

## CHLAMYDIA, GONORRHOEA AND SYPHILIS

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Chlamydia, gonorrhoea and syphilis are the three most commonly reported sexually transmissible bacterial infections in NSW.<sup>1</sup> These sexually transmissible infections (STIs) are important, not only because of their burden of disease and long-term complications, but also because they increase the risk of HIV transmission.<sup>2</sup> This Bug Breakfast provided an overview of these infections and outlined the NSW Sexually Transmissible Infections Strategy for 2006–2009.

### CHLAMYDIA

Chlamydia is a common bacterial sexually transmissible infection worldwide, causing more than 43 million new chlamydial infections each year.<sup>3</sup> Genital chlamydia is caused by *Chlamydia trachomatis* serovars D-K. Chlamydiae are obligate intracellular parasites, and one of the smallest of all bacteria. Transmission occurs most commonly during sexual contact, with vertical transmission occurring during childbirth. The incubation period is usually seven to 14 days, and infection is commonly asymptomatic. Recurrent infections are common.<sup>4</sup>

Genital chlamydia is one of the most frequently reported notifiable conditions in Australia, with 35,189 diagnoses in 2004.<sup>5</sup> The population rate of diagnosis has more than doubled, from 91.4 cases per 100,000 in 2000 to 186.1 cases per 100,000 in 2004.<sup>5</sup> This rise is mostly in young heterosexuals, and is thought to be due to a combination of: an increase in the rate of testing of both symptomatic and asymptomatic people; an increase in the sensitivity of testing since the introduction of nucleic acid amplification tests; and a real rise in the rate of infection.<sup>6, 7, 8</sup> The long-term complications of infection are particularly severe in women, and include pelvic inflammatory disease, infertility, ectopic pregnancy, and chronic pelvic pain.

\*Bug Breakfast is the name given to a monthly series of hour-long breakfast seminars on communicable diseases delivered by the NSW Department of Health's Division of Population Health.

### GONORRHOEA

Gonorrhoea is caused by the gram-negative bacterium *Neisseria gonorrhoeae*. The incubation period of gonorrhoea is usually two to seven days. The incidence of gonorrhoea in Australia increased from 31.4 cases per 100,000 in 2000 to 37.0 cases per 100,000 in 2004.<sup>5</sup> The rates of gonorrhoeal infection are higher among Aboriginal people compared with non-Aboriginal people, and are also higher in the Northern Territory.<sup>5</sup>

The symptoms of gonorrhoea overlap with those of genital chlamydia.<sup>4</sup> Apart from urethritis, infection is usually asymptomatic, and re-infection with gonorrhoea is common. Complications include pelvic inflammatory disease and infertility and, rarely, disseminated gonococcal infection.

### SYPHILIS

Syphilis is caused by the spirochaete bacterium, *Treponema pallidum* subs. *Pallidum*. Transmission of syphilis occurs through direct contact with exudative lesions, and through vertical transmission from mother to child in utero. The incubation period is usually between 10 and 90 days, with an average of three weeks. Syphilis infection usually produces a primary lesion (a chancre); however, infection may be asymptomatic.<sup>9</sup> Primary infection is followed by secondary and then latent or tertiary syphilis. Syphilis infection can have severe long-term complications if left untreated.

In NSW, the rate of diagnosis of syphilis has almost doubled between 2000 and 2004, with the increased rate almost completely confined to homosexual men, particularly those from South-East Sydney and Central Sydney who were HIV positive, highly sexually active, or recreational drug users.<sup>5, 9</sup>

Management of infection with chlamydia, gonorrhoea or syphilis includes patient education, the provision of appropriate antibiotic therapy, and contact tracing.

### NSW SEXUALLY TRANSMITTED INFECTIONS STRATEGY 2006–2009:

NSW Health has recently released its first Sexually Transmissible Infections Strategy.<sup>10</sup> This strategy emphasises STIs that have: significant morbidity; are associated with poorer long-term health outcomes such as infertility; facilitate the transmission of other infections such as HIV; are disproportionately prevalent within vulnerable populations; and are likely to be amenable to prevention and control efforts. Therefore the strategy gives particular priority to chlamydia, gonorrhoea and syphilis.

The strategy identifies priority population groups including:

- Aboriginal people
- gay and other homosexually active men
- heterosexuals with recent partner change
- people who inject drugs
- people with HIV/AIDS
- sex workers
- young people.

The Strategy aims to increase condom use and reduce STI transmission rates among all priority populations. Two specific targets have also been set in relation to syphilis for 2009, on the advice of organisations working with key communities. These are to:

- eliminate syphilis transmission within Aboriginal communities and
- reduce rates of syphilis among gay and other homosexually active men by 50 per cent.

## CONCLUSION

NSW is experiencing rising rates of STIs, with increased incidence of chlamydia primarily in young heterosexuals, and gonorrhoea and infectious syphilis primarily in homosexual men. The NSW Sexually Transmissible Infections Strategy 2006–2009 aims to reduce transmission and associated morbidities of these sexually transmissible infections.

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