

## Does research on STIs provide keys to prevention?

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The increasing number of notifications of sexually transmissible infections (STIs) notifications in Australia has provided the impetus for current STI prevention campaigns targeting young (heterosexual) people. However, increases in STIs are not limited to this population, but also occur within indigenous communities, and increases are particularly marked among men who have sex with men (MSM).

Untreated STIs can result in substantial yet preventable morbidity and increase susceptibility to HIV infection.

Promoting STI testing and delivering adequate sexual health services is therefore a public health priority, as is continued support for STI prevention through the promotion of condom use.

In this contribution we review the Australian research literature to gauge the information that is currently available from epidemiological, behavioural and social science studies to effectively inform responses to help curb the current STI epidemics. In particular, we review research addressing five topics in various communities: prevalence of STIs, knowledge of STIs, prevalence and correlates of STI screening or testing, and experience of having an STI. Using this review of the literature (see page 3), we explore the extent to which the body of current research can effectively inform the development of social marketing campaigns and other behavioural change interventions to increase knowledge of STI and condom

use and encourage individuals to obtain STI testing.

### All priority groups are covered but data is not always recent

Of the 68 papers, 38% reported research on patients or clients of sexual health clinics or other medical services. Half of the papers (49%) presented data on members of the public who were not patients or clients. The remaining 13% of papers focused on professionals (GPs).

Of the papers that reported studies of STI-related topics in patients or members of the public, the most frequently studied population groups were, in order of frequency: men who have sex with men (MSM) (29% of the papers); young (heterosexual) people (20%); indigenous people (19%); general population (12%); sex workers (9%); male or female adult heterosexuals (5%) and pregnant women (5%). Other population groups were studied less frequently; people living with HIV (3%

of the papers), people who inject drugs (3%), prison populations (2%), women who have sex with women (2%) and culturally and linguistically diverse (CALD) communities (2%). Half of the papers were published before 2006 and a quarter were published before 2004. On average, papers on MSM were more recent than papers on the general population and young people.

### STI prevalence is more often studied than STI knowledge and testing

The prevalence of STIs is most often studied; more than half (56%) of the papers provided this information for the targeted population group. In contrast, only a quarter (24%) of the papers provided data on the prevalence of STI screening or testing. Seventeen percent of papers reported on factors that may explain why some individuals get tested for STIs and others do not. Fourteen percent of the papers investigated knowledge of STIs. Papers exploring the experience of having an STI were very rare (3%).

### STI-related topics covered varied by population group

Some variations were observed in terms of the STI-related topics covered by population groups. Notably, the proportion of papers relating to

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knowledge of STIs ranged from 0% in MSM to 30% in young (heterosexual) people. The proportion of papers that assessed the prevalence of STI screening/testing was between 14% and 20% across all non-MSM samples while 41% of papers reporting research on MSM were concerned with the prevalence of STI screening/testing. Furthermore, correlates of STI testing were generally infrequently studied, particularly in the general population, sex workers and indigenous people.

### High STI prevalence, poor STI-knowledge and low testing rates

The reviewed papers emphasise the high prevalence of various STIs in several population groups, in particular MSM, young heterosexual people and indigenous people. Furthermore, STI-related knowledge in non-MSM population groups was found to be (relatively) poor (none of the papers reported on knowledge of STIs in MSM). Similarly, rates of STI screening or testing are found to be low in non-intervention studies of populations other than MSM. Among MSM, STI testing rates are relatively high and have increased in recent years. However, in spite of current recommendations, the Sydney Gay Community Periodic Surveys showed that in 2007 around one-third of MSM still do not test at least once per year (see page 3, publication highlight 2). This suggests that even in this highly affected population current levels of STI testing may remain insufficient to curb the ongoing STI epidemic. Given the lack of timely uptake of STI testing in priority population groups, understanding why some people test for STIs while others do not is crucial to inform any efforts to successfully promote STI testing. Unfortunately, the information available from the few papers that explored correlates of STI testing was limited. Most studies only addressed isolated factors that may explain why individuals from a particular population group test or do not test for STIs; these factors and community groups differed between studies. Factors on an individual level that appeared to promote STI testing included sexual risk taking, adequate knowledge of STIs and higher risk perception. Facilitating social factors

included more trust in medical staff and less perceived stigma. The literature also documented structural and programmatic influences on testing practices. Testing practices varied according to health services and providers and the uptake of testing in various population groups was affected by exposure to specific interventions or programs.

### Current gaps in knowledge

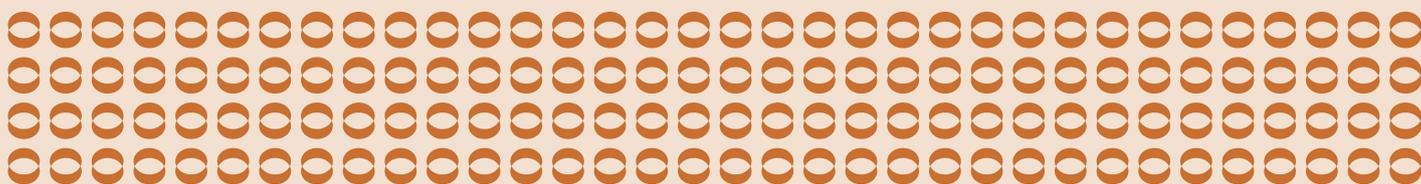
In spite of the appreciable volume of relatively recent papers that provide valuable insights, the literature on STIs in Australia present some limitations that should be addressed in future research.

1. Papers mainly report findings from quantitative research with few studies using a qualitative approach that provides understandings from the perspective of the affected communities and individuals.
2. The information available for some non-MSM population groups needs to be updated and more research is needed on professional groups other than GPs.
3. The literature remains too narrowly focused on assessing the prevalence of STIs and the important topics, such as knowledge of STIs and the prevalence and correlates of STI testing are insufficiently investigated and covered across population groups. There is, for instance, a clear lack of data on knowledge of STI, especially among MSM, and little research has been conducted on factors that may shape STI testing practices, notably in the general population, sex workers and indigenous community.
4. Most studies use ad hoc measurement tools to assess STI knowledge or correlates of STI testing that limit comparison across studies.
5. There is an obvious lack of comparative studies that systematically investigate STI-related topics across population groups.

### Does research meet programmatic needs?

Available data on the prevalence and knowledge of STIs clearly highlight the

priority population groups to be targeted in social marketing campaigns and other activities in order to increase awareness of STIs. Increasing prevention efforts for young heterosexual people and indigenous people is a priority. Since no recent data are available regarding the knowledge of STIs among MSM, there may also be a need for caution in assuming that knowledge of STIs is good among MSM. A combination of research and interventions may be needed to assess and, if necessary, support STI-related knowledge in some segments of priority communities, including MSM. However, theorising in health psychology and previous research regarding HIV testing (see publication highlight 1) suggest that promoting adequate knowledge of STIs often will not suffice in motivating individuals to test for STIs, particularly when there are no symptoms. One strategy to compensate for a low propensity to proactively seek STI testing is to implement outreach screening programs that target and facilitate testing in an entire population group or community. While implementing such screening programs may be important, effective responses to the ongoing STI epidemics also require a significant effort to promote self-initiated STI testing in affected communities and individuals. However, the considerable attention that programmatic screening receives in the literature may reflect a lack of recognition of the agency of individuals in promoting their sexual health or a lack of confidence and knowledge in the potential of social marketing and other behaviour change approaches to promote self-initiated STI testing. In order to develop innovative behavioural interventions that effectively motivate and enable people to request STI testing from their health care provider, formative research will need to provide a better understanding of the factors that influence STI testing than is currently available. A major lesson learned from the literature review is that a more comprehensive and systematic approach to the study of the various social, psychological, structural and programmatic barriers and facilitators of STI testing in affected population groups is urgently needed.



# Literature review methodology

The papers discussed in this contribution were identified through a systematic search of the literature published in the last seven years (i.e., between May 2002 and May 2009). This search was conducted through PubMed to identify peer-reviewed papers that were broadly concerned with STIs in Australia.

The search focused on papers reporting data from epidemiological, behavioural or social science research.

Biomedical publications were excluded, as were papers not reporting quantitative or qualitative findings from original research. A total of 68 papers met the inclusion criteria. Of these, 90% only reported findings from quantitative research; 10% of the papers additionally reported findings from qualitative research. All of the papers were abstracted using standardised coding. Abstracted information included the population under study and the STI-related topic covered by the paper.

## 1 Factors influencing HIV and STI testing

Research into barriers to and facilitators of STI testing may benefit from studies into the factors that promote or impede HIV testing. While studies and findings are diverse, this review identifies several converging themes. HIV testing seems to be more likely when individuals perceive that they have been at risk, although this relationship is imperfect. Testing requests can be hindered by the fear of the consequences of testing, not only in terms of health but in terms of stigma and potential consequences for their relationship. Also, individuals (implicitly) weigh the (perceived) pros and cons associated with testing to make up their mind. The nature and weight of subjective benefits may differ substantially from those of health professionals. The perspective of affected individuals, particularly regarding the social connotations and consequences of a diagnosis, is crucial to understand testing decisions.

De Wit, J. B. F., & Adam, P. C. G. (2008). To test or not to test: psychosocial barriers to HIV testing in high-income countries. *HIV Medicine*, 9(Suppl 2), 20–22.

## 2 STI testing rates still too low in MSM

This paper provides an overview of recent changes in self-reported STI-testing practices among gay men. Results from the Sydney Gay Community Periodic Survey indicate that comprehensive STI testing increased during 2003–2007. However, this increase does not apply to blood testing but only to testing of swabs and urine samples. According to the authors, this increase in STI testing may have resulted from improved screening and more comprehensive testing in line with the (new) STI-testing guidelines provided to GPs and public health services. However, one-third of MSM did not report any STI testing in the previous twelve months and routine testing was more often observed in HIV-positive men than in HIV-negative men. In spite of encouraging improvements, timely testing among MSM remains insufficient for adequate STI control. In this context it is important to use various communication and educational channels to encourage sexually active MSM to seek regular testing.

Zablotska, I. B., Imrie, J., Bourne, C., Grulich, A. E., Frankland, A., & Prestage, G. (2008). Improvements in sexual health testing among gay men in Sydney, Australia, 2003–2007. *International Journal of STD and AIDS*, 19, 758–760.

## 3 Lack of STI knowledge among young people

The Big Day Out is an annual music festival where Australian young people congregate. This paper reports a quantitative study conducted among 939 young people aged 16 to 19 years attending the event in Melbourne, Victoria. Most of the young people had previously had sex and two-thirds had had a new sexual partner during the last three months. While 39% of these young people did not use condoms all or most of the time, only a few individuals perceived themselves at risk of an STI. In addition, STI knowledge was found to be poor overall particularly in males, younger individuals, those with lower levels of education and those living in non-metropolitan regions. In light of these findings, increasing knowledge and awareness of STIs as well as condom use in youth appears to be a priority.

Lim, M. S., Hellard, M. E., Aitken, C. K., & Hocking, J. S. (2007). Sexual risk behaviour, self-perceived risk and knowledge of sexually transmissible infections among young Australians attending a music festival. *Sexual Health*, 4, 51–56.

### Information and education resources on STIs and STI testing

#### NSW Sexual Health Infoline 1800 451 624

Free and confidential sexual health support and information for general public and health professionals.

#### NSW Sexual Health website— STI Fact sheets

[www.health.nsw.gov.au/publichealth/sexualhealth/sex\\_factsheets.asp](http://www.health.nsw.gov.au/publichealth/sexualhealth/sex_factsheets.asp)

#### NSW STI Programs Unit—resources for health professionals on STIs and STI testing

[www.stipu.nsw.gov.au/](http://www.stipu.nsw.gov.au/)

#### Sextxt—sexual health advice delivered via SMS for young people

[www.sextxt.org.au/](http://www.sextxt.org.au/)

#### Your sex health—expert information on emotional, practical and relationship issues

[www.yoursexhealth.org](http://www.yoursexhealth.org) reproductive and sexual health (Click on Sexual Practices)

#### Drama Downunder—STI information for gay men

[www.thedramadownunder.info/](http://www.thedramadownunder.info/)

#### Whytest—STI information, education and services for gay men

[www.whytest.org](http://www.whytest.org)

## 4 GPs differ in the delivery of STI care

This paper investigates how practitioners' care and support for patients with STIs is influenced by a range of individual factors, including the level of professional experience and skills as well as personal attitudes and beliefs. The study of a random sample of 409 GPs in New South Wales found that on average GPs were far more comfortable with managing STIs in heterosexual and young patients than in marginalised populations (sex workers, indigenous people, people who inject drugs, gays or lesbians). The authors suggest that the reasons for this discomfort should be further investigated because discomfort strongly impacts on the delivery of STI services by GPs in terms of sexual history taking, sexual health counselling and care. The study also recommends a greater emphasis on sexual health skills within GPs training curricula.

Khan, A., Plummer, D., Hussain, R., & Minichiello, V. (2008). Does physician bias affect the quality of care they deliver? Evidence in the care of sexually transmitted infections. *Sexually Transmitted Infections*, 84, 150–151.

## 5 STI transmission among Aboriginal women

This paper offers a qualitative insight into the individual and contextual factors that facilitate the spread of STI among Aboriginal women. Findings derived from interviews conducted with 24 women living in remote central Australia reveal that in spite of a high perception of risk of STIs, most women have a poor understanding of STI transmission, low access to condoms and low condom use. Sexual and risk behaviours as well as the risk of transmission were also found to be related to contextual factors such as alcohol abuse, infidelity, sexual assault and shame. Such a context requires the development of programs to increase knowledge, access to condoms and incorporate the skills needed to better deal with sexual assaults and violence.

Stark, A. M., & Hope, A. (2007). Aboriginal women's stories of sexual transmissible infection transmission and condom use in remote central Australia. *Sexual Health*, 4, 237–742.

## 6 Low public awareness of STIs

The Australian Study of Health and Relationships (ASHR) was conducted across Australia between 2001 and 2002. Around 20,000 men and women aged 16–59 years were surveyed using computer-assisted telephone interviews. In this major paper the ASHR data were used to assess levels and correlates of knowledge regarding STIs. Respondents completed a 10-item test of knowledge about STIs and blood borne viruses (BBVs) and on average respondents had only 6 correct responses out of ten. Findings indicate that STI knowledge was limited, especially in (heterosexual) men, in individuals with lower level of education, lower socioeconomic status and those who do not speak English at home. This poor level of knowledge was explained by the fact that at the time of the survey Australia had no national STI strategy and little formalised national education about these infections. This study was among the first to recommend educational campaigns to improve public knowledge of STI in Australia.

Grulich, A. E., de Visser, R. O., Smith, A. M., Rissel, C. E., & Richters, J. (2003). Sex in Australia: knowledge about sexually transmissible infections and blood-borne viruses in a representative sample of adults. *Australian and New Zealand Journal of Public Health*, 27, 230–233.

# Directions

### Future research

- Updated and new research for non-MSM population groups and professionals other than GPs
- More systematic coverage of STI-related topics across population groups
- Research beyond assessing prevalence of STI, in particular regarding knowledge of STI, STI testing and the experience of having an STI
- Systematic and comprehensive exploration of the social, psychological, programmatic and structural barriers to and facilitators of STI testing using validated and standardised measurements
- More research employing qualitative approaches

### Social marketing and other programs

- Continuing advocacy for programmatic screening activities and increasing prevention efforts for young heterosexual people, indigenous people and MSM
- Using social marketing techniques to increase awareness and knowledge of STI and STI testing and promote condom use
- Investment in the development of innovative behavioural interventions that effectively motivate and enable people to self-initiate STI testing