and the spread of HIV, it is important also to think about the corresponding spread of other STIs in the population. Infection with an STI significantly increases both vulnerability to HIV infection and the infectiousness of someone with HIV. This link is not simply an association resulting from both being caused by the same behaviour. STIs such as syphilis, herpes, gonorrhoea, Chlamydia and bacterial vaginosis all result in lesions or inflammations which may increase the risk of HIV transmission.

MSM in the UK are disproportionately affected by sexual ill-health – accounting, for example, for 30% of

2: 'The Knowledge, the Will and the Power' Sigma Research et al 2008 4.1

3: 'Testing targets: Findings from the UK Gay Men's Sex Survey 2007' Sigma Research 2009 4.1.3

all men diagnosed with gonorrhoea in 2007.<sup>4</sup> Putting aside the direct impact of multiple partnership on HIV transmission, if high prevalence of STIs in the MSM population increases HIV incidence, and if those high STI rates are clearly linked to partner numbers, there is already a significant indirect impact of partnership numbers on HIV transmission. It is worth noting that condom use for intercourse, whilst effective for HIV prevention, does not protect from all STI transmission, reinforcing the case for interventions around multiple partnership, alongside the promotion of condoms.

### Monogamy and multiple partnerships

**Even if you have one or very few partners, if the MSM population generally has high rates of partner numbers, the resulting higher rates of HIV amongst MSM increase your risk of acquiring HIV.**

It has rightly been pointed out that 'One problem with interventions into monogamy and reduction in the number of sexual partners is that it takes two people to be monogamous'.

Someone may have only one partner – and indeed have a relationship of trust and intimacy in which condoms are not used. But if that trusted partner in fact has other sexual partners (and quite possibly those partners other partners, and so on) the monogamous individual is at high risk of HIV infection.

Many of those who become infected within a sexual network of multiple

relationships will themselves have only one or two partners, but be linked to a group of men with multiple partners. 'It is the patterns of behaviour of those in the tail of the distribution, i.e., the few with many partners, that dominates the epidemiology of STIs. This remains true even when many with a low number of partners acquire infections because despite their ... position in the sex partner network they will not go on to transmit many new infections'.<sup>6</sup>

An individual MSM with multiple partners is increasing his risk of acquiring (and passing on) HIV. A population of MSM with high rates of multiple partnership means an increased risk of acquiring HIV (to differing degrees) for all sexually active men in that population. The fact that significant numbers of MSM with one or very few partners also get HIV does not undermine the claim that multiple partnership is a key driver of the epidemic. When considering an epidemic it is useful to think not only about the behaviour of an individual but also the individual's position within sexual networks and sub-populations and about the behaviours of a population as a whole – a point to which we return later in this paper.

### Concurrency

**It is probable that concurrent or 'overlapping' sexual partnerships are a significant factor in the spread of HIV amongst MSM because they create efficient routes for transmission during the highly infectious period of primary HIV infection.**

Thinking on how partnership patterns affect HIV incidence has recently developed the concept of 'concurrency'. This is not simply about the number of sexual partners an individual has. It is about how many 'overlapping' sexual partners an individual has over a given period. A UNAIDS Reference Group in 2009 recommended as a definition of concurrent sexual partnerships: 'Overlapping sexual partnerships in which sexual intercourse with one partner occurs between two acts of intercourse with another partner'.<sup>7</sup>

In The Lancet in 2004<sup>8</sup> Halperin and Epstein discuss high HIV prevalence in Africa and claim that concurrent partnerships help explain it. Although the social and cultural organisation of sexual conduct in these contexts is different from MSM within the UK, this research can still illuminate the issue of concurrency. Halperin and Epstein state that 'African men typically do not have more sexual partners than men elsewhere' and that 'Men and women in Africa report roughly similar, if not fewer, numbers of lifetime partners than do heterosexuals in many western countries'. However, unlike the serial monogamy common in the west or the one-off casual and commercial sexual encounters that occur everywhere, 'African men and women often have more than one – typically two or perhaps three – concurrent partnerships that can overlap for months or years'.

This analysis of the impact of concurrency on the sub-Saharan African epidemic is developed further

4. See 'Sexually Transmitted Infections and Men who have Sex with Men in the UK: 2008 Report' Health Protection Agency 2008

5. 'Preventing HIV' NAM 2008 second edition ed Gus Cairns p.30

6 'Inferring Mechanisms for Sexual Partnership Formation From the Distribution of Sexual Partner Numbers' Garnett Sexually Transmitted Diseases Vol 35(1) Jan 2008 41-4

7 Working Group on Measuring Concurrent Sexual Partnerships The Lancet Vol 375 Issue 9715 621-622

8 'Concurrent sexual partnerships help to explain Africa's high HIV prevalence: implications for prevention' Halperin and Epstein The Lancet Vol 364 Issue 9428 4-6

## Part 2

in Helen Epstein's book 'The Invisible Cure' where she illustrates the very different impacts of concurrency and serial monogamy on the spread of HIV infection in a population (see Figures 1 and 2).

Figure 1: Concurrency

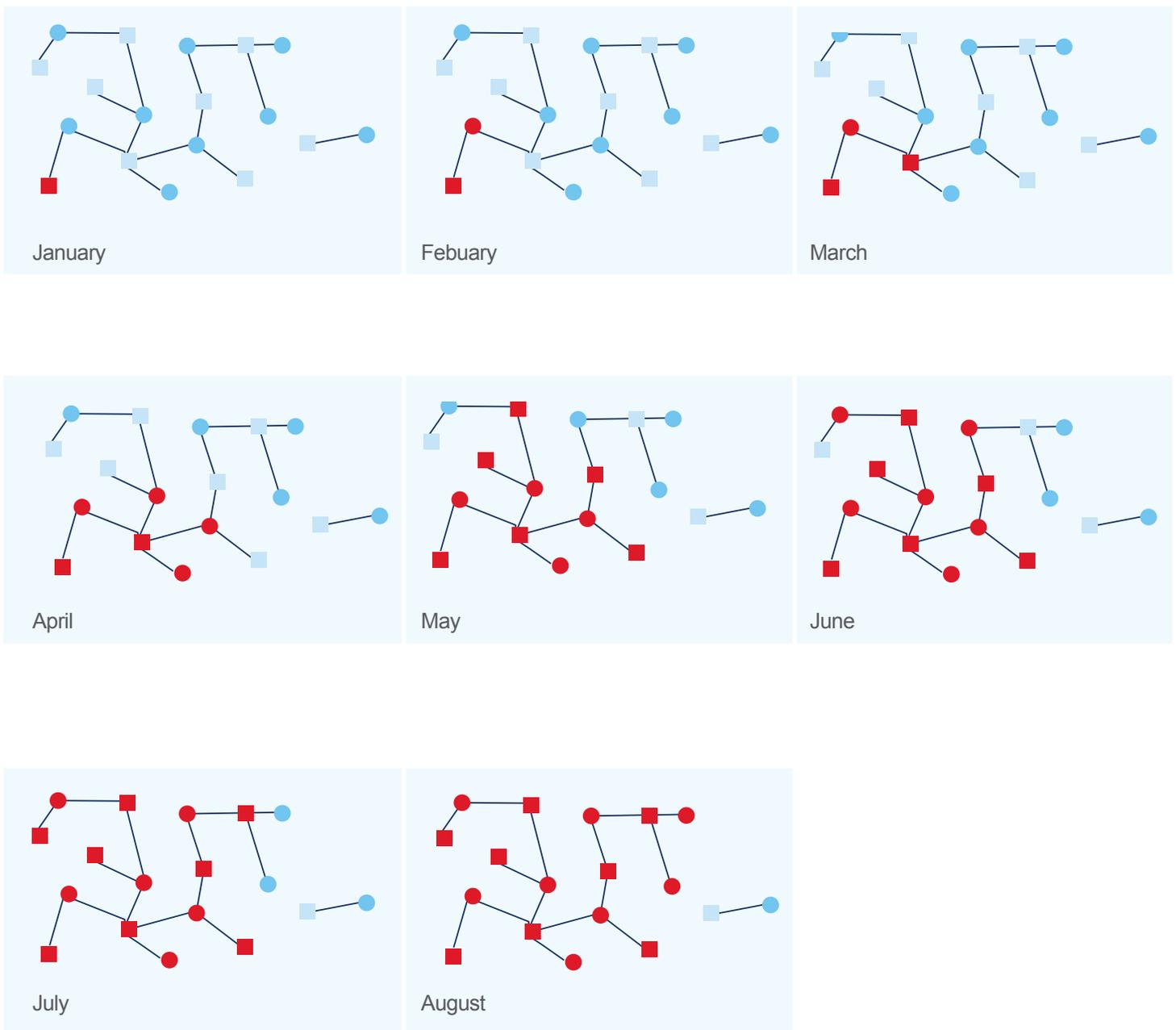
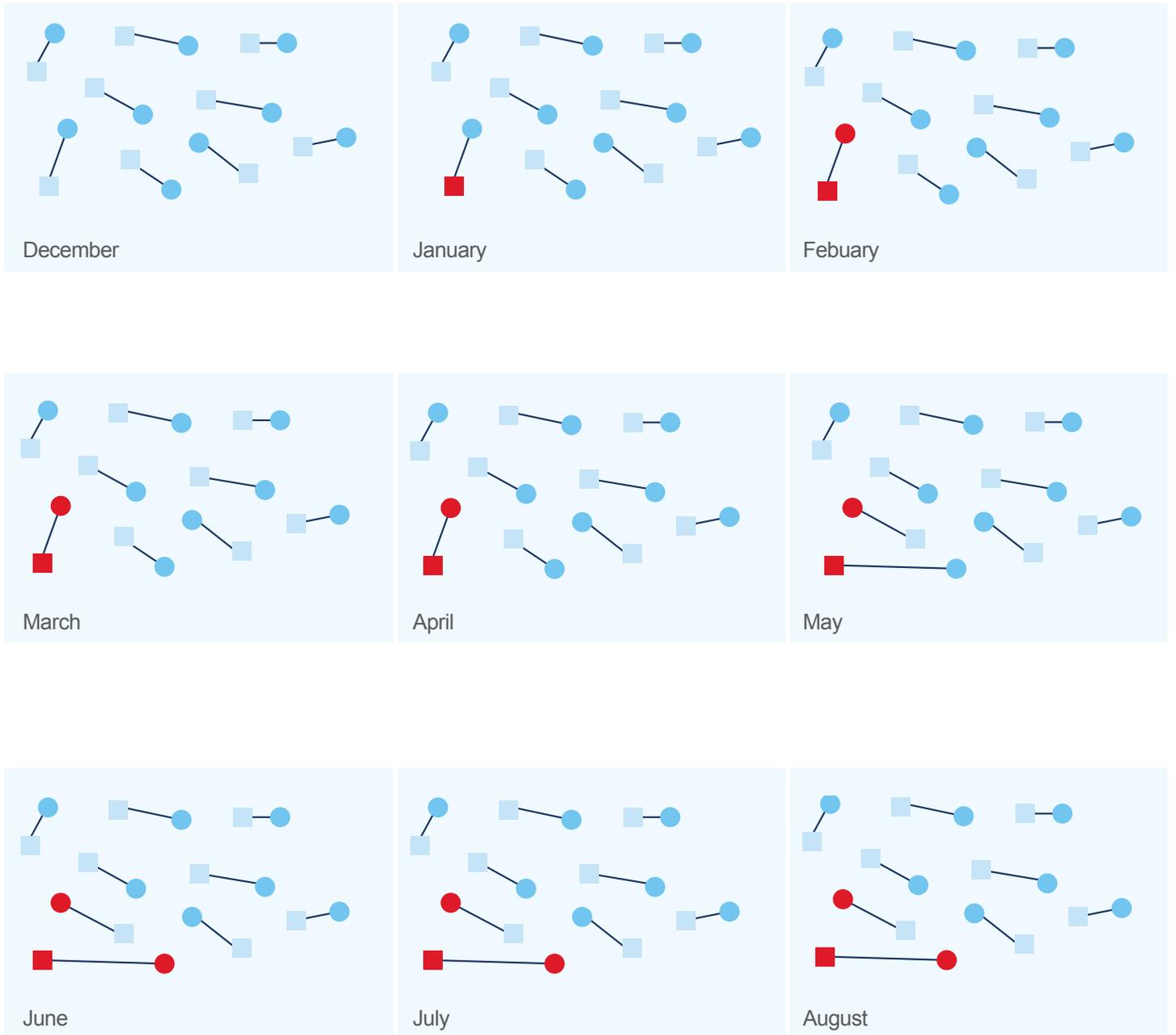


Figure 2: Serial monogamy



## Part 2

She describes the initial important work undertaken on concurrency by Morris and Kretzschmar, and then makes the link between the high viral load of primary infection and the differing impacts on incidence of concurrency and serial monogamy:

‘A recently infected person may be a hundred or even a thousand times more likely to transmit the virus than someone who has been infected for a few months or a few years. This means that sexual networks in which some people [have sex] with two or three partners at intervals of days or weeks are probably even more [likely to facilitate HIV transmission] than [previous research] predicted they were.

The existence of a period early in infection when transmission is especially likely also sheds light on why HIV spreads so slowly in populations practising serial monogamy. By the time our serial monogamist has moved on to a new partner, his viral load will have fallen, so he is unlikely to infect her’.<sup>9</sup>

Professor Geoff Garnett from Imperial College, London, who has also undertaken important research around partnership patterns, similarly wrote as early as 1998 that ‘concurrent partnerships provide almost instantaneous chains for transmission’ if ‘HIV is only highly transmissible early on in infection’.<sup>10</sup>

Primary HIV infection<sup>11</sup> is the period after an individual has been infected with HIV and before they have produced sufficient antibodies to reduce

significantly their viral load and stabilise their condition. The period of primary HIV infection usually lasts for between three and six months from the date the person was infected. A significant proportion (perhaps between 30 and 50 per cent) of onward HIV transmissions are believed to be from people who are themselves in this temporary primary infection stage.<sup>12</sup> This is because of the extremely high viral load during this stage of infection.

It is also the case, as has been stated above, that STI co-infection significantly increases the risk of HIV transmission. This is not only because of the vulnerability associated with ulcers and inflammation. Professor Graham Hart at the expert seminar highlighted that STI co-infection results in an increase in viral load which results in increased odds of transmission to a susceptible partner per unprotected coital act. He cited a presentation<sup>13</sup> which found a transmission rate ratio of 5.99 for having an STI at transmission compared with 1 for no STI at transmission. It was the single most significant factor in the study linked to HIV transmission.

These shorter periods of high infectivity during HIV infection help explain how concurrent sexual networks are especially efficient at spreading HIV in a sexually ‘connected’ population. This has very important implications for how we think of both condoms and partnerships in relation to risk of HIV infection. Different partners will be at different stages of infectiousness – some will be very infectious, others will be as good as non-infectious

(if their viral load is suppressed through adherence to effective anti-retroviral therapy). There is, in more technical terms, ‘a heterogeneity in risk between partnership’.<sup>14</sup> Likelihood of transmission varies greatly according to partner, the more the partner is changed the more one puts oneself at risk. In observed transmission in heterosexual relationships, with a new partnership there is a significant increase in risk of infection for a few sexual acts but the risk does not continue to increase with the number of sexual acts, rather it levels off.<sup>15</sup> So whilst 100% condom use with all new sexual partners would remove significant risk of infection, a partial improvement in condom use would have limited impact in these circumstances on risk of infection when compared with not having a new sexual partner in the first place.

This has important implications for prevention strategies which focus on condoms to the exclusion of other factors. In the real world prevention interventions aiming to increase condom use will not universally secure that 100% outcome – in which case the relevance of partner change becomes very significant.

Whilst empirical observations have been used to demonstrate the plausibility of this analysis of concurrency, much of the research has been at the level of modelling and biological plausibility. It is clear that further empirical research is needed to identify exactly how concurrency contributes to incidence. But the model appears highly plausible.

9. Helen Epstein ‘The Invisible Cure: Africa, the West, and the Fight Against AIDS’ Viking 2007 pp. 60-61

10 ‘The Basic Reproductive Rate of Infection and the Course of HIV Epidemics’ Garnett AIDS Patient Care And STDs 1998 Vol 12 No 6

11. For more information see ‘Primary HIV Infection’ NAT July 2008

12 ‘Primary HIV Infection’ NAT July 2008

13 ‘The Basic Reproductive Rate of Infection and the Course of HIV Epidemics’ Garnett AIDS Patient Care And STDs 1998 Vol 12 No 6

14. ‘The Basic Reproductive Rate of Infection and the Course of HIV Epidemics’ Garnett AIDS Patient Care And STDs 1998 Vol 12 No 6

15. ‘The Basic Reproductive Rate of Infection and the Course of HIV Epidemics’ Garnett AIDS Patient Care And STDs 1998 Vol 12 No 6

As outlined above, most of the research on the impact of concurrency has been on heterosexually transmitted HIV in sub-Saharan Africa. It is necessary for research to start also looking at MSM. Overlapping or concurrent sexual relationships do appear to be a feature of the lives of many MSM in the UK but it is unlikely they are structured or 'paced' in the same way as heterosexual relationships in sub-Saharan Africa. For example, some MSM have a small number of long-term partners; some have group sex (for example regularly using commercial sex venues); some have one long-term partner and sexual relations with others of which some are one night stands and others of longer but still temporary duration. Furthermore, sexual behaviours of many individuals vary (anal sex, condom use, and so on) depending on the nature of the sexual relationship (for example, long-term partner or one-off sauna contact).

In addition to researching the extent and nature of concurrency in UK MSM sexual behaviours, it may also be the case in relation to the highly infectious periods of primary infection or STI co-infection that a rapid turnover of sexual partners in a group of MSM, even if 'serial' rather than concurrent, has an effect on transmission in some ways similar to concurrency of longer term relationships, particularly given the increased vulnerability to infection from anal, as opposed to vaginal, sex.

### **'Sexual mixing'**

**Another important factor in the high rates of HIV transmission amongst MSM is 'sexual mixing' - where men with fewer partners have sex with men who have high numbers of partners.**

Another way in which partnership patterns can influence the spread of HIV is the pattern of sexual 'mixing' in a population. If MSM with a high number of sexual partners only have sex with other MSM with a high number of sexual partners, then HIV will spread rapidly in this sub-population but much more slowly in the MSM population as a whole. This is known as 'assortative mixing'. If, however, MSM with few partners are also having sex with MSM with high numbers of partners (known as 'disassortative mixing'), this allows HIV to spread at a greater rate in the whole MSM population.

Professor Graham Hart at the expert seminar raised the issue in relation to the higher prevalence of HIV amongst African American MSM compared with white American MSM.<sup>16</sup> This is despite evidence that African American MSM have lower rates of substance misuse and sexual risk-taking compared with white American MSM. There is, however, also research which suggests African American MSM are more likely to have significantly older (or younger) sexual partners, and are more likely to have HIV positive sexual partners (itself a function of their being more likely to have sex with other African American MSM – a smaller

sexual network where as a result one will be more likely to have sex with someone with HIV).

If MSM in the UK with few sexual partners are nevertheless having sex with men who themselves have a higher number of partners, this mixing is a further 'partnership pattern' which spreads HIV through the MSM population as a whole.

16. Graham Hart presentation NAT seminar

## Part 3

# Partnership patterns amongst MSM in the UK

## Available evidence indicates many MSM in the UK have high numbers of sexual partners and that there are significant opportunities for sexual mixing.

Given the importance of partnership patterns to HIV transmission, we should look at what we know about such patterns amongst MSM in the UK. The 2007 Gay Men's Sex Survey states:

'As every year, respondents were very varied in their number of sexual partners. Among the men who had a male sex partner in the last year, 21.4% indicated they had one male partner only; 27.6% had two, three or four male partners; 24.4% had between five and twelve male partners; 13.4% had between thirteen and 29 male partners; and the remaining 13.4% had thirty or more male partners in the last year'.<sup>17</sup>

John Imrie also presented data on numbers of sexual partners amongst HIV positive MSM at the NAT seminar which found a median of 12 partners in the year.<sup>18</sup> 25% of the men reported 35 or more sexual partners in the last year. These 89 HIV positive men with more than 35 partners a year also accounted for nearly 80% of all reported sexual contacts in the sample (11,077 of the total of 13,969 sexual contacts).

This demonstrates the 'reach' of those with many partners in a sexual network, even where they are in a minority.

High rates of STI infection in a population are also indicators of multiple partnership and ongoing HIV transmission. As has been previously stated, MSM in the UK experience not only high rates of HIV but also other STIs such as gonorrhoea and syphilis. STI infection is strongly associated with higher numbers of sexual partners and with HIV positive status. For example LGV (Lymphogranuloma venereum) has also affected MSM, with a cumulative total of 672 cases to the end of August 2008. The HPA states that 'The proportion of LGV cases reporting more than five sexual partners within the past three months was 31% for those co-infected with HIV and 21% without HIV co-infection'.<sup>19</sup>

The HPA goes on to say that 'In 2007 32% [105/324] of gonorrhoea, 40% (556/1,394) of syphilis, 78% (118/152) of LGV and 97% of hepatitis C (28/29) [MSM] cases reported through enhanced surveillance were also infected with HIV'.<sup>20</sup>

In short, evidence suggests a strong association between higher partner

numbers and infection with HIV as well as other STIs. A number of factors may well be relevant – the direct impact of partner numbers on risk of infection; the biological interaction between HIV infection and infection from other STIs; the low levels of condom use amongst diagnosed HIV positive men who are serosorting (that is, seeking to have sex with those of the same HIV status as themselves).

There is some evidence on sexual mixing in the MSM population between those with high and those with low numbers of sexual partners. The Gay Men's Sex Survey 2007<sup>21</sup> looks at where MSM meet new sexual partners and disaggregates the data by number of partners in the previous 12 months. There are some settings which are much more commonly used by men with a high number of partners – saunas, backrooms and cruising grounds. There are others which are commonly used both by men with a high number of sex partners and those with far fewer – such as the internet and pubs/clubs. Whilst by definition those with most partners more frequently use all locations for meeting men, the two most commonly used settings – the internet and pub/club – are equally the most popular for all men irrespective

17. 'Testing times: findings from the Gay Men's Sex Survey 2007' Sigma Research 2009

18. John Imrie presentation NAT seminar

19. 'Sexually Transmitted Infections and Men who have Sex with Men in the UK: 2008 Report' Health Protection Agency 2008

20. 'Sexually Transmitted Infections and Men who have Sex with Men in the UK: 2008 Report' Health Protection Agency 2008

21. 'Testing targets' Sigma Research 2009 4.1.3

of number of sexual partners. Some diagnosed HIV positive men will in fact use the internet exclusively to 'serosort' other positive men for sex. But not all do, and some serosorting may not be that effective (for example, the man who believes he has disclosed his HIV positive status simply by stating 'Needs discussion' for the safer sex entry on his internet profile and has unprotected sex with a bisexual married man who thinks this is a disclosure of negative status). Furthermore, whilst 20% of MSM with 30 or more partners in GMSS 2007 had been diagnosed HIV positive, 80% had not, of whom many have either undiagnosed HIV or are at high risk of HIV infection. This latter group will presumably not be serosorting for other HIV positive gay men but may well be at risk at some point of passing HIV on to sexual partners.

The concentration of men with high numbers of partners in a range of venues such as parks, saunas and backrooms has a major impact on the transmission of HIV and STIs amongst these MSM. But the fact these men also mix sexually in networks used equally by those with fewer partners such as the internet and clubs results in the kind of 'sexual mixing' which spreads HIV widely and efficiently in the MSM population. In summary, we have some information on partner

numbers amongst MSM, but we do not have consistent information of trends over time. Nor do we have much information on the patterns of those relationships (how many for example are 'one-off encounters', how many sustained relationships, how many are concurrent). More information is also necessary on the level of sexual mixing. One reason for this lack of information may be that in the past its epidemiological significance may not have been well understood, or may have been thought too sensitive to collect.

A significant proportion of MSM have a high number of sexual partners, and these men have sex with each other (the 'core of the core'), thus facilitating the spread of HIV and other STIs, but also have sex with other MSM who themselves have fewer partners ('the edge of the core'). This sexual organisation is a major determinant of HIV incidence in the MSM population.

**“ High rates of STI infection in a population are also indicators of multiple partnership and ongoing HIV transmission. As has been previously stated, MSM in the UK experience not only high rates of HIV but also other STIs such as gonorrhoea and syphilis.**

## Part 4

# Population Prevention v Individual Prevention

**A number of factors contribute to reduction in HIV incidence in a population - some may have immense impact at the population level whilst not being suitable as the only preventive action for an individual.**

When discussing HIV prevention there can be a focus on information an individual needs to know and act on in order to keep him- or herself, and/or their partner, safe from infection. Even when considering structural factors, those factors may be emphasised which affect an individual's decision-making and capability to act on their knowledge - for example the impact of homophobia on the self-esteem of gay men and their personal investment in a healthy future. But it is important when discussing a strategic approach to HIV prevention amongst MSM to consider not only individually based prevention but also population-based prevention.

There is of course a strong relationship between the aim of protecting an individual from HIV infection and the aim of reducing the number of HIV infections in a population. But they are not identical. Public health aims at the population level tend to be about addressing factors that lead to a reduction in overall population incidence

and prevalence rather than preventing a single case.

Some prevention interventions may not be addressed towards individuals but instead at wider factors which affect, for example, opportunities for multiple and concurrent partnerships independently of an individual's decision-making. We discuss below various factors which at the population level have an influence on the prevalence of multiple or concurrent partnership.

Some interventions may reduce risk so as to have a large (possibly the largest) impact at the population level on the number of new HIV infections, but may not be enough by themselves to reassure an individual that they can be confident they will not get HIV in the absence of other protective measures. A number of the 'risk reduction strategies' recently debated in the sector could fall into this category – circumcision is one example. Reduction in multiple partnerships is another.

Some interventions affect population incidence but are not directly relevant to the individual's risk of acquiring HIV. For example, Garnett and Johnson, when discussing concurrency, state, 'For individuals [the number of sexual partners] dominates the risk of acquiring a sexually transmitted disease such

as HIV, but within a population the incidence and prevalence of an STD is the consequence of the patterns of contacts of the group rather than just individuals'.<sup>22</sup>

In other words, with respect to the individual's own behaviour, it is a higher number of partners which increases the risk of him acquiring HIV infection. The impact of concurrency is that of increased incidence at the population level. The additional benefit of an individual reducing his concurrency will accrue not to that individual but to the wider population of gay men. A reason for an individual to reduce his concurrent partnerships is to avoid being responsible for transmitting HIV to his sexual partners.

When discussing partnership patterns and HIV prevention it is important always to keep these distinctions in mind. We have perhaps in our HIV prevention in the past focussed too exclusively on the individual and not enough on the population.

22. 'Coining a new term in epidemiology: concurrency and HIV' Garnett and Johnson AIDS Vol 11 Issue 5 681-683

## Part 5

# The implications for HIV prevention amongst MSM

If both multiple and concurrent partnerships amongst MSM in the UK are a significant driver of HIV transmission, what is the appropriate prevention response?

One approach is to consider influencing partnership patterns so as to reduce HIV transmissions – which would in practice mean reductions in numbers of partners and in concurrent partnerships.

But before thinking about changing partnership patterns, we must address the claim that we should simply stick to the ‘use a condom’ message, that consistent condom use is an effective and sufficient response to the risks associated with multiple partners. According to this view, suggesting additionally measures to influence partnership patterns is a dangerous distraction which could even undermine condom use.

## Why not ‘just use a condom’?

**Whilst promotion of condom use remains an essential component of HIV prevention, it is not appropriate only to advocate condom use as a preventive response to risk of HIV transmission.**

In the NAT seminar some people felt that the condom message should simply be restated – that it does not matter how many sexual partners you have as long as you always use a condom. This statement is only true to an extent – there remain the issues of condom breakage or slippage, as well as the population impact of the spread of other STIs on HIV incidence. But putting aside those caveats, the problem is that whilst 100% condom use is effective, as soon as condom use becomes inconsistent, even though possibly used for the majority of sex acts, partner numbers do make a big difference to risk of HIV infection.

Condom use is currently partial or inconsistent amongst many gay men. Data, for example, from the Gay Men’s Sex Survey for 2007 shows that of respondents 34.5% had had unprotected receptive anal intercourse in the last year with a person of unknown HIV status and 14.5% with a known discordant partner. The same figures for unprotected insertive anal intercourse were 31.5% and 14.5% respectively. Putting together as ‘risky partners’ those of unknown or discordant status, **overall 26% of respondents said they had unprotected anal sex with a ‘risky partner’ in the previous year.** But this figure of course does not

include those men who believe they know their own or their partner’s HIV status to be negative but are mistaken – which we know to be a significant number given that over a quarter of MSM with HIV are undiagnosed.<sup>23</sup>

Similarly, the gym surveys of gay men undertaken by Professor Jonathan Elford at City University indicate significant rates of unprotected anal intercourse. In his presentation at the expert seminar Professor Elford pointed out that prevalence of unprotected anal intercourse reported in the 2008 gym survey was 36.5%. A distinction was then made, however, between high risk behaviour (where the partner was of different or unknown sero-status) and sero-sorting. High risk sexual behaviour was more common amongst HIV positive men (18.9% in 2008 – a decline from the peak of 41.3% in 2002)) than amongst HIV negative men (5.5% in 2008 – a decline from the peak of 14.1% in 2003). The decline from a few years ago in reported high risk behaviour has been complemented by an increase in reported serosorting. There remain, however, real concerns as to the accuracy of serosorting amongst both HIV negative and HIV positive men.

There has recently been criticism in some of the gay press that HIV

23. ‘Testing targets: findings from the United Kingdom Gay Men’s Sex Survey 2007’ Sigma Research 2009

## Part 5

prevention work amongst gay men no longer emphasises as it should the priority of consistent condom use. Some participants at the seminar also called for more accessible free condoms in gay venues. NAT supports sustained and reinforced prevention work which emphasises the value and effectiveness of condom use.

But given the large proportion of men who at least sometimes do not use condoms it is unrealistic to claim that even reinvigorated condom campaigns will result in 100% condom use. There are some men, for example, who have great difficulty using them at all, others who do not use them in relationships they consider intimate or trusting, and others who do not use them if intoxicated. If the number and pattern of sexual partnership is so significant in HIV transmission then it is difficult to argue that this key factor should simply be ignored in HIV prevention strategies because it would be better for all gay men to use condoms 100% of the time.

For the individual gay or bisexual man who wishes to have anal intercourse but also minimise the risk of HIV transmission it remains best advice always to use a condom with lubricant, and to use it correctly. If a condom is not being consistently used, not having multiple sexual partners does significantly reduce risk of infection but of course by no means removes it. Even if you have only one sexual partner, who was when the relationship began HIV negative, how safe you are will depend on how many other partners your partner has (and the kind of sex had with these other partners, how many partners those partners have, and so on).

Information on the impact of multiple partnerships is needed given the significant rates of unprotected anal intercourse, but at the same time great care must be taken not to imply that only having one partner always or necessarily means one is 'safe' and need not use condoms.

**The effective use of a condom is recommended for gay men to remove the risk of HIV transmission in anal sex. By 'effective use' we mean consistent and correct use of the condom with water-based lubricant throughout penetrative sex, and with the condom neither slipping nor breaking.**

**In addition, reduction in the number and concurrency of sexual partners is recommended in order to -**

- **reduce the risk to an individual of transmission of other STIs**
- **reduce the risk to an individual of HIV transmission when a condom fails or fails to be used in anal sex, or during unprotected oral sex**
- **reduce the incidence of HIV and STIs within the gay community.**

### **Is it ethically acceptable to try to influence partnership patterns?**

**NAT does not consider it unethical to attempt to influence MSM partnership patterns to reduce HIV transmission.**

Some consider it unethical to attempt to influence and change partnership patterns.

For example, the third edition of 'Making it count' (2003),<sup>24</sup> the collaborative planning framework in England to reduce HIV incidence amongst MSM, recognised that, amongst other factors such as having sex at all or where and whom men have sex with, those MSM with more sexual partners are more likely to engage in sero-discordant unprotected anal intercourse [para.3.5.8]. It then states:

'We recognise that altering these [factors] is feasible. However, these are human rights, so we are not trying to:

- Stop men having sex
- Change where men live
- Change who they have sex with, or
- Change how many people they have sex with or how often.'

It is important in this debate to distinguish objections based on ethics/rights from objections based on effectiveness. Does aiming to reduce numbers of sexual partners infringe or compromise a human right? The same question could surely in that case

24. A fourth edition of 'Making it count' is currently being finalised (as of July 2010) and the draft includes new content on multiple and concurrent partnerships

be asked of the aim of encouraging men to use condoms. There is a right to private and family life (Article 8 of the European Convention on Human Rights) which in the absence of harm to others provides considerable room for the individual to have a sex life of his or her own choosing. Forcing men to use condoms in a consensual sexual relationship or prohibiting by law a certain number of partners would infringe this right. But aiming to influence condom use and partner numbers to promote health does not by itself breach or undermine a human right (it could indeed be considered to support rights, including the right to health). NAT's approach not only requires respect for human rights but also valuing of and respect for gay men, gay sexuality and gay sex.

Does aiming to influence MSM partnership patterns undermine such value and respect?

Interventions should not encourage stigma and discrimination, either of gay men or of HIV positive men. But NAT does believe interventions are possible which influence partnership patterns for the sake of better health, whilst valuing gay men and gay sex. Gay sexual relationships do not need to mimic heterosexual norms – but that does not mean we cannot attempt to influence current partnership patterns for the sake of better health.

### **‘Telling people what to do’**

#### **MSM have a right to information on the risks of HIV infection associated with multiple and concurrent partnerships.**

In considering interventions to influence

partnership patterns, NAT is committed to an ethical framework which attempts to avoid authoritarian, stigmatising, discriminatory or repressive approaches.

At NAT's expert seminar there was broad agreement around an approach which focussed on a right to health-related information. If a gay man is significantly more at risk of HIV infection (and of passing HIV on) from a larger number of sexual partners it can be argued that this is information that he has a right to know and act on as he sees fit.

‘Making it count’, though disclaiming any attempt to change MSM partner numbers, does identify as an ‘HIV prevention need’ that ‘Men are aware that the more men they engage in [unprotected anal intercourse] with, the more likely it is that they will be involved in HIV exposure’.<sup>245</sup> NAT considers that more can and should be done by those working in the UK in gay men's health promotion to meet this need.

Whilst the impact of condom use on HIV transmission risk is well known amongst gay men in the UK, it is less clear that there are comparable levels of knowledge of the impact of multiple or concurrent partnerships. Needs assessments to ascertain this would be very useful. NAT expects that effective provision of information on the relationship between risk and number of partners will have an impact on HIV incidence.

There was much less agreement on the value of ‘telling people what to do’, and in particular the effectiveness of recommending to MSM that

they reduce numbers of sexual partners. One example cited was the recommendation in the HPA's 2008 Report on MSM, ‘have fewer sexual partners, and avoid overlapping or concurrent sexual partnerships’.<sup>26</sup> Do such messages (which can sound a lot like ‘instructions’) really even work? And are public health messages of this kind appropriate?

Again, this becomes a question of overall approach to health promotion and goes beyond the scope of this paper. This question of approach is of course as relevant to influencing condom use as it is to choices of numbers of partners.

25. ‘Making it count’ 3rd edition Sigma Research 2003 p.24

26. ‘Sexually Transmitted Infections and Men who have Sex with Men in the UK: 2008 Report’ Health Protection Agency 2008

## Part 5

### Addressing broader factors which affect partnership patterns

**In addition to providing information to MSM on risks around high numbers of sexual partners, there are a number of other possible interventions which the gay community must actively consider. They include addressing psychosocial needs which contribute to relevant partnership patterns and also addressing the risks associated with settings which facilitate multiple partnerships.**

One way to think about influencing partner numbers is, as outlined in the previous section, via the direct provision of information to MSM. It is also possible to influence partner numbers by addressing the broader factors which encourage or facilitate high numbers of (overlapping) sexual partnerships.

There was at NAT's expert seminar a broad measure of agreement of the factors which facilitate multiple partnership amongst MSM (and indeed other aspects of behaviour such as unprotected sex) but it was more difficult to identify agreed actions to address such factors, or indeed whether it was appropriate to try to influence them at all.

This final section of the paper attempts simply to highlight some of these issues for wider debate in the gay community and the HIV sector. Progress in addressing these factors is unlikely unless there is a broad measure of consensus on the aim of reducing the number and concurrency of sexual partnerships amongst MSM, and as to what effective and acceptable

approaches might look like.

There was especial emphasis on the impact of psychosocial factors, pornography, the gay commercial sector, sex on premises venues and gay contact internet sites, in either influencing men's choices around numbers of partners or facilitating multiple contacts ('by facilitating expansion of social and sexual networks, and making possible rapid change and acquisition of new partners'<sup>27</sup>).

### Psychosocial issues

There are psychological and social factors which motivate multiple partnerships amongst MSM. Factors cited at NAT's expert seminar which affect decisions on partner patterns and venues for sexual contact include –

- drug and alcohol use
- use of porn (which tends to present anal sex, multiple partnerships and increasingly barebacking as sexual norms),
- difficulties in establishing and maintaining longer term sexual relationships,
- wishing to avoid public identification as gay (thus seeking sex in anonymous settings rather in longer-term publicly acknowledged relationships),
- avoiding issues of HIV status disclosure (perhaps motivated in part by fear of prosecutions, and again easier, for example, in a sauna),
- the 'hyper-masculine identities' projected in much of gay culture.<sup>28</sup>

One longer-term response to many of these factors would be to address the homophobia in society which may

engender those 'hyper-masculine' identities and some associated risk behaviours.<sup>29</sup>

More systematic assessment and information is needed of the psychosocial needs of MSM which influence decisions on partnership patterns, and of the extent to which those needs are currently being met in the UK.

Whilst addressing homophobia is vital, it is also possible that various forms of individually targeted psychosocial support and therapeutic interventions may benefit some MSM who need and want them. A comprehensive approach to the HIV prevention needs of MSM should also consider how clinic-based and community services can assist individuals who wish to change their patterns of sexual contact. And it is then vital that the necessary level of accessible, appropriate and professional support services are provided.

### Saunas and sex-on-premises venues - promoting good practice

There was discussion of the approach to sex-on-premises venues, which facilitate multiple and concurrent partnerships and which have a high concentration of HIV positive men amongst their users.

In the UK, the Terrence Higgins Trust launched in 2008 a Code of Good Practice for saunas ('Play Zone'). The Code established minimum standards for lighting, cleaning, sexual health information and staff training, access to condoms and lubricants. More information would be useful on the acceptability of this initiative to both venue owners and gay men, on the

27. John Imrie presentation NAT seminar

28. 'Public sexual cultures: a systematic review of qualitative research investigating men's sexual behaviours with men in public spaces' Frankis James S; Flowers Paul, *Journal of Homosexuality* 2009; 56 (7): 861-93

29. Paul Flowers presentation NAT seminar

compliance of saunas and other venues with these requirements/agreements as well as evidence that they resulted in an increase in safer behaviours.

It is possible also to take a regulatory approach and encourage local authorities either to refuse licences to sex-on-premises venues or require and monitor strict requirements around safer sex (such an approach was adopted in 2004 in California for example, with questionable effectiveness).<sup>30</sup> Again, the debate is as to where the balance should be struck between removing opportunities to engage in risk and supporting capacity to take precautions. NAT would be concerned at such a coercive approach, especially given how much more we can do to pursue and support voluntary strategies.

### **'High risk settings' and intensified prevention**

It is clear that there has in recent years been significant development and expansion of commercial settings (saunas, other sex-on-premises venues, internet sites, clubs) which facilitate high numbers of sexual partners and sexual mixing.

They can be considered 'high risk settings' since they facilitate multiple partnership which is demonstrably a driver of HIV infection.

They also provide pleasure, fun, intimacy, companionship in ways which many gay men clearly want and find appealing.

There are significant ethical problems in attempting to reduce sexual mixing amongst gay men or coercively regulate gay venues around safer sex. But we

might at least focus on intensifying our prevention efforts linked to such 'high risk settings'. Men may then be better informed and better prepared to act in a precautionary way in relation to the risk involved.

It does seem clear, for example, that different men approach the internet, saunas and other sex-on-premises venues with very different, and sometimes contradictory, expectations of the HIV status, sexual history and disclosure practice of those they might meet there. To take just one example cited a number of times at the NAT seminar, there is evidence men make very different assumptions about the HIV status of those they meet in a sauna and about the significance of being willing to have unprotected sex. HIV positive men will often assume, in the absence of disclosure to the contrary, that those they meet, including those willing to have anal sex without a condom, are also HIV positive.<sup>31</sup> This may not be the assumption of undiagnosed and HIV negative men there.

Of course much effective health promotion work is done at the moment in, and in relation to, such 'high risk' venues and settings. But in addition to health promotion reiterating in such contexts broader sexual health information, for example around condom use, there should be further development of setting-specific interventions which highlight the significant additional risks of multiple and concurrent partnership, the elevated prevalence of HIV (diagnosed and undiagnosed) amongst men in many of these settings, and the dangers of incorrect assumptions about HIV status, sexual history and disclosure

practice. The need for consistent safer sex should be reiterated in the explicit context of the increased risks associated with these settings.

There is a role here for health promoters but also for owners of saunas, sex-on-premises venues, gay contact internet sites and clubs.

### **Culture and Values of the Gay Community**

More broadly, HIV prevention has to consider how to respond to a gay scene which values a highly sexualised lifestyle, multiple partners, commercial sex venues, pornography and alcohol and drug use. Health promoters play a role in establishing values in the gay community, but will always have less influence and reach than, for example, gay businesses and gay media. Boyz magazine has recently stopped advertising escort services, has refused to advertise bareback porn and has moved to less explicit content and more attention to aspects of gay life other than sex. If it is agreed that we wish to reduce multiple and concurrent partnerships amongst MSM, what is the role of gay community businesses in supporting relevant social norms? This should be discussed between gay men's health promoters and the businesses themselves – bilateral discussions are one way forward but perhaps it could also be useful to bring a wide range of representatives of the two sectors together to see how their different activities can support each other rather than appear to be at cross-purposes.

30. See 'Interventions in the Commercial Sex Industry During the Rise in Syphilis Rates Among Men Who Have Sex With Men (MSM)' Taylor, Melanie et al *Sexually Transmitted Diseases*: October 2005 Vol 32 ppS53-S59

31. See for example Flowers P, Duncan B and Frankis J (2000) 'Community, responsibility and culpability: HIV risk-management amongst Scottish gay men': *Journal of Community and Applied Social Psychology* 10: 258-300

## Conclusions / Recommendations

### NAT Conclusions

Both the number and very probably the concurrency of sexual partners have a significant impact on HIV transmission amongst MSM in the UK.

Reducing the number and concurrency of sexual partnerships amongst MSM is an appropriate objective, both ethically and epidemiologically, for HIV prevention frameworks in the UK nations.

For the individual MSM wishing to have anal sex but avoid HIV transmission, appropriate and consistent use of condoms and lubricant remains the recommended course of action. Reducing the number of sexual partners is for the individual a further important action which supports good sexual health and significantly reduces risk of HIV and STI transmission.

MSM have a right to know about the increased risk of HIV infection from an increased number of sexual partners, especially in the context of inconsistent or no condom use.

A wider debate is needed in the UK gay community as to how gay men's health promotion and gay community businesses should work together to help reduce HIV incidence.

### NAT Recommendations

Future behavioural research amongst MSM in the UK (including that undertaken for the CHAPS partnership) should look in more detail at both number and patterns of sexual partnerships and sexual mixing over time amongst MSM.

Research should be reviewed and undertaken to identify the range of factors which influence decisions on partner numbers and patterns amongst MSM.

Local clinical and community support services need to identify how to advise and support MSM who wish to alter their partnership patterns. Appropriate services should be commissioned, funded and provided to meet these needs.

Continued work is needed at national and local levels and in the media and in schools to challenge homophobia and reduce its harms.

Consistent and correct condom use, with water-based lubricant, should continue to be the key recommendation to avoid HIV transmission for those MSM who have anal sex. Reduction in number of sexual partners and avoidance of concurrent partnerships should be advocated as additional and important risk-reduction measures for when a condom fails or fails to be used, and to reduce the spread of STIs amongst MSM (STIs themselves contribute to higher HIV incidence).

The next (fourth) edition of 'Making it count' should retain and develop the relevant content in its current draft, making reductions in multiple and concurrent partnerships a strategic aim of England's MSM HIV prevention framework.

Information for MSM on the risks of HIV infection associated with higher partner numbers and concurrency should as a priority be included in planning of needs assessments and HIV prevention interventions.

Sex-on-premises venues should be encouraged by national HIV prevention programmes and by local PCTs/health boards to consistent standards supportive of safer sex. Research over time should develop evidence of interventions which are effective in reducing the risks related to such settings.

HIV prevention interventions should be intensified in relation to settings which facilitate multiple and concurrent partnerships (for example, saunas, sex-on-premises venues, clubs and gay contact internet sites), explicitly highlighting the increased risks from multiple/concurrent partnerships, the elevated prevalence of HIV amongst men in certain settings, and dangers of incorrect assumptions of HIV status and disclosure.

Research should investigate knowledge amongst MSM of the impact of partner numbers on risk of STI and HIV infection, and changes in knowledge over time.

## Glossary

### Glossary

**Concurrency** - defined by UNAIDS as 'Overlapping sexual partnerships in which sexual intercourse with one partner occurs between two acts of intercourse with another partner'.

**Incidence** - the rate of increase in the number of new infections (for example of HIV) in a given population over time.

**Monogamy** - two sexual partners only having sexual relationships with each other and with no one else.

**MSM** - MSM stands for 'men who have sex with men', a term which includes gay and bisexual men but also any man who has sex with other men, irrespective of how they define themselves, or are defined, sexually.

**Prevalence** - the proportion of a given population with a specified condition (for example, HIV infection).

**Primary HIV infection** - the period after infection which lasts usually between three and six months, until the viral load stabilises. Individuals are highly infectious during this period.

**Psychosocial** - involves aspects of both social and psychological behaviour.

**Serial monogamy** - the term is used to describe the practice of a series of shorter-term monogamous relationships. An individual may have high partner numbers over time but never have concurrent partnerships.

**Sero-discordant** - a sexual relationship where the two individuals have different HIV statuses (i.e one is HIV positive and the other HIV negative).

**Sero-sorting** - the practice of attempting to choose sexual partners of the same HIV status as yourself (whether HIV positive or HIV negative).

**STI** - any sexually transmitted infection, including HIV, but often used to refer specifically to all STIs other than HIV.

**Viral load** - a measure of the severity of viral infection usually estimated by the amount of virus in an involved bodily fluid.

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## About NAT

NAT is the UK's leading charity dedicated to transforming society's response to HIV. We provide fresh thinking, expert advice and practical resources. We campaign for change.

SHAPING ATTITUDES.  
CHALLENGING INJUSTICE.  
CHANGING LIVES.

All NAT's work is focused on achieving four strategic goals:

- ▶ Effective HIV prevention in order to halt the spread of HIV
- ▶ Early diagnosis of HIV through ethical, accessible and appropriate testing
- ▶ Equitable access to treatment, care and support for people living with HIV
- ▶ Eradication of HIV-related stigma and discrimination.

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