HIV Seroconversion Study

Newly diagnosed men in Australia

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Executive Summary

The Seroconversion Study collects both quantitative and qualitative data from mainly homosexual men who have recently been diagnosed with HIV. Men are referred to the online questionnaire through clinics and HIV organizations providing services to men who are newly diagnosed. Men completing the online questionnaire volunteer for the more extended depth interview. To date, there have been 155 completed questionnaires, across five states, including over twenty who have also completed depth interviews.

Summary of findings thus far

The average age of respondents is 37, and in most other respects the men in the study appear to be very similar demographically and in terms of their social engagement with other gay men, to most other samples of gay men.

Almost half reported that the high risk event which they believe led to their HIV infection included group sex, and although the majority of high risk events occurred at home about a third had met the partner who they believe infected them at a sex-on-premises venue, either on that occasion or at some time previously. Also nearly half reported drug use at the high risk event, most of which were drugs commonly used to enhance or extend the sexual experience. The majority also reported engaging in these activities (group sex, use of sex-on-premises venues and drug use) in the previous six months.

While three quarters attributed their HIV infection to a casual partner, nearly half also reported that their regular partner was present at the high risk event. However, few men indicated that their current regular partner was the same man as the regular partner who was present at the high risk event. Also while over half reported having had a regular partner in the six months prior to diagnosis, the majority of these also indicated having more than one such partner, and the majority also reported some receptive unprotected anal intercourse with these partners (and mostly with partners they were confident were HIV-negative). Men who ascribed their infection to sex with a casual partner often also indicated that they had previously known this partner. Nonetheless, it was also the case that many men believe they were infected by a partner they did not know at the time. The qualitative interviews indicated that the high risk event was often perceived as an unusual diversion from a usually safe sex regimen, although they often felt they could trust their partner or the particular circumstances on that occasion. The nature of this trust was constituted differently according to the kind of relationship (prior or newly established) that existed between them.

Almost all had been tested for HIV in the previous year and, for the majority, they had the test at which they had received a positive diagnosis because it was part of their regular testing pattern. For the most
part they did not feel they were at especial risk at the time, despite their often apparently high risk behaviour, and so did not seek testing for that reason.

While for the most part, most of these men appear to be coping with their HIV diagnosis, their experiences at the time of their diagnosis and since then were often challenging and many of them indicated that there was considerable pressure on their personal and sexual relationships, and on their emotional well-being.

Comments

These data suggest that while recent seroconverters are much like other gay men in other respects, they tend to be highly sexually active, and might often be described as ‘sexually adventurous’, in the same way as has been found elsewhere. Issues around trust and beliefs regarding relative risk are important considerations, as are the implications for men’s relationships and support networks. In particular, their experiences post HIV diagnosis appear to have significant negative impact on these key aspects of their lives.
Introduction and background

Recent trends in infections & behaviour
Among gay and other homosexually active men, rates of HIV have increased significantly internationally and in Australia since the late 1990s (Centers for Disease Control, 2005; Guy et al., 2007, 2008). This has corresponded to a period of increased rates of unprotected anal intercourse (UAI) among gay men (Dodds et al, 2000; Dukers et al, 2001; Chen et al, 2002; Elford et al., 2002; Zablotska et al., 2008a). These increases in sexual risk behaviour raise concerns about the relationship between beliefs about the risk of HIV infection and condom use. Increasingly, many gay men have adopted strategies to minimise the risk of HIV transmission, such as reliance on serosorting, undetectable viral load and strategic positioning during UAI (Prestage et al, 2001; Van de Ven et al 2002; Prestage et al, in press). The risk of transmission associated with these behaviours is considerably less than with receptive unprotected anal intercourse with a HIV positive partner, but remains elevated above that of condom-protected intercourse (Jin et al, 2009). Such strategies usually rely on a degree of familiarity with their sex partners and assumed knowledge of HIV status. In recent years in Australia increasing proportions of men disclose their HIV status with casual partners (Zablotska et al, 2008b), which has also corresponded with a period of increases in the proportion of men who report that their UAI with casual partners is restricted to men of the same HIV status (Mao et al, 2006).

Despite these changes in the use of risk-minimisation strategies, the highest risk for HIV infection among gay men remains unprotected receptive anal intercourse with casual partners who are not known to be HIV-negative (Jin et al, 2009; Volk et al, 2006). And men who are more sexually active, who participate in sexually adventurous networks, and who ‘party n play’ in intensive sex partying contexts, are at greatest risk (Hurley and Prestage, 2009). Men who have recently been infected with HIV can provide very important insights about the specific contexts in which their HIV infection occurred: What makes these men different to those who do not seroconvert? What distinguishes the circumstances in which they were infected? What are the factors that lead them to take a risk when they might usually be very ‘safe’ in their behaviour? These are the reasons that the HIV Seroconversion Study is a particularly important study that can help inform both policy and program development in developing responses to changes in HIV and in the way those who are at risk of infection think about this issue.

History of study
There have been two previous versions of the HIV Seroconversion Study, the first in the period 1993-1999 (Kippax et al, 2003) and the second in the period 2003-2006 (Volk et al, 2006). Findings from this study have been widely used in the development of policy and programmatic responses by both health
departments and community organisations, and it has been one of the key pieces of research in the Australian response to HIV overall. Key findings have included: that HIV infection among gay men often occurs in the early, establishment, phases of a regular sexual relationship; that among gay men, recent HIV seroconverters are often men who are highly sexually active compared with other groups of gay men.

The first version of the study was established in the early 1990s with a Commonwealth AIDS Research Grant. It was a joint study between the National Centre in HIV Epidemiology and Clinical Research (NCHECR) and the National Centre in HIV Social Research (NCHSR). The funding was for a limited period but the study itself was extended by the ongoing employment of the required staff by NCHECR. This first version of the study used mixed qualitative and quantitative methods. It included a brief questionnaire consisting of structured questions recording the sexual or other risk behaviour participants believed had occurred on the single occasion they believed had most likely led to their HIV infection, followed by a more extensive in-depth interview to explore what had happened that had led to this event. Participants were referred into the study by the doctor who had diagnosed their HIV infection, and enrolment was therefore reliant on the clinic sites identifying all potential participants and providing all the consenting procedures to enable the referral process to occur. Eligibility criteria for the study included: being a man who has sex with men; having been diagnosed as HIV-positive for the first time within one year of being interviewed and within one year of previously testing HIV-negative or having a diagnosed HIV seroconversion illness (See Table 1). The study was restricted mainly to Sydney, although there was a brief attempt to establish the study in Melbourne as well. By 1999, this first version of the study had come to an end, with 92 completed interviews in Sydney over a six year period.

After a break of a few years, a second version of the study was initiated by NCHECR as an add-on to a clinical study among recently infected individuals (PHAEDRA). This study was restricted to a limited number of high caseload practices in Sydney and Melbourne which were participating in the trial (See Table 1). Initially this study used only a quantitative methodology, involving a structured questionnaire, part of which was administered by a research nurse in the clinic and the remainder was self-complete, also in the clinic setting. NCHSR subsequently proposed that a qualitative component be added into the study. Individuals consenting to this aspect of the study were referred by the research nurse at the time of the completion of the questionnaire. Participants in both the quantitative and qualitative arms of the study were enrolled into the study by the research nurse in each clinic, and enrolment was therefore reliant on the clinic sites identifying all potential participants and providing all the consenting procedures. Eligibility criteria for the study included: being male; having been diagnosed as HIV-positive for the first time within one year of being interviewed and within one year of previously testing HIV-negative or having a diagnosed HIV seroconversion illness; being a participant in the PHAEDRA trial. By
2006, this second version of the study had come to an end, with 158 completed questionnaires and about 40 in-depth interviews conducted over a 3-4 year period.

Table 1: Participation over time

<table>
<thead>
<tr>
<th>Study dates</th>
<th>Number of years</th>
<th>Sites</th>
<th>Eligibility</th>
<th>Referral Sites</th>
<th>Numbers enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-1999</td>
<td>6</td>
<td>Sydney</td>
<td>Men infected within previous 12 months, through homosexual contact</td>
<td>Diagnosing clinic</td>
<td>92</td>
</tr>
<tr>
<td>2003-2006</td>
<td>3</td>
<td>Sydney &amp; Melbourne</td>
<td>Men infected within previous 12 months, through homosexual contact</td>
<td>Clinic participating in PHAEDRA trial</td>
<td>158</td>
</tr>
<tr>
<td>2007-2009</td>
<td>2</td>
<td>NSW, Victoria, Queensland, Western Australia &amp; South Australia</td>
<td>Men recently diagnosed</td>
<td>Diagnosing clinic, HIV organisation or directly online</td>
<td>155</td>
</tr>
</tbody>
</table>

At the completion of the second version of the study, Queensland Health approached NCHECR about the possibility of establishing a Queensland version of the Seroconversion Study. Initially, we sought to replicate the second version of the study, though without the infrastructure of a clinical trial or without the capacity to incorporate a qualitative arm. However, Queensland presents particular challenges in its more decentralised population. This, and the lack of an existing infrastructure, suggested to us that we should perhaps reconsider the format of the study and seek alternative methods of enrolment and participation that would be less reliant on specific clinic settings or geographic locations. Utilising online technology we were able to convert the structured questionnaire to one that could be self-completed, either online or in person on-site. This revised structure allowed us to redevelop the Seroconversion Study so that it is no longer reliant on specific clinical settings to enrol eligible individuals into the study, or to enable completion of the questionnaire, or even to refer participants into a qualitative arm. It also provided a highly flexible tool to enable adjustment of the interview schedule to address issues as they emerge.
Aims of the study

The HIV Seroconversion Study in its various forms has been a particularly useful and informative research tool in the development of policy and programmatic responses to HIV prevention in Australia since its initial inception in the early 1990s. As a study of risk behaviours and experiences among those who have recently been diagnosed with HIV, the study has direct relevance to both national and state-based HIV strategies. The aims of the HIV Seroconversion Study are to:

- Interview individuals who have recently been diagnosed with HIV about what factors they believe led to their HIV seroconversion and their experiences since receiving their diagnosis;

- Inform HIV organizations and state health departments about the contexts of risk behaviours and motivations for these behaviours identified through this study, while providing each jurisdiction with specific information to develop tailored approaches specific to their individual needs;

- Consider current gaps in policy and program development and implementation, including in the research base.
Methods

We used a mixed-method approach, incorporating both qualitative and quantitative data collection and analysis, and involving in-depth interviews, and survey questionnaires. Men who had recently been diagnosed with HIV infection were invited by referring staff to visit a website where they could find out more about the study and choose to enrol into the study by completing an online questionnaire. On completion of the survey respondents were then invited to volunteer for a face-to-face in-depth interview at their convenience. At the time of writing, 143 men had enrolled into the online survey, and almost one third of these had volunteered for the in-depth interviews, of whom about half have been interviewed or have had interviews arranged.

Ethics approval was obtained from the University of New South Wales and La Trobe University.

Eligibility

Eligibility criteria for the study included: being male; having been diagnosed as HIV-positive for the first time within two years prior to enrolment; and living in or having been diagnosed within one of the participating five states. Whereas in previous versions of the Seroconversion Study only those who had been diagnosed as HIV-positive within one year of previously testing HIV-negative or having a diagnosed HIV seroconversion illness were eligible for enrolment, participation for this latest version of the study is open to all men who have recently been diagnosed. As we cannot distinguish whether someone has recently acquired HIV from clinical records in this study, we have opted to enrol all those who have recently been diagnosed and we ask a number of questions to determine how recently they may have been infected.

Recruitment

Enrolments occurred through four main sources: Referrals from state AIDS Council staff; Referrals from state-based PLWHA organization staff; Referrals from clinical practices, mostly sexual health services; direct online enrolments by individuals who have found a link to the survey posted on another website (Table 2). Most of the referrals through community organizations were for clients participating in programs specifically targeting newly diagnosed individuals, such as the various Genesis and Phoenix programs and so the state distributions of these referrals largely reflected which organization’s staff members had primary responsibility for these programs: In NSW most of these referrals were through ACON, whereas in Victoria they mainly came though PLWHA (Victoria). In Queensland, where the Genesis/Phoenix program does not currently exist, most referrals came through clinic sites. Online referrals mainly occurred through links posted on the websites of state-based AIDS Councils or PLWHA.
organizations, or their national bodies – AFAO and NAPWA. There were no such weblinks on clinic websites.

**Table 2: Recruitment source (%)**

<table>
<thead>
<tr>
<th>Recruitment Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>State AIDS Council staff</td>
<td>21.3</td>
</tr>
<tr>
<td>PLWHA organization staff</td>
<td>22.6</td>
</tr>
<tr>
<td>Sexual health service</td>
<td>16.1</td>
</tr>
<tr>
<td>Medical practice</td>
<td>5.2</td>
</tr>
<tr>
<td>Online referral</td>
<td>21.9</td>
</tr>
<tr>
<td>Other / Unknown</td>
<td>12.9</td>
</tr>
</tbody>
</table>

The majority completed the survey questionnaire online, except in Queensland where the majority were completed on-site at clinic locations in Cairns and Brisbane. Nonetheless, there appeared to be little difference in the quality or nature of the responses received across these two methods. The number of enrolments in each state was not entirely proportionate to the number of new annual diagnoses because recruitment in each state commenced at different times: In Queensland enrolment commenced in 2007; In Victoria enrolment commenced in mid 2008; Enrolment in NSW commenced late in 2008; And in South Australia and Western Australia enrolment commenced in mid 2009. It would be anticipated that over time the sample’s distribution will reflect this distribution of new diagnoses more closely.

**Online Survey**

Men completed an online questionnaire to enrol into the study. The questionnaire included demographic characteristics, details of their diagnosis with HIV, sexual relationships at the time of their HIV infection, details of what occurred on the occasion they believe led to their HIV infection, details of the person they believe infected them on that occasion, their sexual and drug use behaviour in the six months prior to their HIV infection, their sexual risk behaviour during the four weeks prior to and the four weeks after their HIV diagnosis, their beliefs about HIV and risk both prior to their HIV diagnosis and currently, sources of support and contact with the community, and measures of mental well-being.

**In Depth Interviews**

We conducted in-depth interviews with men who volunteered for these interviews after completing the online survey. While the focus of the interview was similar to that of the online questionnaire – a description of the occasion when they believe they were infected with HIV, and of the person they believe infected them – they were also asked to compare this event to similar events at that time when they had not put themselves at risk and to reflect on what was different about those occasions and why
they had made different decisions. They were than asked to describe how they had felt about their HIV diagnosis at the time and what effect it had had on their lives and their behaviour, both then and more recently.

PASH Survey
Simultaneous to the Seroconversion Study, we conducted the PASH (Pleasure and Sexual Health) study. The online questionnaire component of the PASH study was an exploration of gay men’s current thinking around HIV and risk. A small sub-sample of 57 men recruited into PASH were identified as having been diagnosed as HIV-positive since 2005. Where appropriate we have included data for this subset of men in the PASH study to further elucidate some of the findings identified in the Seroconversion Study.
Demographic Profile

In this section we describe the demographic characteristics of the men that comprised our sample.

**Geographic distribution**

Where men were recruited for the study usually coincided with where they were currently living (Table 3), but was not necessarily the same place where they were diagnosed (Table 4) or where they believe they became infected (Table 5).

**Table 3: Place of residence (%)**

<table>
<thead>
<tr>
<th>Location</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>33.5</td>
</tr>
<tr>
<td>Victoria</td>
<td>32.9</td>
</tr>
<tr>
<td>Queensland</td>
<td>22.6</td>
</tr>
<tr>
<td>Western Australia</td>
<td>3.9</td>
</tr>
<tr>
<td>South Australia</td>
<td>5.8</td>
</tr>
<tr>
<td>Other states</td>
<td>1.2</td>
</tr>
</tbody>
</table>

**Demographic profile**

The mean age was 37 years, slightly older in NSW and South Australia. Over three quarters (80.0%) in this study were born in Australia, and nearly half those born elsewhere were born in predominantly Anglo-Celtic countries (New Zealand, the United Kingdom, and the United States). The same proportion reported being of Anglo-Celtic background (80.0%); only fifteen men reported clearly being of non-European background, including three of Aboriginal or Torres Strait Islander background. Victorian respondents were slightly more likely to have been born overseas, although they were just as likely to report being of Anglo-Celtic background. Among men recently diagnosed in PASH the demographic profile was very similar to what was found in this sample. In general, the characteristics of the men in this sample were very similar to what was found in the earlier versions of the Seroconversion Study (Jin et al, 2007).

As with most other samples of mainly homosexual men, education levels were quite high with nearly half (48.7%) having completed some university education, including 21.1% who had completed postgraduate study. However, Queensland respondents were less well-educated with only half as many having received any university education. Education levels among men recently diagnosed in PASH were similar to what was found in this sample.
Diagnosis Details

Men were asked several questions to determine when and where they were diagnosed as HIV-positive, as well as other details about their HIV diagnosis.

Where diagnosis occurred

The largest proportions, about a third each, were diagnosed in NSW and Victoria. The geographic distribution was broadly similar to that of HIV diagnoses in the 2007 national HIV surveillance system.

Table 4: State where diagnosis occurred

<table>
<thead>
<tr>
<th>%</th>
<th>Study sample</th>
<th>National surveillance (2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>32.9</td>
<td>40.7</td>
</tr>
<tr>
<td>Victoria</td>
<td>32.9</td>
<td>28.9</td>
</tr>
<tr>
<td>Queensland</td>
<td>22.4</td>
<td>17.3</td>
</tr>
<tr>
<td>Western Australia</td>
<td>2.8</td>
<td>6.8</td>
</tr>
<tr>
<td>South Australia</td>
<td>5.6</td>
<td>5.1</td>
</tr>
<tr>
<td>Other states</td>
<td>1.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Overseas</td>
<td>2.1</td>
<td>-</td>
</tr>
</tbody>
</table>

Year of diagnosis

Most (82.1%) reported receiving their HIV diagnosis between 2007 and 2009. About two thirds received their HIV diagnosis within one year prior to interview, and most of the rest within two years. A small number (ten men) were diagnosed prior to 2006 but these men provided meaningful data and so it was determined that their responses would be included in the analyses.

Most men (83.9%) reported having previously been tested for HIV, prior to the test at which they were diagnosed as being HIV-positive. Three quarters indicated they had tested HIV-negative within twelve months prior to their HIV diagnosis.

Seroconversion illness

Half (50.0%) reported having been sick with a flu-like illness at about the time of their HIV diagnosis, which their doctor had determined was indicative of having HIV seroconversion illness.

Other infections

One in five men (21.8%) reported having been diagnosed with another sexually transmissible infection (STI) at the time of their HIV diagnosis.

In some cases, the seroconversion experience was particularly unpleasant and the complications of other infections exacerbated this experience.

“I had a very serious seroconversion in that I also had syphilis and became severely neutropenic. My white blood cells stopped reproducing altogether and I was transferred from one hospital to
another, as there was nothing they could do to prevent my condition from deteriorating further. My CD4 count has risen since and my viral load has been undetectable after reaching more than 100,000.”

Reasons for test
When asked why they were tested on the occasion they were diagnosed as HIV-positive, the most common reasons given were that it was part of a regular testing pattern (29.7%), or because they had experienced symptoms of illness (34.2%). Only about one in ten indicated they had been tested because they believed they had done something risky. Eleven men provided reasons for not having been tested in the twelve months prior to their HIV diagnosis, five of whom indicated they were afraid of receiving the results. In some cases, the person they believed to have given them HIV had never been tested for fear that getting tested would only confirm their belief in their positive HIV status.

“Yeah, I’ve asked him to go and get a test. He won’t get a test. He said, ‘I might get one. I might not get one.’ Then he goes, ‘Oh well, if I find out I’ll probably end up killing myself or something’... [sighs exasperatedly] So, you know, he’s being ignorant, virtually.”

Reactions to testing HIV-positive
In the open-ended questions, men were asked about how they felt as a result of testing HIV-positive. Many were initially shocked, although some were not especially surprised. In some cases the men described how their positive diagnosis had affected them more than they would have expected and that it had changed the way they think about their life and how they live it:

“Well, I didn't believe that it would change the way I see about life. I know that the treatments were getting better and that getting HIV was not the end of the day before I got HIV. When I heard the news I went on my everyday job, events life. And then it just started to hit me on my head as time goes on. I went and try to seek support and I think it is really great that the support are out there and that I am able to handle it a little bit better. I don't think I realized the extent that it will have impact on me until later down the road.”

Although in general most men appear to be coping with their HIV diagnosis, a few men who had only very recently been diagnosed provided comments on the survey form that indicated they were not dealing with their situation at all well:

“I feel like shit and deserve to lose my family.”

Nonetheless, with a little temporal distance and supportive advice and assistance most men adapt to their new circumstances and learn how to incorporate it into their lives:

“After four days of shock and abject horror and regret and tears, firmly believing I was going to
die sometime in the next 72 hours, my partner and I spoke to one of my HIV-positive uncles, and have very quickly adapted to the more logical realities of the situation: That even though this is unfortunate and annoying, there are worse things in life than having to 'manage' an HIV infection…. My partner and I, though still on a bit of a rollercoaster, are grateful that I have contracted HIV in 2009 and not 1983, where medical technology and HIV genetics/immunology seem to grow exponentially, every 6-9 months or so. We are grateful that we live in Australia where HIV treatment is free of charge.... It is just a bug, a clever but surprisingly weak bug at that, and there WILL be a way to get rid of it in the not too distant future.”

**The diagnosis experience**

In the open-ended questions, some men volunteered information about what happened to them when they were diagnosed as HIV-positive. Most did not offer comments about this experience and so we can only presume that for the most part they received an acceptable standard of service. In those few cases where they did offer such comments it was usually to explain that they had received less than optimal care. Although these experiences are undoubtedly the minority of cases, they are nonetheless important to ensure that such negative experiences are minimised as much as possible:

“*When I experienced what I now realise was the seroconversion illness I went to my GP who diagnosed influenza and no HIV test was offered at this time and I was not questioned by my GP about sexual practices at the time despite informing him I was gay.*”
High Risk Event

Men were asked to describe the high risk event (HRE) they believed was most likely to have led to their HIV infection and about the person they believe infected them.

Identifying event

Similar to previous versions of the Seroconversion Study (Jin et al., 2007), most men (87.7%) were able to identify the HRE. The remaining men were asked to identify any high risk event that might conceivably have led to their HIV infection but there were nonetheless a few men who were unable to identify any possible high risk event that they believed might possibly have led to their HIV infection. Of those who had identified any high risk events, 43.4% indicated that there was more than one such event. Most (77.9%) of the men who had multiple high risk events, were able to identify a specific single event they believed was the most likely to have led to their HIV infection. Those who could not do so were asked to describe the most recent of these events.

Location

Over three quarters (80.6%) of those who were able to identify the HRE indicated that it had occurred in Australia. Among those who reported that the HRE had occurred overseas, the most common locations were in the United States (six men) and the United Kingdom (five men). Half those indicating that the HRE occurred overseas reported that they were living there at the time and only a third indicated that they had been there for less than a month. Nobody reported being overseas specifically for sex tourism, although one participant did indicate that he believed he had been infected by a sex worker in Thailand.

Table 5: Location of high risk event (%)

<table>
<thead>
<tr>
<th>Location</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>31.3</td>
</tr>
<tr>
<td>Victoria</td>
<td>26.9</td>
</tr>
<tr>
<td>Queensland</td>
<td>14.9</td>
</tr>
<tr>
<td>Western Australia</td>
<td>3.7</td>
</tr>
<tr>
<td>South Australia</td>
<td>3.0</td>
</tr>
<tr>
<td>Other states</td>
<td>0.9</td>
</tr>
<tr>
<td>Overseas</td>
<td>19.4</td>
</tr>
</tbody>
</table>

Within Australia, a little less than a third reported that the HRE occurred in NSW, about a quarter in Victoria, and one in seven in Queensland. All but seven of the men whose HRE had occurred in Australia reported that the HRE occurred in a major capital city, and five of these seven indicated that the HRE had occurred in Cairns, reflecting the large number of men recruited in that area. Interestingly, although the numbers are still small, only half the men living in South Australia and a little over half those living in...
Queensland reported their HRE as having occurred in that same state. Among Queensland respondents several men reported that the HRE had occurred in NSW.

Over half the men who were able to identify the HRE reported that it had occurred at home, either their own (22.1%) or their partners’ (31.3%). One quarter (23.6%) said that the HRE had occurred in a gay sex-on-premises venue. The location of the HRE in this sample was very similar to what was found in the earlier PHAEDRA version of the Seroconversion Study (Volk et al, 2006).

**Sexual partners**

Most (87.3%) of those who were able to identify the HRE indicated that they had had sex with someone at that event (almost all with a man). One third indicated that their regular partner or boyfriend was present on that occasion. Nearly half (43.9%) of those who indicated they had had sex at the high risk event, reported they had sex with more than one partner on that occasion, including 14.1% who had at least five partners. When asked what they would describe as ‘hot sex’ several recent seroconverters in the PASH study referred to group sex and having multiple partners:

“I definitely prefer bareback sex and I am not at all monogamous - I like to have lots of different partners. Sex makes me feel good and I don’t feel guilty or ashamed of that. I like to ‘get wild’ and enjoy stuff like fisting and watersports, group sex and public sex are great”

“Leather, boots, a sling, and a group of men with beards, shaved head, tattoos. Lots of edgy interesting play like sounds, fisting, electro and water sports. Big toys and lots of arse rimming - preferably with no gloves and condoms.”

For these men, adventurous sex scenes with multiple partners were viewed as being especially desirable, but one man in the Seroconversion Study described how he was ‘carried away’ by the excitement of being in such a scene:

“Engaging in ‘wilder’ sexual encounters with groups of men leads to lowered inhibitions and higher risk taking ie getting carried away. I was normally very conscious of safe sex and practised it but at this sex club ... fisting party I just got really carried away, very uninhibited, and did things I really regretted the next day. They turned out to lead to infection.”

It is worth noting, however, that this event was not an isolated one. He described other occasions of UAI, both insertive and receptive, with partners whose HIV status he did not know, and other occasions of group sex, and he had at least fifty partners in the six months prior to his diagnosis.

Most were able to identify a particular sex partner at the HRE who they believe infected them with HIV – the source person. All but two men indicated that the source person was a man, and mostly they believed these sexual partners to be gay (84.1%), although this was slightly less the case in Queensland
and Western Australia. Half (50.0%) reported that they had previously met the source person, including 26.9% who were well-known to them – this was especially true of respondents from outside NSW and Victoria. Similar to what was found in the PHAEDRA version of the Seroconversion Study (Jin et al, 2007), a minority said that the source person was their regular partner: One in seven (14.0%) said that the source person was their boyfriend (although about twice as many had said their main regular partner was present at the HRE), and a similar proportion (15.5%) said it was a fuckbuddy. Over half (52.7%) described the source person as a casual partner but one third of these were nonetheless partners they had previously met, and they had previously had sex with one in five of them. Among those who indicated they had previously known the source person, the majority of the casual partners and a little less than half the boyfriends were men they had known for less than three months, while this was true of only a few of their fuckbuddies.

**Knowledge of HIV status**

Over half (51.1%) indicated that they believed they knew the HIV status of the source person. One in five believed this person was HIV-positive, including 14.5% who were certain this was the case. This was similar to what had previously been found in the PHAEDRA version of the Seroconversion Study (Jin et al, 2007). When asked how they knew the HIV status of the source person, the majority indicated that they had been told by them, mostly before the HRE, although slightly fewer Victorian respondents indicated that the source person had actually told them their HIV status.

Knowledge of their partners’ HIV status appears to accompany a degree of intimacy and acquaintance. The more they know each other then the more likely they are to also know each others’ HIV status.

Knowledge of partners’ HIV status is dependant on reliable information. When men inform each other of their HIV status they either take this at face value or imply a lack of trust in each other. This sometimes results in decisions based on mutual trust rather than clear reliable information:

> “Believing on face value that my regular partner was negative... being a bit too lax about HIV transmission generally.”

> “A certain misplaced insouciance and an equally misplaced trust.”

Over one third (38.3%) of respondents who were able to identify the HRE reported that they now know the source person is HIV-positive. Whereas in the earlier PHAEDRA version of the Seroconversion Study many men knew their HIV-positive partners’ viral load (Jin et al, 2007), very few of the men in this sample who indicated the source person was HIV-positive knew their partner’s viral load or whether they were on anti-HIV treatments.
**Sexual behaviour**

Most of those who reported sex with a man at the HRE indicated they had been the receptive partner during anal intercourse (78.6%) and only one in seven of these said they had used a condom the whole time. In the majority of these cases the men reported that their partner had ejaculated inside them – although this was more commonly reported by the Queensland respondents. A little less than half of those who reported sex with a man at the HRE, indicated they were the insertive partner during anal intercourse (45.3%) with about a quarter of these indicating that they had used a condom the whole time; all those reporting insertive UAI also reported having engaged in receptive UAI. As was the case with the PHAEDRA version of the Seroconversion Study, strategic positioning appears to have been uncommon in this sample (Jin et al, 2007). Six of the men in this sample who did use a condom for either receptive or insertive anal intercourse at the HRE said that the condom either broke or slipped off during sex. Several of the remaining men who did not report UAI at the HRE, indicated elsewhere in the survey that they had engaged in UAI with a male partner on another occasion during the six months prior to their HIV diagnosis.

About one in seven reported that the source person had ejaculated in their mouth at the HRE, a small number of whom provided no other risk behaviour. Some men were adamant that they had been infected as a consequence of oral sex, and sometimes offered additional reasons why oral sex may have been a higher risk on that particular occasion or in this particular case:

- “I was infected via oral sex, I have NEVER had unsafe sex!”
- “Tongue piercing and seven year old tongue ring may have contributed to risk in oral sex.”

About one in five described other sexual behaviour they engaged in at the HRE that they thought might have contributed to their HIV infection. Often this involved cuts or sores and contact with blood, especially when fisting was involved.

**Drug use**

Use of drugs reported at the HRE was similar to what was found in the earlier PHAEDRA version of the Seroconversion Study (Volk et al, 2006). One third (37.3%) of those who were able to identify the HRE reported drinking alcohol on this occasion, the majority of whom had at least five drinks. Over a quarter reported using amyl nitrite, one in five used crystal methamphetamine, and one in six reported using GHB at the HRE. One in eight had taken erectile dysfunction medication such as Viagra. Use of crystal methamphetamine and of erectile dysfunction medications was more common among NSW respondents. A minority (9.7%) reported injecting any drugs, usually crystal meth, at the HRE. Four men reported using unclean needles.
Several men felt that their use of drugs was responsible for them putting themselves at risk:

“Don’t take Tina and fuck!!!!”

“I probably got it because I had been drinking and was not aware the person fucking me had not put on a condom or had removed it”

Reasons for Risk Taking

When asked in the depth interviews about decision making and the contexts of risk taking at the HRE, those that could identify the specific event reported a variety of motivations for their actions. Many made an exception to the stated or intended risk-reduction strategies that they usually employed. In some cases, participants reported feeling caught up in the moment:

“It was just in the, in the spur of the moment. It was just … yeah, he was just something, he was someone that had always seemed unattainable to me – out of my league – and then when I was there and the situation presented itself, it was like ‘go for it’.”

[Interviewer: At that point did it cross your mind maybe about what you were doing] “No, I don’t think it did. Because I was just enjoying the moment immensely.”

For others, it was for reasons of intimacy or trust:

“And I would fuck him, and he would fuck me, and blah, blah, blah. You know, hours and hours. And for us it was a very unique thing. An intimate thing. Well, for me it was. For me it was. Spending time with him and shutting the world out.”

And some reported being swayed by lust or physical attraction to a partner that was in some way an ideal for them, someone who was their ‘type’ in some way:

“I said, ‘Normally I don’t fuck without a condom’ but I was prepared to take the chance in this instance.” [Interviewer: Why?] “Because his penis was gorgeous!”

Lack of knowledge was cited by some men as the reason they put themselves at risk. For some men this lack of knowledge was a general statement about lack of access to information.

“Falling in love with another man for the first time in my life and trusting him. Not been out. Not reading gay magazines, not been to gay bars and venues apart from beats – I was married to a woman for fifteen years. Didn’t have the exposure and the knowledge that I have now that I’m involved in the gay community.”

Other men cited certain specific issues that they feel they were insufficiently informed about:
“My previous partner was positive so I was unafraid of positive guys. However, the time I seroconverted also coincided with our exploration into fisting and arse-play. I believe that I did not possess enough information in this area to protect me.”

Some men appeared to rely on the reminders to practise safe sex provided by the constant presence of HIV-prevention resources to keep to their own rules about what they would and would not do:

“My lack of exposure to safe sex messages I feel led me to ignore my sensibilities and take one too many risks in the name of being horny. And I was unlucky enough to be in the wrong place at the wrong time in the wrong position.”

More commonly, though, men were inclined to place much of the responsibility on themselves:

“Just my own stupidity for getting HIV, But its been dealt with and I’m happy with my life and dealing well with my HIV.”

“I just fucked up.”
Post-exposure Prophylaxis

Men were asked about their knowledge and use of post-exposure prophylaxis (PEP).

**Knowledge of PEP**

Although knowledge of PEP was lower than had been the case in the earlier PHAEDRA version of the Seroconversion Study (Volk et al, 2006), actual use of PEP was much higher in this sample: The majority (53.4%) indicated they had heard of PEP at the time of the HRE, a third of whom had used PEP on a previous occasion. Knowledge of PEP was more common in NSW than in other states – only a minority of Queensland respondents had heard of PEP, although they were as likely to have previously used PEP as were men in other states.

**Use of PEP after HRE**

Among those who were able to identify the HRE only five men indicated that they had taken PEP as a result of this event. Only two of these men said that he had not completed the prescribed 4 weeks of treatment (on the advice of their doctors), and two men indicated that they had not started taking PEP until at least 24 hours after the HRE. There have been no documented cases of PEP failure identified in Australia, and the cases reported here are entirely based on self-reported, and limited, data, which have not been clinically verified.

When the men who had previously heard about PEP were asked why they had not taken PEP on this occasion, the most common reasons given were that they did not think they had done anything risky, and that they had not realised the source person was HIV-positive.
Sexual behaviour prior to diagnosis

Men were asked about their sexual behaviour with different types of sexual partners in the six months prior to their HIV diagnosis, other than the specific event that they believed led to their HIV infection. They were asked about what they did with their primary regular partner or boyfriend, with other regular partners such as fuckbuddies, and with casual partners.

Meeting male partners

Two thirds of the men reported using the internet to meet male partners during the six months prior to their HIV diagnosis and the majority also reported using gay bars and gay sex-on-premises venues. Nearly a quarter had attended private sex parties. Nearly half also reported use of beats at that time to meet men for sex.

Table 6: Methods of meeting male partners in six months prior to HIV diagnosis (%)

<table>
<thead>
<tr>
<th>Method</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>71.2</td>
</tr>
<tr>
<td>Gay bars</td>
<td>59.7</td>
</tr>
<tr>
<td>Dance parties</td>
<td>39.6</td>
</tr>
<tr>
<td>Saunas</td>
<td>60.8</td>
</tr>
<tr>
<td>Sex clubs</td>
<td>46.7</td>
</tr>
<tr>
<td>Beats</td>
<td>43.1</td>
</tr>
<tr>
<td>Gyms</td>
<td>17.4</td>
</tr>
<tr>
<td>Private sex parties</td>
<td>23.5</td>
</tr>
</tbody>
</table>

Number of male partners

On average, other than the partner they believe had infected them, the men reported having about sixteen male partners during the six months prior to their HIV diagnosis. This was lower than was found in the earlier PHAEDRA version of the Seroconversion Study, but was similar to reported behaviour among HIV-negative men in the Gay Community Periodic Surveys (Volk et al, 2006). Some men in this sample reported no male partners, other than the man they believe had infected them.

Table 7: Number of male partners, other than the source person, in six months prior to HIV diagnosis (%)

<table>
<thead>
<tr>
<th>Number of Partners</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>10.4</td>
</tr>
<tr>
<td>One</td>
<td>7.2</td>
</tr>
<tr>
<td>2-5</td>
<td>26.4</td>
</tr>
<tr>
<td>6-10</td>
<td>20.0</td>
</tr>
<tr>
<td>More than 10</td>
<td>36.0</td>
</tr>
</tbody>
</table>
Primary regular male partners and boyfriends

Half (54.6%) of those who indicated they had had sex with men during the six months prior to their HIV diagnosis, reported having a regular male partner – although this was less true of NSW and Victoria. Almost half of the men who reported having a primary regular partner (41.3%) had more than one regular partner in the six months prior to their HIV diagnosis. Nonetheless, all but a few were able to identify a single primary partner or boyfriend. Only a quarter of the men with a primary regular partner believed that this was the person who had infected them with HIV.

Among the men who had had sex with a primary regular partner in the six months prior to their HIV diagnosis, two thirds (69.2%) believed this partner was HIV-negative.

Over half of those with a primary regular partner indicated they had engaged in receptive unprotected anal intercourse (UAI) with that partner. Those men who knew their primary regular partner was HIV-positive were more likely to restrict themselves to the insertive role for UAI, although well over a third of them nonetheless engaged in receptive UAI.

| Table 8: Sex with primary regular male partners in six months prior to HIV diagnosis (%) |
|---------------------------------|--------|--------|
| Receptive unprotected anal intercourse | withdrawal | 56.2 |
|                                    | with ejaculation | 54.7 |
| Insertive unprotected anal intercourse | withdrawal | 37.1 |
|                                    | with ejaculation | 41.3 |

Other regular male partners and fuckbuddies

One in seven of those who indicated they had had sex with men during the six months prior to their HIV diagnosis, reported having a regular male partner other than their primary partner. About half of them had more than three such partners.

About a third of the men reporting sex with other regular partners indicated they had engaged in receptive UAI with those partners. Most men knew the HIV status of their other regular partners, and about half of the other regular partners with whom they engaged in UAI were HIV-positive.

| Table 9: Sex with other regular male partners in six months prior to HIV diagnosis (%) |
|---------------------------------|--------|--------|
| Receptive unprotected anal intercourse | withdrawal | 41.2 |
|                                    | with ejaculation | 29.4 |
| Insertive unprotected anal intercourse | withdrawal | 47.1 |
|                                    | with ejaculation | 41.2 |
| Group sex                          |                  | 57.1 |
Casual male partners

Most (84.7%) of those who indicated they had had sex with men during the six months prior to their HIV diagnosis, reported having sex with casual male partners, although this was slightly less true of Queensland respondents. They reported having an average of sixteen such partners.

About a third of the men reporting sex with casual male partners in the six months prior to their HIV diagnosis indicated they had engaged in receptive UAI with those partners. The majority of these casual partners with whom they engaged in UAI were men whose HIV status they did not know, and only a small number were men they knew to be HIV-positive.

Table 10: Sex with casual male partners in six months prior to HIV diagnosis (%)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Withdrawal</th>
<th>Withdrawal with ejaculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptive unprotected anal intercourse</td>
<td>44.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Insertive unprotected anal intercourse</td>
<td>31.0</td>
<td>22.0</td>
</tr>
<tr>
<td>Group sex</td>
<td>60.9</td>
<td></td>
</tr>
</tbody>
</table>

Two thirds of the men who reported sex with men in this study also reported sex with casual male partners in the four weeks prior to their HIV diagnosis, although this was less true of Queensland respondents. Nearly a third of these men who had had sex with casual partners in the four weeks prior to their HIV diagnosis indicated they had engaged in UAI with these casual partners, mainly with men whose HIV status was unknown and very few with men they knew to be HIV-positive.

Female partners

Just five men indicated they had had sex with any female partners during the six months prior to their HIV diagnosis. Four of these men reported that this was with a regular female partner, although only two indicated having engaged in unprotected intercourse with their regular female partner.
Drug use prior to diagnosis

Men were asked about their use of drugs in the six months prior to their HIV diagnosis.

Types of drugs used

Most men reported using drugs during the six months prior to their HIV diagnosis. Amyl, ecstasy and marijuana were the most common drugs used, but over a quarter reported using crystal methamphetamine and one in six reported using GHB. A third reported using erectile dysfunction medications such as Viagra. Although mostly similar across states, there were some slight differences: NSW respondents were more likely to report using amphetamines in general and erectile dysfunction medications; Queensland respondents were more likely to report using marijuana; amyl nitrite use was reported more often by NSW and Victorian men.

Table 11: Types of drugs used in six months prior to HIV diagnosis (%)

<table>
<thead>
<tr>
<th>Drug</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amyl nitrite</td>
<td>58.1</td>
</tr>
<tr>
<td>Marijuana</td>
<td>40.9</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>44.1</td>
</tr>
<tr>
<td>Crystal methamphetamine</td>
<td>28.8</td>
</tr>
<tr>
<td>Speed</td>
<td>17.8</td>
</tr>
<tr>
<td>Cocaine</td>
<td>16.5</td>
</tr>
<tr>
<td>GHB</td>
<td>17.4</td>
</tr>
<tr>
<td>Special K</td>
<td>15.0</td>
</tr>
<tr>
<td>Viagra, etc</td>
<td>33.0</td>
</tr>
</tbody>
</table>

One in eight (13.7%) reported having injected any drugs in the six months prior to their HIV diagnosis, which was lower than was found in the earlier PHAEDRA Seroconversion Study but was much higher than is found in the Gay Community Periodic Surveys (Volk et al, 2006).
Sexual behaviour after diagnosis

Men were also asked about their sexual behaviour with different types of sexual partners in the four weeks after their HIV diagnosis. Seroconverters in the PASH study also reported recent sexual behaviour – in the six months prior to interview.

**Four weeks after diagnosis**

About a third of the men who reported sex with men in this study also reported sex with casual male partners in the four weeks following their HIV diagnosis, although, again, this was less true of Queensland respondents. About a third of these men (one in ten of the men who reported sex with men) indicated they had engaged in UAI with these casual partners, the majority with men they knew to also be HIV-positive, though almost as many did so with men whose HIV status was unknown – only one man reported having engaged in UAI with casual partner he ‘knew’ to be HIV-negative.

**Recent sexual behaviour**

We did not ask men in the survey component of this study about their sexual behaviour in the period just prior to being enrolled in the study. However, recent seroconverters in PASH were asked about their sexual behaviour in the six months prior to completing the survey. Half of the recent seroconverters in PASH reported having more than ten male partners during the six months prior to completing the questionnaire, which was somewhat higher than was found in this sample for the six months prior to their HIV diagnosis, but similar to what was found in the earlier PHAEDRA version of the study (Volk et al, 2006)

Most recent seroconverters in PASH reported having had sex with casual partners in the six months prior to completing the survey, similar to what was found among men in this sample for the six months prior to their HIV diagnosis. Rates of UAI with these partners were similar in the two samples although among recent seroconverters in PASH they mostly reported that this had occurred with other men they knew to be HIV-positive.
Sexuality and Sexual Desire

Participants were asked about their sexuality, what they enjoyed doing sexually and their preferences in anal sex.

Sexuality

The mean age at which men in this study first had sex with another man was 16.8 years, and they first disclosed their homosexuality to others on average at 21.5 years. Most men (90.7%) identified as homosexual, although Queensland respondents were slightly less likely to do so. Similar patterns applied to findings among men recently diagnosed in PASH, plus a third of those men reported being at least somewhat involved in the gay community. In the PASH study, over half the recent seroconverters identified to some extent as ‘sexpigs’ and as ‘partyboys’; three quarters described themselves as at least somewhat ‘kinky’.

When asked to rate themselves in terms of sexual attractiveness, on a scale from 0 to 10 their average rating was 6.5, which was the same as was found for all PASH respondents, regardless of their HIV status or how recently the HIV-positive respondents had been diagnosed.

Anal sex preferences

The majority of men (53.5%) indicated they considered themselves to be ‘versatile’ with respect to anal sex, and that they therefore enjoyed both the insertive and receptive position. Over a quarter (29.6%) preferred the receptive position and just 14.1% preferred being the insertive partner, with the remaining few men saying they did not enjoy anal sex at all. In the PASH study men were asked a slightly different question, to indicate whether they were more of a top (insertive) or a bottom (receptive) or versatile. The recent seroconverters in PASH were more likely to indicate they tended toward the receptive role more than the insertive.

Sexual desire

When asked about the importance of ejaculation, about half the men in this sample attached any importance to whether their partners came inside them and about a third indicated it was at all important that they came inside their partners. In the PASH study men were asked to indicate how sexually exciting they found different sex practices: Just one in six of the recent seroconverters in PASH indicated that receptive anal intercourse with a condom was very exciting (and nearly half indicated it was not exciting at all), but over three quarters indicated that receptive UAI with ejaculation inside was very exciting.
Half the recent seroconverters in PASH also indicated that group sex was very exciting and about a third indicated that ‘party n play’ and using drugs for sex was very exciting.

[What kind of sex really turns you on?]

“Unprotected group sex, getting fucked by multiple partners.”

“Bound and tied, no option to myself and out of my control what happens to me, to allow my partner to do as he pleases and ensure I am well used. Gangbanged and pissed all over, drinking cum and piss and sucking any cocks that have fucked me.”

“Dirty drug play - watersports, toys, fucking, rimming exhibition (watching and being watched) my partner fucking someone else.”

“Sex in groups and dance parties”

These sorts of descriptions of what the men find exciting are very much like what has been described as ‘intensive sex partying’ (Hurley and Prestage, 2009). However, a third of the men who had been recently diagnosed in the PASH study also indicated that being emotionally connected to their partner was a very exciting aspect of sex for them.

[What kind of sex really turns you on?]

“Sex where I know the person and enjoying the same thing.”

“Being fucked by a well-hung dominant guy who’s really turned on by me”

But for some men the desire for ‘raw, uninhibited sex’ and for an emotional connection with their partners coincided:

“Group sex with a bunch of like-minded hairy men who are OK about sharing.”
Sexual and Other Relationships

Men were asked about their relationships with their regular partners (boyfriends) and about other personal relationships.

Regular partners

Less than half (41.1%) were in a relationship at the time of their HIV diagnosis; in all but three cases their regular partner was a man. About a quarter of these relationships were of less than twelve months duration, but nonetheless the average length of these relationships was about six years. Among recent seroconverters in the PASH study, about three quarters of those with a current regular partner at the time of completing the survey reported that their partner was HIV-positive; the majority of these relationships were of at least three years standing.

Most men knew the HIV status of their regular partners. However, negotiating this knowledge, and its implications was often complicated and difficult. The process of disclosing HIV status seems to have involved a degree of intimacy in itself, and for some men seems to provide some greater basis for trust and a sense of security. Participant SS5 related how he felt after his partner told him his HIV status and how it had altered his capacity to trust his partner:

“And I felt that for the very first time I actually fell in love, and that it’s real love. And I didn’t know what love is before then. And nothing else mattered. He gave me all this amazing strength to do, to, to, just be who I am and not worry about anyone else, and not care about all that. And ... and I trusted him. And I had huge issues with trust because of my sexual abuse as a child. And I actually trusted him.”

Negotiating knowledge of HIV status and what it means for sex within a relationship can be very difficult in some cases. It can bring up powerful emotions, both in the telling of the story and in how they deal with the effects on their relationships, as in the case of this man who related what happened when he and his partner were initially tested for HIV, some time before he subsequently seroconverted himself:

“... he didn’t want to go for testing... He got really drunk in order to be able to go there ... We walked in together. He didn’t want me to be there. I went to my appointment, he went to his. Two weeks later we went to pick up the results. ... So we walked in and I picked up my results, and he went into another doctor to pick up his results. And I came out, you know, with my list. ‘Oh look, it’s all negative and I’m clear, and nothing’s wrong, and blah, blah, blah.’ And he wouldn’t show me his results. [sobs]He didn’t have a printout and he looked really upset. And he turned around and ... I said, ‘Are you alright? Is everything okay?’ And he said, ‘Yeah, yeah, everything’s fine. We’ll have to use condoms from now on’.” [long pause]
The consequences of an HIV-positive diagnosis within a relationship and what that means in terms of men’s desire, both sexual and emotional, can be very complicated. For many men, the need to use condoms raises tensions about the emotional connection and physical desire:

“I always play safe with my boyfriend cause he is negative. Would love to be fucked raw by him though ...”

There can be an enormous tension between the desire to protect oneself and one’s partner, and the need to feel a close connection with each other and to share feelings. For this man, when his partner was diagnosed with HIV, he felt him withdraw from him and felt increasingly isolated. He believed his partner was slipping away from him because they could no longer share the same intimate connections they once had:

“After 12 months of battling with him to try and convince him that, you know, I loved him, stupidly I thought that the only way that I could prove to him that I loved him was to infect myself... So I held him down on the floor and I got on top of him, and I gave myself HIV.”

When the interviewer questioned him further, he wanted to make it very clear that his plan was not to get HIV, but to re-establish his relationship by removing what he saw as the barrier between them: HIV.

For some men, the consequences of HIV entering their relationship create a new set of pressures and concerns about care for each other that sometimes cannot be resolved:

“I am really worried about my boyfriend as two years later (now he has officially been diagnosed) he still hasn't got back for a second test and he drinks ([he is an] alcoholic) and is very depressed. I think he'll die of AIDS. I want to help him but he doesn't want to help himself.”

**Friendship networks**

While we did not directly ask about friendship networks in this study, men commonly reported that their gay friends, and especially their HIV-positive friends were one of their main sources of personal support. Among recent seroconverters in the PASH study, the majority reported that most or all of their friends were gay men, and most reported spending more than a little of their free time with their gay friends.
Personal Support and Mental Health

Men were asked about their contact with the people with HIV and personal support networks at the time of their HIV diagnosis and since then.

Contact with the epidemic
Two thirds (66.1%) of men reported knowing someone with HIV at the time of their diagnosis, including 18.9% who knew more than five – NSW respondents were more likely to have known someone with HIV. One quarter (23.6%) also knew someone who had been diagnosed for the first time during the twelve months prior to their own diagnosis. One in five (21.3%) knew someone who had died from AIDS in the previous year.

Sources of personal support
When asked how much support they currently received from their doctors, almost half (41.1%) indicated that they received all the support they need from their doctors with very few indicating that they received little support. Over a third (34.4%) indicated receiving all of the support they needed from their regular partners – over half of those who had a regular partner. One quarter (26.3%) also reported receiving sufficient support from HIV carers and other support staff. As for their friends, they reported receiving as much support from HIV-negative friends as they did from other people with HIV.

In states where local HIV organizations have developed a Genesis or Phoenix support program for recently diagnosed individuals, the majority had heard of these programs – although it should be noted that many had been referred into the study through these programs. As would be expected, in states where such programs did not exist, no respondents indicated having heard of them. When asked what services they would like to have available, many took the opportunity to comment on how valuable the Genesis or Phoenix program had been. Other services suggested included ongoing peer support and counselling, and better access to information about treatment options and treatment planning. Some men commented that they would benefit from a support group specifically targeting men of their own age group who had recently seroconverted on the basis that their experience of HIV was very different depending on the individuals’ age.
**Mental health**

On the measures of mental health, the majority of men reported that they currently experienced few difficulties in coping with daily life, although the majority did indicate at least some problems. However, to the extent that they did experience any difficulty currently coping with daily life, they tended to report that these problems were greater now than they were at the time of their HIV diagnosis. Indeed whereas about two thirds reported some problems currently, only about one third reported such problems at the time of their HIV diagnosis, and when comparing their mental health now with how they felt in the period just prior to their HIV diagnosis they were inclined to report feeling worse now.

As in earlier versions of the study, many men who were interviewed in person for the qualitative component of the study commented that this had been the first occasion when they had been able to tell their story. The interview provided an opportunity for them to talk about the period from prior to their seroconversion, through the period when they believe they had become infected and when they had been diagnosed as HIV-positive, and since their diagnosis, and it was the first time they had been able to tell details of their story in a non-clinical setting. They generally indicated that the opportunity to reflect on their experiences in this way, without necessarily needing to explain what went ‘wrong’ for them, was very productive for them. Some described it as cathartic, while others simply appreciated the opportunity to reflect on it with someone whose job it was just to listen to their story without any expectations or judgments. While this was not the purpose of the study of course, it was clear that some men found the experience of participation useful in itself.
Attitudes and Beliefs

Men were asked about their attitudes concerning HIV and beliefs about the risks for HIV transmission.

Beliefs about HIV

The majority of men agreed that HIV is no longer a death sentence is becoming a manageable disease and is a less serious threat than in the past, and this belief has changed little from prior to their HIV diagnosis. For the most part this was viewed positively, but one participant said:

“You know, people these days seem to have a really sort of blasé attitude to HIV because of all the advancements that have been made in antiretroviral therapy, and all of that sort of stuff. A lot of the times I kind of feel angry and wish that I had cancer because at least if I had cancer I would get some form of sympathy. Whereas now I tell people I’ve got HIV and they’re like, ‘Aw, it’s okay, you know. It’s not a death sentence.’ You know?”

However, although the majority of men indicated that prior to their HIV diagnosis they were less concerned about HIV transmission than in the past, they were less likely to hold this belief now, after their own HIV seroconversion.

Table 11: Beliefs about HIV (%)

<table>
<thead>
<tr>
<th>Beliefs prior to HIV diagnosis</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV and AIDS are less serious threats than they used to be</td>
<td>15.0</td>
<td>25.0</td>
<td>55.0</td>
<td>5.0</td>
</tr>
<tr>
<td>I’m less worried about HIV transmission than I used to be</td>
<td>30.0</td>
<td>35.0</td>
<td>32.5</td>
<td>2.5</td>
</tr>
<tr>
<td>HIV is no longer a death sentence</td>
<td>12.5</td>
<td>17.5</td>
<td>47.5</td>
<td>22.5</td>
</tr>
<tr>
<td>HIV is becoming a controllable disease like diabetes</td>
<td>12.5</td>
<td>37.5</td>
<td>37.5</td>
<td>12.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current beliefs</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV and AIDS are less serious threats than they used to be</td>
<td>25.8</td>
<td>25.0</td>
<td>41.4</td>
<td>7.8</td>
</tr>
<tr>
<td>I’m less worried about HIV transmission than I used to be</td>
<td>39.5</td>
<td>37.2</td>
<td>17.8</td>
<td>5.4</td>
</tr>
<tr>
<td>HIV is no longer a death sentence</td>
<td>11.9</td>
<td>11.9</td>
<td>38.1</td>
<td>38.1</td>
</tr>
<tr>
<td>HIV is becoming a controllable disease like diabetes</td>
<td>11.9</td>
<td>26.2</td>
<td>40.5</td>
<td>21.4</td>
</tr>
</tbody>
</table>

Recent seroconverters in the PASH study responded in very similar ways to these questions as did the men in this sample when asked how they felt about these issues now.

Beliefs about HIV treatments

The majority of men disagreed that HIV treatments have reduced the likelihood of HIV transmission, and this belief appears to have changed little since their HIV diagnosis.
Table 12: Beliefs about HIV treatments (%)

<table>
<thead>
<tr>
<th>Beliefs prior to HIV diagnosis</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>An undetectable viral load makes it unlikely to pass on HIV</td>
<td>27.5</td>
<td>52.5</td>
<td>17.5</td>
<td>2.5</td>
</tr>
<tr>
<td>The availability of treatment (PEP) immediately after unsafe sex makes safe sex less important</td>
<td>47.5</td>
<td>40.0</td>
<td>12.5</td>
<td>0.0</td>
</tr>
<tr>
<td>HIV positive men who are on treatments are unlikely to pass on HIV if they fuck without a condom</td>
<td>41.0</td>
<td>46.2</td>
<td>12.8</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current beliefs</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>An undetectable viral load makes it unlikely to pass on HIV</td>
<td>31.0</td>
<td>42.9</td>
<td>23.8</td>
<td>2.4</td>
</tr>
<tr>
<td>The availability of treatment (PEP) immediately after unsafe sex makes safe sex less important</td>
<td>59.4</td>
<td>31.3</td>
<td>7.8</td>
<td>1.6</td>
</tr>
<tr>
<td>HIV positive men who are on treatments are unlikely to pass on HIV if they fuck without a condom</td>
<td>40.5</td>
<td>42.9</td>
<td>16.7</td>
<td>0.0</td>
</tr>
</tbody>
</table>

As with the beliefs about HIV in general, recent seroconverters in the PASH study responded in very similar ways to these questions about HIV treatments as did the men in this sample when asked how they felt about these issues now.
Attitudes toward HIV transmission

The majority of men disagreed that HIV treatments have meant that they can be less concerned about HIV transmission, and this belief appears to have changed little since their HIV diagnosis.

Table 13: Beliefs about HIV treatments (%)

<table>
<thead>
<tr>
<th>Beliefs prior to HIV diagnosis</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV treatments take the worry out of sex</td>
<td>42.5</td>
<td>52.5</td>
<td>5.0</td>
<td>0.0</td>
</tr>
<tr>
<td>HIV treatments make it easier to talk about unsafe sex</td>
<td>25.0</td>
<td>52.5</td>
<td>17.5</td>
<td>5.0</td>
</tr>
<tr>
<td>I fuck without condoms more often because of HIV treatments</td>
<td>52.5</td>
<td>45.0</td>
<td>2.5</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Beliefs</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV treatments take the worry out of sex</td>
<td>40.6</td>
<td>48.4</td>
<td>7.8</td>
<td>3.1</td>
</tr>
<tr>
<td>HIV treatments make it easier to talk about unsafe sex</td>
<td>26.8</td>
<td>39.0</td>
<td>31.7</td>
<td>2.4</td>
</tr>
<tr>
<td>I fuck without condoms more often because of HIV treatments</td>
<td>56.1</td>
<td>31.7</td>
<td>9.8</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Recent seroconverters in the PASH study were somewhat more inclined to indicate that they use condoms less often because of HIV treatments, and that HIV treatments take the worry out of sex than did the men in this sample when asked how they felt about these issues now.
**Beliefs about HIV status**

The majority of men agreed that if they know someone’s HIV status this can help to negotiate safe sex. Also, while the majority agreed that it is not possible to be certain of someone’s HIV status, they did believe that there were some men whose HIV status they personally could know. These attitudes appear to have changed little since their HIV diagnosis.

**Table 14: Beliefs about HIV status (%)**

<table>
<thead>
<tr>
<th>Beliefs prior to HIV diagnosis</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing someone's HIV status is a way to avoid spreading HIV</td>
<td>7.7</td>
<td>17.9</td>
<td>35.9</td>
<td>38.5</td>
</tr>
<tr>
<td>Knowing someone's HIV status is a way to practice safe sex</td>
<td>7.7</td>
<td>23.1</td>
<td>38.5</td>
<td>30.8</td>
</tr>
<tr>
<td>You can never be sure you know someone's HIV status</td>
<td>2.5</td>
<td>12.5</td>
<td>30.0</td>
<td>55.0</td>
</tr>
<tr>
<td>There are some men whose HIV status I can be sure of</td>
<td>20.5</td>
<td>33.3</td>
<td>25.6</td>
<td>20.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current beliefs</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing someone's HIV status is a way to avoid spreading HIV</td>
<td>11.9</td>
<td>14.3</td>
<td>35.7</td>
<td>38.1</td>
</tr>
<tr>
<td>Knowing someone's HIV status is a way to practice safe sex</td>
<td>14.3</td>
<td>19.0</td>
<td>33.3</td>
<td>33.3</td>
</tr>
<tr>
<td>You can never be sure you know someone's HIV status</td>
<td>4.8</td>
<td>11.9</td>
<td>33.3</td>
<td>50.0</td>
</tr>
<tr>
<td>There are some men whose HIV status I can be sure of</td>
<td>23.8</td>
<td>35.7</td>
<td>23.8</td>
<td>16.7</td>
</tr>
</tbody>
</table>
Conclusions

Summary of findings

In general, men recently diagnosed with HIV were able to identify the occasion they believed most likely led to their HIV infection and the person they believed most likely infected them, as well as what had occurred on that occasion. For the most part they reported engaging in high risk behaviours on that occasion – usually receptive UAI, mostly with partners they did not know to be HIV-positive, although a minority did know this was the case on that occasion and nonetheless they had engaged in UAI, including receptive UAI, with that person, usually without any clear knowledge of this partner’s HIV viral load.

Very often the person they believe had infected them was someone they had known previously, although many were also partners who were completely unknown to them, both at the time and since then. Men in the less populous states, however, were somewhat more likely to have previously known the person they believe had infected them. They also tended to be more likely to be in an ongoing sexual relationship with a regular partner at the time of their HIV infection.

The men in this study appeared to be quite sexually active and sexually adventurous at the time of their HIV seroconversion, and often also used drugs to enhance their sexual experiences. This was especially true of NSW respondents. Nonetheless, some men did not fit this ‘usual profile’ of a seroconverter, and often these men were less clear about how they believe they had become infected with HIV.

In general, recent seroconverters were relatively accepting of their situation and acknowledged that they had chosen to take a risk. Nonetheless, some men indicated that they felt they had been misinformed, sometimes by their sexual partners who had failed to tell them their HIV status, and sometimes by HIV organizations because they felt they had not been provided sufficiently detailed information to account for the specific circumstances in which they had put themselves at risk.

While overseas travel has been identified as a particular risk context for heterosexual persons who have recently been diagnosed with HIV, this study has found that a substantial minority of gay men who have recently been diagnosed with HIV also report that the event they believe had led to their HIV seroconversion had occurred overseas, though usually during a period of extended residence overseas. None reported travelling specifically for sex.

Most men appeared to be coping with their HIV diagnosis and had reasonably good support available to them. Nonetheless, some men expressed some concern about their mental state, though much more so now than at the time of their HIV seroconversion. While mental health may play some role in HIV...
seroconversion for some individuals, for most of the gay men in this study it appeared that their experiences post-diagnosis suggest that mental health issues are relatively more important in relation to what they experience after their diagnosis and how they feel about it later.

While the majority of men were happy with the quality of the services available to them there were some suggestions for services that might address specific information needs, such as treatment options post-diagnosis, and more detailed information about specific and relative risk factors for HIV infection prior to diagnosis. Also some men would have liked to have peer support activities that were tailored to men like themselves, such as more age-specific services.

**State differences**

Overall, there appeared to be few differences across the states, at least in terms of the contexts for risk behaviours. Although broadly similar to other states, Queensland men, in particular, were less likely to have heard about PEP, although they were as likely to have used PEP as were men in other states. Queensland respondents were also somewhat more likely to report having engaged in receptive UAI with the person they believe infected them with HIV. In Queensland the majority of questionnaires were completed on-site in clinic settings, whereas elsewhere they were mainly completed online in a private setting. While this may have played a role in the observed differences in responses, these particular differences do not appear to fit this explanation. In a clinic setting it would be expected that knowledge of PEP would have been higher, not lower, than among men completing the questionnaire in other settings. Also, typically it is expected that men would be less inclined to relate high risk behaviour in a clinical setting where they might fear that their health practitioners would become aware of such behaviour and so we might expect reports of receptive UAI to be less common in those settings rather than more common.

**Discussion**

We have been able to identify some of the particular contexts and circumstances in which men have engaged in behaviours that had put them at risk of HIV infection. For some men it appears that their risk behaviours occurred in the context of sexually adventurous networks broadly corresponding to what has been described as ‘intensive sex partying’ (Hurley and Prestage, 2009). For these men their HIV infection may not be surprising, except that they appear to be well-informed and had mainly sought to avoid infection. Perhaps it is the case that they have allowed themselves to take risks because they were ‘swept up in the moment’ as they often explain it. However, what is equally apparent is that such ‘moments’ are often not isolated or unique events. Sexual desire is undoubtedly a major explanation for what occurs in these instances, but even so, there is clearly an increasing trend that individuals are more likely to act on these immediate desires than was the case in the past. We can presume that changes in the way men think about HIV and risk underlie these trends, but the specifics of these
changes are unclear: What, specifically, makes gay men now feel more relaxed about taking somewhat more risk than they might have in the past? And, how rational are the beliefs that underlie these feelings?

As well as being relatively sexually adventurous, another issue that appears to emerge from these data is that of familiarity and trust. Very often the men in this study described the person they believe had infected them as someone they already knew, and whom they believed they could trust. However, regardless of whether this was their regular partner, a friend, or someone else, it was often the case that they had actually only known this person for a relatively short time. There are practical considerations here, such as: Was this simply a case of acting too swiftly before they could really know enough about each other to take that level of risk? But there is a broader issue here as well. For the most part the men in this study were inclined to place considerable trust in their partners, and while there were occasional tales of deceit or at least failure to communicate, for the most part they did not blame their partners for what had happened, and appeared to be very sympathetic to their partners’ fears about confronting their situation properly. We are inclined to ask what are the foundations for this degree of trust and what is that is being trusted: Do they trust that their partners are being honest with them? Or that they would simply know if there was any reason for concern? Or that they would tell them if there was anything they needed to know? Is it this individual person that they trust or do they place their trust in some sort of tribal feeling of belonging and faith in a sort of collective sexuality, or even community?

Even if we accept that some men have been more willing to entertain a degree of risk they might not have done just a few years ago, what is equally clear in these data is that, for the most part, these men have not merely taken slightly more risk than they would otherwise; they have usually engaged in the most high risk practice – receptive unprotected anal intercourse – and mainly with partners they could not be certain were HIV-negative, including, often, with partners they actually knew were HIV-positive. And what is equally clear is that this often reflected their own sexual preferences. This should not be surprising, that men will behave sexually in ways that reflect their sexual desires and that those who seroconvert tend to be those whose sexual desires correspond to the sex practices that are high risk for HIV transmission. Perhaps the behaviour is inevitable – but is the risk that is involved equally inevitable? Negotiated safety provided a means for men to discard condoms within a committed relationship, to permit men in such relationships to enact the physical intimacy they desired with each other. However, increasingly men in serodiscordant relationships are also agreeing to, and actually, discarding condoms within their relationships (Prestage et al, 2008; Zablotska et al, 2009), and the men in this study show clearly that some men outside such relationships desire to engage in ‘raw sex’. These are the men who have acted on this desire and it has resulted in HIV infection, though often only after having acted
similarly on several other occasions where it did not result in infection. Other data indicate that they are not alone in having acted on their desires. Perhaps they were simply unlucky, or perhaps their choices were less well-informed than they should have been. Regardless, we need to consider whether it is possible to provide additional tools, other resources, that might have helped them to avoid infection, even given that they were very likely going to engage in relatively high risk practices at some time.

As this is not a prospective study, it is not possible to determine from the data whether mental health issues played a role in these men’s HIV infection. Nonetheless, if we are to take their answers at face value it would appear that any problems with their emotional well-being prior to their HIV diagnosis probably played only a relatively small role in what occurred that put them at risk of infection. What is much clearer, however, is that their experiences since their HIV diagnosis have had some considerable impact on their emotional and mental health. Although for the most part these men appear to have good access to services and supportive networks and friends, some men nonetheless were very isolated and expressed very negative feelings about themselves and their situation. HIV may have appeared not too frightening prior to their seroconversion, but since they were diagnosed themselves their feelings about HIV had become far more troubling and the reality of their infection more difficult than they might have anticipated.

Men were enrolled into the study in a number of ways, some through clinical referral, some through other service providers, and some found the study directly themselves while online, presumably while looking for other information about HIV. It is of course impossible to determine how representative of all recent HIV diagnoses they are. The men in this sample probably account for about 5% of annual diagnoses. Also, they were overwhelmingly men who had been infected with HIV through homosexual contact and so cannot represent the experiences of either heterosexual men or women who have been recently diagnosed with HIV. Finally, individuals were actively recruited for this study in the five largest state jurisdictions, and for two of these, Western Australia and South Australia, this had only commenced within three months prior to publication of this report.

**Future directions**

The Seroconversion Study forms a key component of the research activities in the Australian response to HIV and has helped identify more clearly the behavioural risk factors for HIV infection among gay men in Australia, and the specific concerns around negotiating ‘safe sex’ between sexual partners. We strongly recommend that it continue to do so, but with some modifications.

**Geographic distribution:** In the past, this study was largely confined to gay men attending high caseload medical practices in inner Sydney, and to a lesser extent in inner Melbourne. Our new format for this
study has allowed us to extend its geographic reach to a potentially national study, and we are no longer reliant solely on referral through clinic sites, although of course we continue to seek clinical referrals.

**Sample characteristics:** This study had been confined to men who had been infected through homosexual contact but in our new format we have revised the survey component to expand it somewhat. Currently the survey questionnaire can be completed by any man, regardless of how he believes he was infected, but the questionnaire is somewhat limited in addressing issues of concern to men who were infected through other means than through homosexual sex, and is not suitable for women at all, but the online format for survey completion allows some considerable flexibility that was not previously available.

**Content focus:** In the past this study has been focussed on the identification of the event that had led to participants’ HIV infection and the sorts of behaviours they had engaged in at that time to put them at risk of infection. While it remains important to monitor these behaviours to ensure that there is no change in the sorts of risk behaviours being reported by those who have recently been infected with HIV, what is increasingly important in developing policy and programmatic responses is to gain insight into the motivations for such risk behaviour and the beliefs and attitudes about HIV and risk that underlie such motivations.

Furthermore, the Seroconversion Study has primarily addressed issues concerning the risk of infection and has only marginally addressed issues of the experience of diagnosis and subsequent access to services and support, both personal and professional. These are, of course, important considerations in their own right, but they also potentially affect onward transmission in that decisions about risk behaviours after diagnosis are undoubtedly influenced by the emotional state of those who have recently been diagnosed with HIV.

**Recommendations for the Seroconversion Study:**

1. Provision of ongoing funding support to enable the study to continue on an ongoing basis, and to extend active recruitment to all states and territories;
2. Revision of the study protocols to enable enrolment into the study by heterosexual men and women recently diagnosed with HIV;
3. Revision of the study protocols to enable a greater focus on the contexts of and motivations for risk behaviour, and an exploration of the beliefs and attitudes concerning HIV and risk among individuals recently diagnosed with HIV infection;
4. Revision of the study protocols to address directly experiences at the time of HIV diagnosis and subsequent to that diagnosis;
5. Revision of the study protocols to explore issues of trust in more detail.

**Recommendations for policy and program development:**

1. Increased emphasis on provision of peer support and counselling programs for those newly diagnosed with HIV to assist them through the initial traumatic phase after their HIV diagnosis;

2. Provision of more detailed information about the specific circumstances in which the risk of infection through oral sex might be increased;

3. Provision of counselling and peer support programs to support relationships after HIV has been diagnosed in one or both partners;

4. Continued prioritisation of work with highly sexually active gay men;

5. Renewed emphasis on gay men’s relationships, particularly relatively short-term sexual relationships, whether they be with an acknowledged regular partner or a relatively new friendship or other acquaintance that includes a sexual component;

6. Consider the implications of issues of trust and what resources might be provided to enable individuals to make decisions about risk behaviour that might assist them to distinguish when and under what circumstances this trust can be considered reliable;

7. Incorporation of the therapeutic value of narrative in a non-clinical setting, either through the continued uptake of in-depth interview techniques for the Seroconversion Study or as a separate activity.
References


HIV Seroconversion Study

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Australian Research Centre in Sex Health and Society

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