



Australian Federation of AIDS  
Organisations (AFAO)

# Responses to syphilis outbreaks among gay and other men who have sex with men: Case studies from the United Kingdom and the United States

Prepared by Dean Murphy and Martin Holt  
for the Australian Federation of AIDS Organisations (AFAO)

May 2009

## Responses to syphilis outbreaks among gay and other men who have sex with men: case studies from the United Kingdom and the United States

*Dean Murphy and Martin Holt*

Syphilis outbreaks among gay and other men who have sex with men (MSM) have been reported throughout the developed world, including Australia, New Zealand, the United Kingdom and the United States (Cunningham et al, 2007; Fenton, Nicoll & Kinghorn, 2001; Jin et al, 2005; Peterman et al, 2005).

Below we present summaries of responses to syphilis outbreaks among MSM in seven cities in the United Kingdom and the United States. In general, what links the syphilis outbreaks in these cities is that they disproportionately affect those gay and other MSM who a) have high rates of partner change, b) attend sex-on-premises venues, c) have anonymous sex partners, d) use the internet to find sex partners, e) are HIV-positive and f) report higher rates of illicit drug use. This profile has also been seen in the syphilis outbreak in Sydney, Australia (Jin et al, 2005).

Experts have noted that it is difficult to interrupt syphilis outbreaks among MSM because transmission may be driven by commonly practised activities such as unprotected oral sex and traditional control measures such as contact tracing are often ineffective with casual or anonymous partners (Fenton & Wasserheit, 2007). Those MSM most at risk of syphilis, such as sexually adventurous men, may be more difficult to engage because features of adventurous 'scenes' (such as intense pleasure-seeking, experimentation and illicit drug use) may

compete with traditional sexual health promotion messages (Smith, Worth & Kippax, 2004). These considerations underline the need for innovative and targeted interventions with those MSM most at risk of syphilis.

All the cities described below implemented responses in an attempt to reduce syphilis infection rates among MSM. These responses featured a range of methods, including traditional public health control measures (e.g. screening, treatment, contact tracing), established methods of community engagement and outreach (e.g. social marketing campaigns, peer outreach) and more novel approaches, such as community-based testing and online partner notification. Unfortunately, it appears that while many of these methods were acceptable to MSM, they sometimes had little impact in reducing syphilis infection rates. In some cases the interventions did not appear to be sufficiently well targeted and failed to engage those MSM most at risk of syphilis, while in others syphilis prevention messages (e.g. using condoms for oral sex) were unrealistic (Ashton et al, 2003; Clark et al, 2001; Fenton & Wasserheit, 2007). In several cities, as we also found in research in Sydney (Holt et al, 2004), HIV-positive men were not seeking syphilis tests because they believed—incorrectly in most cases—that syphilis and other STI testing was undertaken as part of their regular HIV care.

The case studies below indicate that novel engagement methods such as non-traditional outreach and testing can successfully attract MSM for testing, but can fail to detect many cases of syphilis (compared with clinic-based testing). This has led some to suggest that community testing may be a poor way of controlling syphilis (Lambert et al, 2005). Others believe that the indirect benefit of preventing HIV infection by controlling syphilis

justifies the cost of community screening (Ciesielski et al, 2005).

An analysis of the US National Syphilis Elimination Plan (CDC, 1999) indicates that syphilis incidence rates fell or stabilised in states initially funded for syphilis elimination compared with those not initially funded (Chesson & Owusu-Edusei, 2008). Moreover, the amount of funding allocated in a given year was correlated with lower incidence rates in subsequent years. This suggests that increases of syphilis may have been much more pronounced if there had not been any syphilis prevention activities.

The syphilis control methods used in the case studies described below reflect most of the techniques identified as useful or necessary in interrupting syphilis epidemics (Cates, 1996). One approach that has not been attempted with MSM, but has been shown to be successful in interrupting syphilis epidemics in the past, is mass treatment in high prevalence groups e.g. sex workers in Fresno, California, in the 1970s (Jaffe et al, 1979) or to address endemic syphilis in Bosnia and Herzegovina in 1948–1955 (Grin & Guthe, 1973). Rapid syphilis testing has also been suggested as a way to encourage higher testing rates among MSM. Rapid assays are available but, as far as we are aware, their use with MSM has not been reported in the research literature (Mabey et al, 2006; Siedner et al, 2004).

Overall, the case studies described below identify a range of ways of engaging MSM to control or reduce syphilis infection rates. Evaluations suggest intensive, targeted interventions may be able to encourage testing and stabilise syphilis outbreaks among MSM, but none of these case studies describes successful syphilis elimination among target populations. General recommendations based on these case studies are provided at the end of this review.

## General Recommendations

**The following recommendations are based on an analysis of the interventions reviewed in the following pages.**

- Identify those MSM most at risk of syphilis and develop targeted interventions, rather than relying on general syphilis awareness campaigns.
- Reinforce the need for regular sexual health screening among ‘at risk’ MSM e.g. emphasise the range of potential syphilis symptoms and ease of transmission.
- Consider groups of MSM or settings where offering mass treatment may be appropriate.
- Reduce barriers to testing at existing testing locations by, for example, extending clinic hours and making clinical settings more welcoming.
- Encourage service providers to maximise opportunities for testing e.g. suggest syphilis testing for HIV-negative men requesting an HIV test; offer syphilis testing to HIV-positive men attending routine HIV monitoring.
- Among those testing positive for syphilis, develop acceptable ways to notify and engage sex partners e.g. offer presumptive treatment for regular partners, encourage use of patient-controlled partner notification ([www.whytest.org](http://www.whytest.org) or [thedramadownunder.info](http://thedramadownunder.info)). This may require training and support for service providers.
- When considering novel interventions (e.g. community-based testing or mass treatment), acceptability studies are recommended to assess potential uptake among target groups before expensive interventions are rolled out.

## Brighton, UK

**Context:** A syphilis outbreak since 1999 in Brighton, England among men who have sex with men (MSM). 40% of MSM diagnosed with syphilis were HIV-positive. Contact tracing was difficult or impossible because many sexual partners were anonymous or untraceable, and infected men considered syphilis 'dirty' or embarrassing (Lambert et al, 2005; Lambert et al, 2006). MSM diagnosed with syphilis indicated that they considered the infection 'rare' and that it was an 'unhappy accident' resulting from unusual or adventurous practices rather than an STI that could have resulted from a wide range of sexual activities (Lambert et al, 2006).

**Interventions:** As part of the Brighton Syphilis Outbreak Project, a community-based screening program was conducted jointly by a community-based organisation (CBO), a local genitourinary medicine (GUM) clinic and primary care trust during 2002-2003 (Lambert et al, 2005; Lambert et al, 2006). CBO and GUM staff jointly visited 23 venues (bars, saunas, sex-on-premises venues and cruising grounds) and offered syphilis testing to MSM. Venepuncture was offered in 2002 and saliva testing in 2003. It was unclear how those testing positive were followed up, although the authors describe 'fast tracking' cases for clinic appointments to reduce waiting times for sexual health clinics. A health education campaign, 'Look what's back!', was conducted by the Terrence Higgins Trust (THT) and aimed to raise awareness of syphilis and encourage testing of MSM (Lambert et al, 2006).

**Outcomes:** 1090 men were tested for syphilis. 62% had not been to a GUM clinic in the previous year. Testing uptake was higher when the saliva test was offered. 17 new cases of syphilis were detected (a detection rate of 1.6%). In comparison, the local GUM clinic identified 16 cases of syphilis during the same period with a detection rate of 4% (Lambert et al, 2005).

**Recommendations:** Venue-based syphilis testing is feasible and acceptable to MSM, particularly saliva testing (Lambert et al, 2005). The method may be beneficial in raising awareness of STI testing and engaging MSM who have not been recently tested. However, as found in other studies, this method may not identify a large number of previously undiagnosed cases of syphilis. The researchers concluded that venue-based testing is unlikely to contain syphilis outbreaks among MSM (Lambert et al, 2005). They also suggested that the THT syphilis campaign may not have adequately addressed MSM's perceptions of syphilis as rare and stigmatised (Lambert et al, 2006).

## Chicago, USA

**Context:** During 1998–2000 MSM comprised 15% of primary and secondary syphilis cases. This increased to 60% in 2001 (Ciesielski et al, 2005).

**Interventions:** A health department media campaign called 'Syphilis Testing: Just Part of the Routine' was conducted in the 2000–2002 period at a cost of \$234,636 (Vega & Roland 2005). Advertising was primarily placed in public bathrooms and public transport and was supported by community organisations, a telephone hotline and a website. The campaign focused on syphilis symptoms and the increased risk of acquiring HIV (Taylor et al, 2005b).

Syphilis screening was offered in bathhouses from 2000. In late 2001, a community-based 'syphilis testathon' was conducted in venues and neighbourhoods, making use of a mobile health unit. A second testathon took place in 2002 in bars and bathhouses (Ciesielski et al, 2005).

A private clinic that had detected numerous syphilis cases among MSM instigated enhanced partner notification, involving two Disease Intervention Specialists. This public-private arrangement was not possible in most other cities (Hogben et al, 2005).

**Outcomes:** Survey results from 2000 and 2002 showed an increased awareness of syphilis symptoms and syphilis as a facilitator of HIV transmission (Ciesielski & Flynn, 2004). The ratio of primary cases to secondary cases increased from 0.2 in 2001 to 0.34 in 2002, suggesting an increase in recognition of primary symptoms.

During the 2002 testathon, 913 men were screened and 10 cases were identified (a detection rate of 1.1%). Of identified cases, three (0.3%) had primary/secondary syphilis, six (0.6%) had early latent syphilis, and one case was latent (Ciesielski et al, 2005). Overall, during the 2000–2003 period of the syphilis response, 2,394 tests were conducted.

32 (1.2%) of these tests returned early syphilis results and 17 cases were primary/secondary syphilis (Ciesielski et al, 2005).

**Recommendations:** The cost of identifying each new case of primary and secondary syphilis in the 2002 'testathon' was calculated to be \$14,558 in bars and \$3,968 in bathhouses. These costs may be considered economical if the detection and treatment of syphilis prevents HIV infection, estimated to be in excess of \$195,000 per case diagnosed (Ciesielski et al, 2005).

## Los Angeles, USA

**Context:** Los Angeles experienced an increase in syphilis cases among MSM from the late 1990s. It was one of the cities to receive federal syphilis elimination funding in 1998 and 1999.

**Interventions:** A campaign called 'Stop the Sores' was developed, aimed at MSM (Vega & Roland, 2005). The LA campaign was developed in conjunction with San Francisco partner organisations, but did not feature one of the characters used in SFO, the Healthy Penis character. Focus testing found that this character conveyed negative images of MSM, particularly for Latino men.

The LA County STD Program used a mobile testing unit to deliver screening sessions in selected areas such as public sex environments and to target non-gay-identifying MSM. Partner notification was also conducted online (through instant messaging and email). Patient-delivered partner therapy was also made available.

Service providers were also targeted. Email alerts were sent to 560 service providers in the LA area in addition to the 500 providers who received the Early Syphilis Surveillance Quarterly (Taylor et al, 2005a). A series of ten lectures on syphilis was also given to clinicians by the LA medical director. Provider packs with guidelines for STI screening were sent out to HIV clinics after a survey revealed that using written or electronic protocols resulted in the more effective collection of sexual risk information (Marks et al. 2002).

**Outcomes:** A post-campaign survey found that MSM respondents had seen the campaign materials an average of 15 times, mostly through print media (Vega & Roland, 2005). The campaign was effective in increasing testing among MSM as well as increasing knowledge related to symptoms,

transmission and risk-reduction strategies (Montoya et al, 2003).

In the first half of 2003, Los Angeles reported that 91% of identified partners of MSM diagnosed with syphilis were contacted for testing (Hogben et al, 2005). Although this sounds impressive, 65% of the sex partners of MSM diagnosed with syphilis were anonymous partners so only a minority of total sex partners was actually contacted.

A survey to determine the uptake of written protocols for STI testing among providers was planned but had not yet been undertaken at the time of publication (Taylor et al, 2005a).

**Recommendations:** A follow-up phase of the campaign was recommended to include television adverts and specific messages for HIV-positive MSM. Focus testing found that many HIV-positive MSM incorrectly thought they were already being tested for STIs as part of their HIV-related care.

## Manchester, UK

**Context:** A syphilis outbreak primarily affecting MSM since 1999 in the Greater Manchester area (Ashton et al, 2003). A case-control study showed that at least a quarter of cases were among HIV-positive men (Bellis et al, 2002). Oral sex was identified as a key transmission route and many of the men presenting for testing in clinics reported meeting partners online (Ashton et al, 2003; Clark et al, 2001). Syphilis was more likely among men with higher numbers of sex partners, those who used sex venues and beats, and who reported GHB and poppers use (Bellis et al, 2002). Community outreach during the outbreak suggested that awareness of syphilis was relatively high among gay men, but interest in testing was low (Fenton, 2001).

**Interventions:** Initial interventions included the distribution of free condom packs and syphilis alert cards to gay men, outreach education, and posters displayed at gay events (Fenton, 2001). In 2001, targeted health promotion and screening was introduced, including a weekly clinic in the 'gay village' providing free syphilis testing on site, and regular peer outreach and counselling (Fenton, 2001).

**Outcomes:** None of the interventions aimed at gay men appeared to reduce infection rates (Fenton, 2001). Surveillance later in the outbreak showed an increased awareness of transmission routes among gay men (e.g. oral sex), but no drop in infection rates (Ashton et al, 2003). Only 2 people came forward to use the community-based clinic in 2003 (Fenton, 2001).

**Recommendations:** Long waiting lists for GUM clinics were identified as a potential barrier to testing uptake (Ashton et al, 2003; Clark et al, 2001). Gay men in Manchester may have continued to perceive

themselves at low risk of syphilis infection, despite varied education efforts (Fenton, 2001). Having recognised that oral sex was a key transmission route, public health researchers and community organisations appeared to want to encourage condom use for oral sex (Ashton et al, 2003; Clark et al, 2001). Whether this was a realistic goal was not evaluated. It is noticeable that none of the 'targeted' interventions appeared to target the men most at risk of syphilis infection i.e. highly sexually-active men who used beats and sex venues.

## Miami & Fort Lauderdale, USA

**Context:** From 1999 to 2003 there was a large increase in primary and secondary syphilis in southern Florida. This increase was largely among MSM (96% of new cases in Fort Lauderdale and 88% of cases in Miami) and disproportionately among white and Hispanic men. Prior to 1999, syphilis cases had been predominantly among heterosexual African-American men. Research among MSM found that there was little knowledge about syphilis transmission or increasing incidence. There was a perception among HIV-positive MSM that STI screening was already been provided as part of their ongoing care (Schmitt et al, 2005).

**Interventions:** A series of initiatives were undertaken by the Bureau of STD Prevention and Control with the assistance of a coalition of local organisations and community members.

In 2003 syphilis campaigns were commissioned and conducted by a CBO. The campaigns were called: 'Got Syph?', 'Don't be a Sore Loser', and 'Kiss and Tell' and employed radio/television announcements, a website, printed materials, billboards at high-traffic intersections and targeting of venues and circuit parties (Taylor et al, 2005b).

Healthcare-provider education was a significant focus of the response. This included a symposium for providers, and publication of a special edition of a medical journal sent to over 14,000 physicians (Schmitt et al, 2005). Special training was also provided, including workshops on syphilis intervention, prevention barriers for MSM of colour, dealing with homophobia and stigma, and interview techniques related to party/club drug use. Service hours at one clinic in were also extended in the evenings and on Saturdays. Outreach screening activities were undertaken in non-traditional settings

such as sex venues, nightclubs, hotels, at circuit parties and on cruise ships.

**Outcomes:** The ratio of primary/secondary to latent syphilis decreased from 1:2 to 1:1.2 in Miami from 2003 to 2004 but remained unchanged at 1:1 in Fort Lauderdale. In Miami, there were slightly more men (59%) than women (40%) seen during the expanded clinic hours and 17% of these clients tested positive for any STI. In Fort Lauderdale 94% of clients during the extended hours were men and the proportion testing positive for any STI was 20% (Schmitt et al, 2005). The outreach screening in non-traditional settings from 2001 to 2003 produced only seven positive results from 698 tests (Ciesielski et al, 2005). Of these, only one (0.14%) was primary/secondary syphilis, five (0.7%) were early latent cases, and one was a late latent case.

An information hotline that was set up was not well-used despite extensive promotion. Coupons for free clinic visits were also not successful, although this was suspected to be a result of poor communication to personnel about the intended audience. In addition, campaign materials needed to be approved by the state department of health. Several proposals were not approved. This led to a shift from symptom-related messages to more individually-focused 'respect yourself' messages (which may have had less resonance with the audience).

**Recommendations:** The authors highlight the need for thorough analysis of surveillance data, as well as baseline data on behaviour and beliefs in the target population. They also call for evaluation of process and outcomes, including evaluation of whether initiatives are received by the target population.

## San Francisco, USA

**Context:** From 1999, San Francisco introduced a range of activities to respond to increasing rates of syphilis among MSM (Klausner et al, 2005).

**Interventions:** A number of online interventions were introduced:

1) *Online syphilis testing.* Lab requisition slips could be accessed online and then taken to one of several locations for a blood test. The results were reported to the health department and available on a secure server with a unique PIN.

2) *Online partner management.* In 1999 guidelines were introduced for managing recent partners who were only contactable through email.

3) *Peer-to-peer partner notification system* ([www.inspot.org](http://www.inspot.org)). In 2004 a website was set up to allow people diagnosed with STIs to anonymously notify recent partners by email. A mobile phone text-messaging option was added later.

4) *Risk-environment modification.* Internet service providers were asked to make changes to chat sites. This included access for staff from the department of public health for one-on-one outreach, cheap banner advertising, an interactive sexual health forum, message boards, and modifications to personal profiles to include information on safe sex.

A campaign to increase syphilis awareness and testing was launched in June 2002. It included a range of promotional materials and products, including the characters, Healthy Penis and Phil the Sore. \$75,000 was spent on Healthy Penis in 2002, \$115,000 in 2003, and \$120,000 in 2004 (Klausner et al, 2005).

Two new clinical sites for syphilis screening were also established. An additional, novel strategy was the

introduction of patient-delivered partner therapy in July 2002. Patients were given a 'prevention pack' comprising 1mg oral azithromycin to give to recent sex partners. However, soon after the introduction of this program, cases of azithromycin treatment failure were observed. As a result, along with the low uptake of the packs (only 329 distributed), this program was discontinued in September 2004 (Klausner et al, 2005).

**Outcomes:** Evaluation conducted in 2003 found that 80% of gay and bisexual men had heard of the syphilis epidemic, and those who were aware of the campaign were significantly more likely to know the signs and symptoms of syphilis, routes of transmission, and to have been tested for syphilis in the previous six months (Montoya et al, 2005). Also, the evaluation showed that 71% of HIV-positive men and 43% of HIV-negative men had received a syphilis test in the previous 6 months—up from 51% and 33% respectively in early 2003. In 2003, it appeared that the syphilis incidence rate levelled off but at an increased rate that continued in 2004 (STD Prevention and Control Services 2004). The proportion of sex partners known to be tested or treated for syphilis was less than 10%, leading the authors to conclude that partner notification activities had had little impact (Klausner et al, 2005).

In the first 11 months of online syphilis testing only 217 tests were conducted. This yielded a 3% prevalence of new syphilis cases. Online partner management led to confirmed treatment of one-third of these contacts (Kent et al, 2003). The peer-to-peer partner notification intervention had not been evaluated at the time of publication. Of the banner advertisements, 'Ask Dr. K', had the highest click-through rate—0.43% compared with 0.05–0.14% (Klausner et al, 2005).

One of the new clinics, located at a HIV clinical research site, screened only 26 people between July 2003 and May 2004. The other—a gay men's health centre named Magnet—screened 1,739 men in this same period with 37 (2%) new early syphilis cases identified (Klausner et al, 2005).

**Recommendations:** The authors suggest that increasing testing resources in a sustainable manner (through health centres and online) is of greater value than through blitzes or intermittent screening events which had low rates of partner notification.

## Seattle, USA

**Context:** When syphilis reappeared in Seattle in the late 1990s, the previous pattern of a heterosexual epidemic was replaced with a situation where most cases were among MSM. From 1998 to 2005 there were 731 cases of early syphilis in Seattle—of these, 97% were men (92% MSM), and 58% of cases among MSM were in HIV-positive men (Kerani et al, 2007). Seattle received funding for a syphilis response as part of the National Syphilis Elimination Plan (CDC, 1999).

**Interventions:** Three public awareness campaigns with an emphasis on testing were conducted between 2002 and 2004 (Kerani et al, 2007). These comprised posters and advertisements in print media and on buses. The first campaign also included the establishment of a task force of community leaders, community organisations and public health staff. Partner notification activities were also increased, as was outreach testing to the local MSM community.

**Outcomes:** From 1998 to 2005 the annual number of syphilis tests increased by 47%. The number of tests performed in MSM-specific venues increased 179%. Detection rates were highest in bathhouses and sex clubs (1.3%) (Kerani et al, 2007).

In 2003 the proportion of Seattle syphilis cases with primary or secondary syphilis was 73% compared to a range of 36%–63% among eight cities with high rates of syphilis among MSM (CDC, 2004). In bivariate analyses, being HIV positive was a predictor of being diagnosed at later stage of infection, as was using the internet to find sex partners. Age, race, number of sex partners, and bathhouse attendance were not associated with stage of disease (Kerani et al, 2007).

The percentage of all syphilis cases identified through partner notification increased from 8% in 1998–2002

to 14% in 2003–2005. However, this varied among different population groups (with 27% of cases among women identified through partner notification and 12% of cases among MSM). And the brought-to-treatment index remained largely unchanged (Kerani et al, 2007).

**Recommendations:** The authors note that the contribution of public awareness campaigns in controlling syphilis is unknown because the emphasis has been on screening and evidence suggests that this may be of limited efficacy in controlling the epidemic (Klausner et al, 2005). They suggest that efforts to control syphilis may have been unsuccessful because screening had not reached high-risk MSM or that screening is not effective in finding additional cases where symptomatic disease is highly prevalent. Alternatively, the emphasis on improving and expanding traditional public health measures may have prevented an even larger MSM epidemic from occurring (Kerani et al, 2007).

## References

- Ashton, M., Sopwith, W., Clark, P., McKelvey, D., Lighton, L., & Mandal, D. (2003). An outbreak no longer: factors contributing to the return of syphilis in Greater Manchester. *Sexually Transmitted Infections*, 79, 291-293.
- Bellis, M.A., Cook, P., Clark, P., Syed, Q., & Hoskins, A. (2002). Re-emerging syphilis in gay men: a case-control study of behavioural risk factors and HIV status. *Journal of Epidemiology and Community Health*, 56, 235-236.
- CDC. (1999). *The National Plan to Eliminate Syphilis from the United States*. Atlanta: Centers for Disease Control and Prevention.
- CDC. (2004). *Sexually Transmitted Disease Surveillance, 2003*. Atlanta: Centers for Disease Control and Prevention.
- Chesson, H. & Owusu-Edusei, K. (2008). Examining the impact of federally-funded syphilis elimination activities in the USA. *Social Science & Medicine*, 67(12), 2059-2062.
- Ciesielski, C. & Flynn, J. (2004). Syphilis knowledge and awareness among men who have sex with men in metropolitan Chicago, 2000-2002. Poster presentation at the *National STD Prevention Conference*, Philadelphia, March 2004.
- Ciesielski, C., Kahn, R., Taylor, M., Gallagher, K., Prescott, L., Arrowsmith, S. (2005). Control of syphilis outbreaks in men who have sex with men: the role of screening in non-medical settings. *Sexually Transmitted Diseases*, 32(10), S37-S42.
- Clark, P., Cook, P.A., Syed, Q., Ashton, J.R., & Bellis, M.A. (2001). *Re-emerging syphilis in the North-West: lessons from the Manchester outbreak*. Liverpool: Liverpool John Moores University.
- Cunningham, R., MacDonald, R., McLean, M., & Shaw, C. (2007). An outbreak of infectious syphilis in Wellington, New Zealand. *The New Zealand Medical Journal*, 120(1260).
- Fenton, K. (2001). Syphilis continues in gay men in Greater Manchester, England. *Eurosurveillance*, 5(16).
- Fenton, K., & Wasserheit, J. N. (2007). The courage to learn from our failures: syphilis control in men who have sex with men. *Sexually Transmitted Diseases*, 34(3), 162-165.
- Grin, E. & Guthe, T. (1973). Evaluation of a previous mass campaign against endemic syphilis in Bosnia and Herzegovina. *British Journal Venereal Diseases*, 49(1), 1-19.
- Hogben, M., Paffel, J., Broussard, D., Wolf, W., Kenney, K., Rubin, S., George, D., Samoff, E. (2005) Syphilis partner notification with men who have sex with men: a review and commentary. *Sexually Transmitted Diseases*, 32(10), S43-47.
- Holt, M., Jin, F., Grulich, A., Murphy, D. & Smith, G. (2004). *Syphilis, STIs & men who have sex with men in Sydney: Understanding and managing risk* (Monograph 7/2004). Sydney: National Centre in HIV Social Research.
- Jaffe, H., Rice, D., Voigt, R., Fowler, J. & St John, R. (1979). Selective mass treatment in a venereal disease control program. *American Journal of Public Health*, 69(11), 1181-1182.
- Jin, F., Prestage, G. P., Kippax, S. C., Pell, C. M., Donovan, B. J., Kaldor, J. M., et al. (2005). Epidemic syphilis among homosexually active men in Sydney. *Medical Journal of Australia*, 183(4), 179-183.
- Kent, C. K., Wolf, W., Nieri, G., Wong, W., Klausner, J., Peterman, T. (2003). Internet use and early syphilis infection among men who have sex with men: San Francisco, California, 1999-2003. *MMWR Morbidity & Mortality Weekly Report*, 52, 1229-1232.
- Kerani, R., Handsfield, H., Stenger, M., Shafii, T., Zick, E., Brewer, D. & Golden, M. (2007). Rising rates of syphilis in the era of syphilis elimination. *Sexually Transmitted Diseases*, 34(3), 154-161.
- Klausner, J., Kent, C., Wong, W., McCright, J. & Katz, M. (2005). The public health response to epidemic syphilis, San Francisco, 1999-2004. *Sexually Transmitted Diseases*, 32(10), S11-S18.
- Lambert, N.L., Fisher, M., Imrie, J., Watson, R., Mercer, C.H., Parry, J.V. et al. (2005). Community based syphilis screening: feasibility, acceptability, and effectiveness in case finding. *Sexually Transmitted Infections*, 81, 213-216.
- Lambert, N.L., Imrie, J., Fisher, M.J., Phillips, A., Watson, R., & Dean, G. (2006). Making sense of syphilis: beliefs, behaviours and disclosure among gay men recently

- diagnosed with infectious syphilis and the implications for prevention. *Sexual Health*, 3, 155–161.
- Mabey, D., Peeling, R. W., Ballard, R., Benzaken, A. S., Galbán, E., Chungalucha, J., et al. (2006). Prospective, multi-centre clinic-based evaluation of four rapid diagnostic tests for syphilis. *Sexually Transmitted Infections*, 82(Suppl. V), v13-v16.
- Marks, G., Richardson, J., Crepaz, N., Stoyanoff, S., Milam, J., Kemper, C., Larsen, R., Bolan, R., Weismuller, P., Hollander, H. McCutchan, A. (2002). Are HIV care providers talking with patients about safer sex and disclosure? A multi-clinic assessment. *AIDS* 16(14), 1953–1957.
- Montoya, J., Rotblatt, H., Kent, C., Mall, K, Klausner, J. & Kerndt, P. (2003). Evaluating “Stop the Sores,” a community-led social marketing campaign to prevent syphilis among men who have sex with men, Los Angeles County 2002–2003. Paper presented at the *International Society for Sexually Transmitted Diseases Research Congress*, Ottawa, July 2003.
- Montoya, J., Kent, C., Rotblatt, H., Kerndt, P., & Klausner, J. (2005). A social marketing campaign and significant syphilis testing among MSM. *Sexually Transmitted Diseases*, 32(7), 395–399.
- Peterman, T., Heffelfinger, J., Swint, E. & Groseclose, S. (2005). The Changing Epidemiology of Syphilis. *Sexually Transmitted Diseases*, 32(10), S4–S10.
- Schmitt, K., Bulecza, S., George, D., Burns, T. & Jordahl, L. (2005). Florida's multifaceted response for increases in syphilis among MSM: the Miami-Ft. Lauderdale initiative. *Sexually Transmitted Diseases*, 32(10), S19–23.
- Siedner, M., Zapitz, V., Ishida, M., De La Roca, R., & Klausner, J. D. (2004). Performance of rapid syphilis tests in venous and fingerstick whole blood specimens. *Sexually Transmitted Diseases*, 31, 557-560.
- Smith, G., Worth, H., & Kippax, S. (2004). *Sexual adventurism among Sydney gay men* (Monograph 3/2004). Sydney: National Centre in HIV Social Research.
- STD Prevention and Control Services. (2004). *San Francisco Sexually Transmitted Disease Monthly Report, June 2004*. San Francisco: San Francisco Department of Public Health.
- Taylor, M., Prescott, L., Brown, J., Wong, W., Allen, M., Broussard, D., Jordahl, L., & Kerndt, P. (2005a). Activities to increase provider awareness of early syphilis in men who have sex with men in 8 cities, 2000-2004. *Sexually Transmitted Diseases*, 32(10), S24-29.
- Taylor, M., Montoya, J., Cantrell, R., Mitchell, S., Williams, M., Jordahl, L., Freeman, M., Brown, J., Broussard, D., Roland, E. (2005b). Interventions in the commercial sex industry during the rise in syphilis rates among men who have sex with men (MSM). *Sexually Transmitted Diseases*, 32(10), S53-59.
- Vega, M. & Roland, E. (2005). Social marketing techniques for public health communication: A review of syphilis awareness campaigns in 8 US cities. *Sexually Transmitted Diseases*, 32(10), S30–S36.