



Convenience Advertising

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Evidence for the effectiveness of a chlamydia awareness campaign: increased population rates of chlamydia testing and detection

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Summary: The objective of this study was to determine the effectiveness of a statewide campaign aimed at increasing chlamydia awareness and testing among younger people. In November 2002, a narrowcast media campaign targeting men and women aged 16–29 years was launched in Victoria, Australia. This was expanded in June 2003. Data on chlamydia testing via Medicare and chlamydia notifications, before and after the campaign, were compared to determine possible effects of the campaign on population rates of chlamydia testing and detection. During the campaign, chlamydia testing rates increased significantly for both women ($P = 0.04$) and men ($P = 0.04$), while testing rates before and after the campaign remained relatively stable. Although testing rates increased, only 4.3% of Victorian women and 1.9% of men aged 16–30 were tested through Medicare in 2003. The increase in chlamydia testing over the study period was closely paralleled by an increase in notification rates for chlamydia, with strong correlations between the two ($r = 0.97$, $P < 0.001$). In conclusion, an estimated minimum of A\$70 was spent on the campaign for each additional chlamydia test performed. Testing within the framework of a national chlamydia screening programme may be a more cost-effective way of increasing chlamydia testing.

Keywords: *Chlamydia trachomatis*, screening

INTRODUCTION

Worldwide, genital *Chlamydia trachomatis* infection is a major cause of reproductive morbidity. Selective chlamydia screening of women has been shown to reduce the incidence of pelvic inflammatory disease, and has been implemented as a cornerstone of chlamydia control programmes in a number of countries.^{1–3}

In Australia, figures suggest that most chlamydial infections in the population remain undetected.^{4,5} In 2004, less than 7% of Australians under the age of 25 years were tested for chlamydia through Medicare,⁶ and currently, there is no national chlamydia screening programme, although pilot programmes via general practitioners (GPs) are being planned.

In Victoria, a campaign was launched in 2002 to raise awareness of chlamydia, and to increase chlamydia testing among younger people. The evidence for the effectiveness of interventions aimed at controlling sexually transmitted

infections is often not available or difficult to quantify. This study aimed to assess the effectiveness of the Victorian campaign using measurable endpoints, such as changes in population rates of chlamydia testing and detection.

METHODS

The media campaign

In November 2002, the Victorian Department of Human Services launched a narrowcast media campaign targeting men and women in Victoria aged 16–29 years. At the time, the population in this age group in Victoria was just over one million. The campaign's aims were to raise awareness of chlamydia, to encourage individuals to attend health services for chlamydia testing with the aim on increasing the detection of chlamydia infection.

The Department of Human Services commissioned the advertising company The Campaign Palace (www.tcpredcell.com.au) to develop the messages for the campaign. These messages were focus group tested by Convenience Advertising (www.conads.com/) who were also responsible for mounting and maintaining display points during the campaign. Advertisements were placed in venues and educational facilities frequented by people in the target age group, including 30 bars, 34 hotels, eight nightclubs,

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and eight tertiary institutions. It was estimated that approximately 220,000 patrons and students collectively visited these venues each week.

A total of 502 display points were placed across the various sites. These consisted of A4-sized posters (Figure 1) and takeaway cards (miniature versions of the poster) placed in toilet facilities – in toilet cubicles, next to hand dryers, and above urinals. Messages were gender-specific, with about half of the displays targeting men and half targeting women. Posters pointed to the fact that chlamydia is frequently asymptomatic and that a 'simple' test for chlamydia was available. The internet address for the Department's pre-existing website on chlamydia, which provided information to health-care providers as well as to members of the public, was also displayed on the posters. Advertisements were also placed in major newspapers, popular women's magazines, and in smaller, local press targeting young people.

In June 2003, in addition to the advertisements at existing venues, the campaign was expanded to include several non-metropolitan regions. Furthermore, advertisements were placed on the internet and in buses and trams en route to university campuses. The overall cost of the campaign was A\$197,000. All fixtures were removed in January 2004.

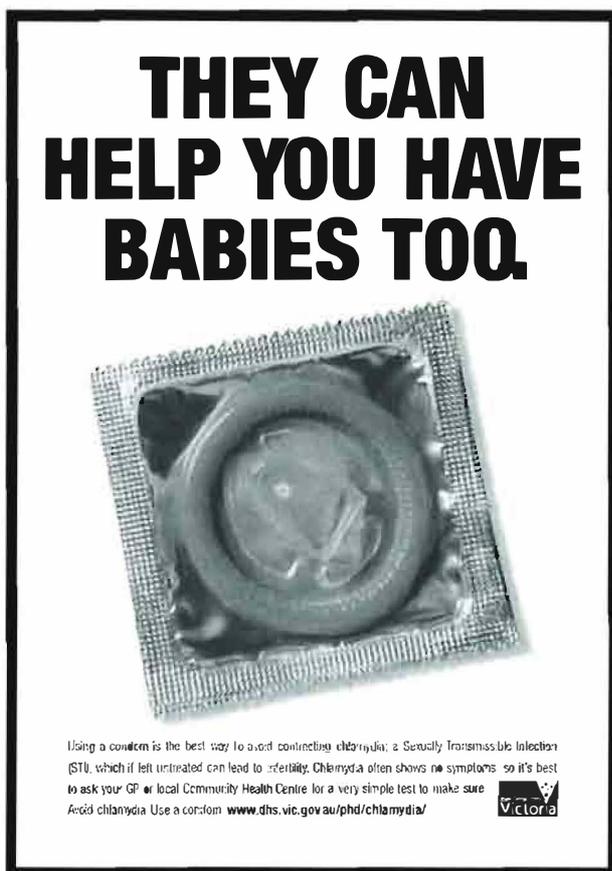


Figure 1 Advertising message targeting young women in Victoria, 2002

Campaign evaluation

We investigated whether the campaign achieved its objectives of increasing population rates of chlamydia testing and detection. Data on chlamydia testing via Medicare were obtained from the Health Insurance Commission. This method was chosen as most chlamydial infections in Australia are diagnosed by GPs. Data were obtained for Medicare pathology items 69369 and 69370.⁷

Aggregated data on cases of genital chlamydial infections notified were obtained from the Department. In Victoria, notification of chlamydia cases to the Department by laboratories and doctors is mandatory. Age-specific chlamydia testing and notification rates per 100,000 population were calculated using data from the Australian Bureau of Statistics.

Chlamydia testing rates by quarter, together with the frequency of visits to the Department's website – before, during, and after the campaign – were compared using the Kruskal-Wallis equality of populations rank test. Correlations between chlamydia testing and notification rates were determined using the Spearman correlation for non-parametric data (SPSS version 12.0).

Qualitative evaluation of the campaign was undertaken by intercepting patrons immediately after, or within two days of using toilet facilities displaying campaign advertisements. A small random sample of patrons (10–20) was obtained from each of 21 venues and five educational facilities. People were asked to complete a questionnaire designed to assess the level of recall and perceptions of the campaign message.

RESULTS

Chlamydia testing and notification rates

Between January 2002 and March 2004, chlamydia testing rates increased significantly in Victoria among both women ($P=0.04$) and men ($P=0.04$) (Figure 2). Among women aged 16–30 years, 4139 tests (817 per 100,000 population) were performed in the third quarter of 2002 (the quarter preceding the campaign launch), compared with 6049 tests (1180 per 100,000 population) in the third quarter of 2003 (the quarter following the expansion of the campaign). Overall testing rates and increases in testing were lower among men: among those aged 16–30 years, there were 1985 chlamydia tests (388 per 100,000 population) performed in the third quarter of 2002 compared with 2842 tests (548 per 100,000 population) in the third quarter of 2003.

By comparison, testing rates for men and women aged 16–30 years in the three quarters before the campaign (the first quarter through to the third quarter of 2002) increased only marginally (547, 586, and 601 tests per 100,000 population, respectively), and in the three quarters following the campaign (the third quarter of 2003 to the first quarter of 2004), testing rates fell marginally (862, 823, and 828 tests per 100,000 population, respectively).

Although testing rates increased during the campaign, only 4.3% of Victorian women and 1.9% of men aged 16–30 years were tested for chlamydia through Medicare. The

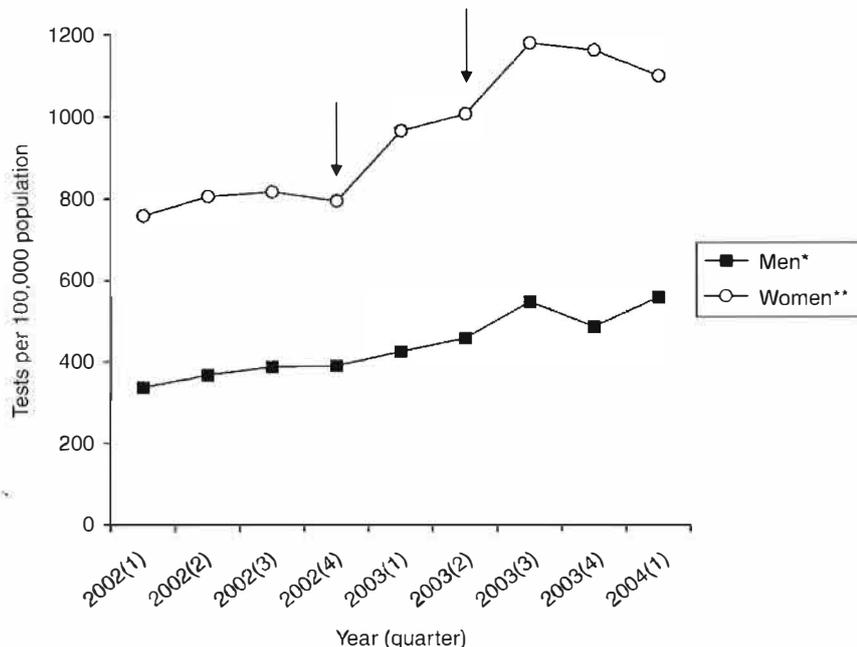


Figure 2 Chlamydia testing rates for men and women aged 16-30 years, Victoria, 2002-04. The arrows indicate when the campaign was launched and when it was subsequently expanded. * $P=0.04$; ** $P=0.04$ (P values were calculated using the Kruskal-Wallis rank test comparing the rates before, during, and after the campaign)

increase in chlamydia testing over the study period was closely paralleled by an increase in notification rates for chlamydia, with strong correlations between testing and notification rates ($r=0.97$, $P<0.001$) (Figure 3). Over the same period, a significant increase in the frequency of visits to the Department's website on chlamydia also took place ($P=0.006$) (Figure 4).

Qualitative evaluation

Questionnaires were completed by 297 individuals who had recently used toilets displaying campaign posters: 151 at hotels, 105 at tertiary institutions, and 37 at bars. This included 117 men and 161 women (sex was not specified in 19).

When asked 'what were the posters (in the toilets) about?' unprompted, 166 people (56%) stated that they were about 'chlamydia', while a further 30 (10%) stated they were about 'sexually transmitted diseases (STDs)' or 'safe sex'. Unprompted, women were more likely to recall that the message was specifically about 'chlamydia' than men ($P<0.05$). However, 22% of men recalled without prompting that the posters were about 'STDs' or 'safe sex', compared with 3% of women ($P<0.001$). When prompted by the question 'can you remember what the chlamydia poster was saying?', 252 individuals (85%) recalled that the posters were about condoms preventing chlamydia or that they were about sexually transmitted infections.

The frequency of visits to the Victorian Department of Human Services' chlamydia website increased substan-

tially from a low baseline following the launch of the chlamydia campaign (Figure 4).

DISCUSSION

Between 2002 and 2004, population rates of chlamydia testing among younger people in Victoria increased significantly, coinciding with a statewide campaign that aimed to increase chlamydia awareness and testing among 16-29-year-old men and women in Victoria. Furthermore, the increase in testing rates correlated strongly with increasing chlamydia notification rates. Before, and immediately after the campaign, testing rates remained relatively stable, suggesting that the increase in rates were attributable to the campaign.

Few studies have examined the effect of media campaigns on chlamydia testing. This is the first to examine the possible effects on chlamydia testing rates undertaken in primary care across a population.^{8,9} Our data strongly suggest that increased testing will have resulted in increased notifications and, therefore, a measurable health benefit.

The rise in chlamydia testing during the study period appeared to coincide with the implementation of the campaign (Figure 2), although it is likely that other factors may have contributed. The analysis relating to a before and after study is often difficult. We chose to compare the rates of testing before and after the campaign because the gradient of the rates of testing was close to zero or negative before and after the intervention.

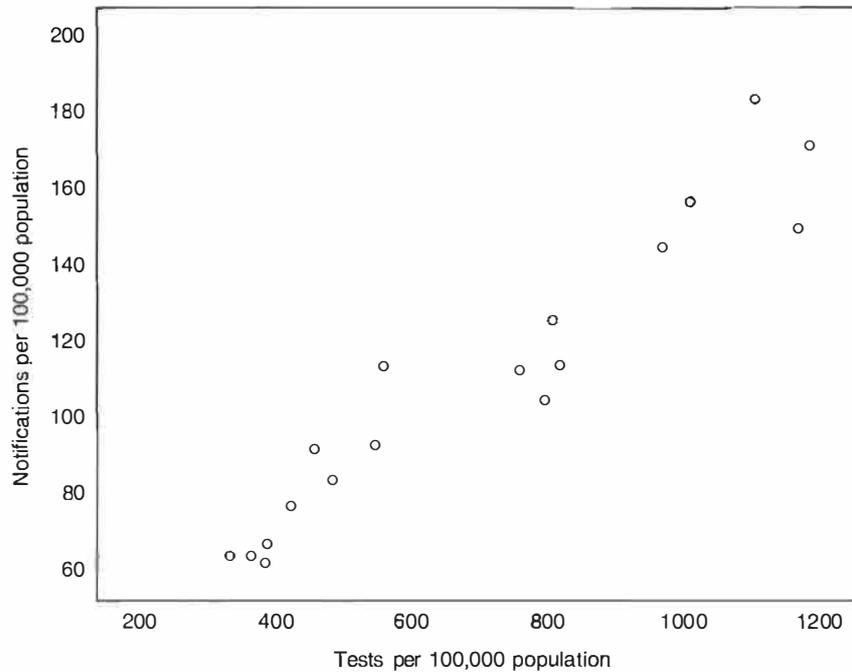


Figure 3 Correlations between chlamydia testing and notification rates for men and women aged 16-30 years, Victoria, 2002-2004. *Each point represents data for one quarter, grouped by sex. Spearman correlation coefficient = 0.97, $P < 0.001$

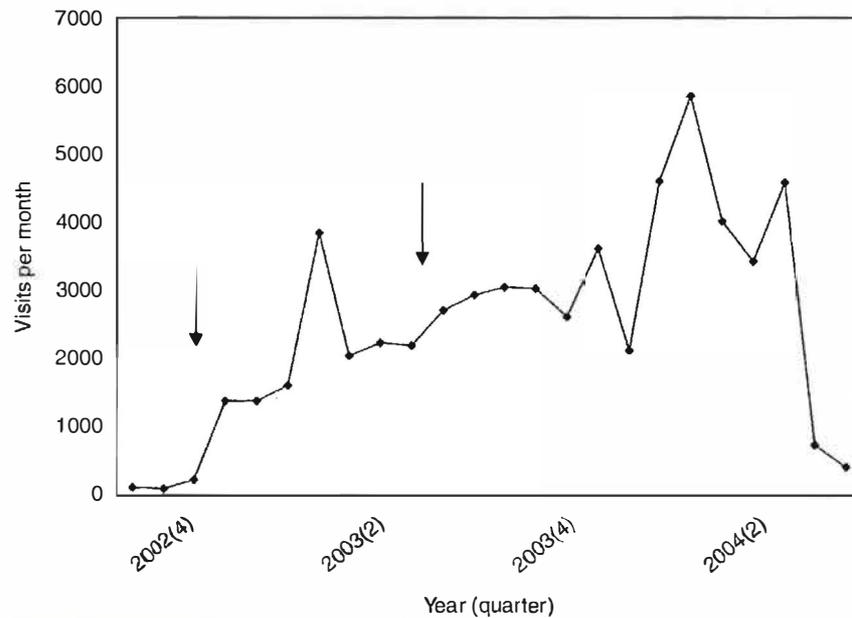


Figure 4 Frequency of visits to the Victorian Department of Human Services' chlamydia website, 2002-2004. *The arrows indicate the launch of the campaign followed by its expansion. * $P = 0.006$ (P values were calculated using the Kruskal-Wallis rank test comparing the rates before, during, and after the campaign)

The low chlamydia testing rates among men compared with women of similar age group was not unexpected. Past Australian trends show that chlamydia testing of men has generally been lower than for women. This is because most

men diagnosed with chlamydia in Australia present with genital symptoms, whereas a higher proportion of women are screened for chlamydia.¹⁰ Of interest were the differences between men and women with respect to their

recollection of advertising material. Altogether, these suggest that any future chlamydia screening programmes should continue to be gender specific, and those aimed at men will need to be carefully targeted to ensure that asymptomatic men are receptive to the message.

It is difficult to say if the Victorian campaign was cost-effective as more information is required on the number of infections that were detected and the extent of morbidity that was averted as a direct result of the campaign. In addition, there may have been other benefits, such as improved condom use and changes in sexual risk behaviour, endpoints that are difficult to measure without large population samples. The cost would have been about A\$70 for each additional test performed if we were to solely attribute the rise in testing to the campaign. However, this represents the minimum cost as there were likely to have been other reasons for the rise in testing. In a Danish study examining the effect of mass media on the use of home-based, self-collected chlamydia testing, the authors questioned the cost-effectiveness of mass media campaigns as a means of encouraging chlamydia testing.⁷

This study clearly shows that although chlamydia testing increased significantly over the campaign period, the overall testing of younger people – those most at risk from chlamydia infection – remained unacceptably low in Victoria. Testing rates for chlamydia need to increase much more to have any impact on the pool of undetected chlamydia in the Australian population. This would best be achieved within the framework of a national, coordinated chlamydia campaign, which includes a testing through general practice, a GP education programme, and community campaigns to ensure that those most at risk present for testing.

Fortunately, the Australian Government has committed funding towards this end through the development of the first national Sexually Transmitted Infection Strategy, the introduction of the Targeted Chlamydia Grants Program, and the piloting of chlamydia testing initiatives over the next few years. Future initiatives should include an optimized national chlamydia surveillance system that can provide meaningful data on the effectiveness of control efforts and on emerging trends in newly acquired infections.

ACKNOWLEDGEMENTS

The Health Insurance Commission provided all data on chlamydia testing. Funding for this study was obtained from the Victorian Department of Human Services. We thank Rosa Bili, formerly Senior Project Officer, BBV/STI Program and Richard Adezio, Communications Consultant, Drugs Policy and Services Branch, Department of Human Services, for their role in managing the development and implementation of the campaign. MC is supported by NHMRC Fellowship no. 400399.

Conflict of interest: none identified

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(Accepted 27 May 2006)