Background Pelvic inflammatory disease (PID) is an important cause of infertility in women and can occur when micro-organisms such as chlamydia or gonorrhoea ascend to the upper genital tract. However few studies have quantified the contribution of these pathogens to PID.

We estimated the burden of PID using the population attributable risk percent (PAR%) in an Australian urban sexual health clinic population that could potentially be avoided if chlamydia or gonorrhoea infection were prevented.

Methods Data were extracted from the clinic’s electronic patient database for women aged 16–49 at first visit to an urban sexual health clinic between Jan2006–Jun2013. Chlamydia and gonorrhoea tests were based on clinical and risk assessment. PID diagnosis was based on clinical examination findings. Two analyses were undertaken; one among chlamydia-tested women and one among a subset of the chlamydia-tested group who were also tested for gonorrhoea (chlamydia/gonorrhoea tested). Univariable and multivariable logistic regression was conducted to identify factors associated with PID. The PAR% for PID from a current chlamydia or gonorrhoea infection was calculated and adjusted for demographic and behavioural factors using multivariable logistic regression.

Results Among 15,690 chlamydia-tested women, 1279 (8.2%, 95% CI 7.7–8.6) tested chlamydia-positive, 436 (2.8%, 95% CI 2.5–3.0) had PID diagnosed. The PAR% for chlamydia was 14.1% (95% CI 9.9–18.1). Among 8839 chlamydia/gonorrhoea-tested women, 681 (7.7%, 95% CI 7.2–8.3) had chlamydia only, 30 (0.3%, 95% CI 0.2–0.5) gonorrhoea only, 22(0.2%, 95% CI 0.2–0.4) chlamydia and gonorrhoea: 419 (4.7%, 95% CI 4.3–5.2) had PID diagnosed. The PAR% was highest for chlamydia only (12.5%, 95% CI 8.5–16.3) compared with gonorrhoea only (0.9%, 95% CI 0.1–1.8) or concurrent infections (1.0%, 95% CI 0.0–1.9).

Conclusion In this low gonorrhoea prevalence population, chlamydia control would have the greatest impact on reducing PID.

Disclosure of interest statement The authors declare that they have no commercial or other association that might pose a conflict of interest.