

Estimated incidence of Chlamydia trachomatis (CT) genital infection in New Zealand

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† No conflicts of interest

Background

CT diagnosis rate by sex, age and ethnicity known from ESR data on CT diagnoses.

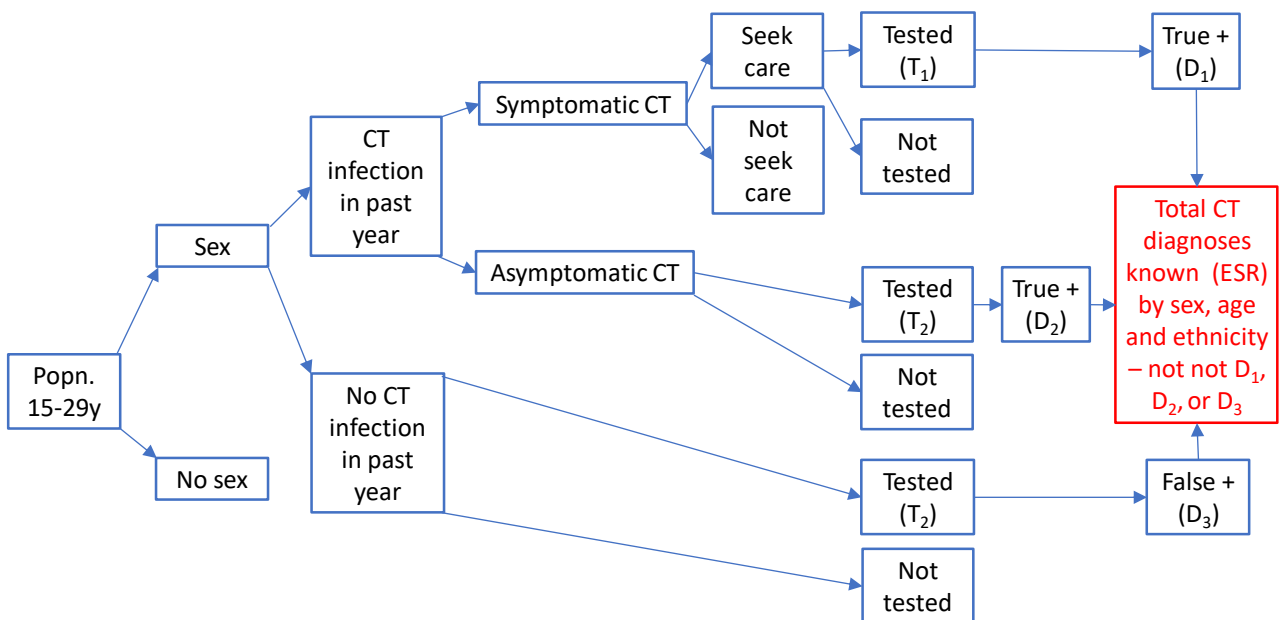
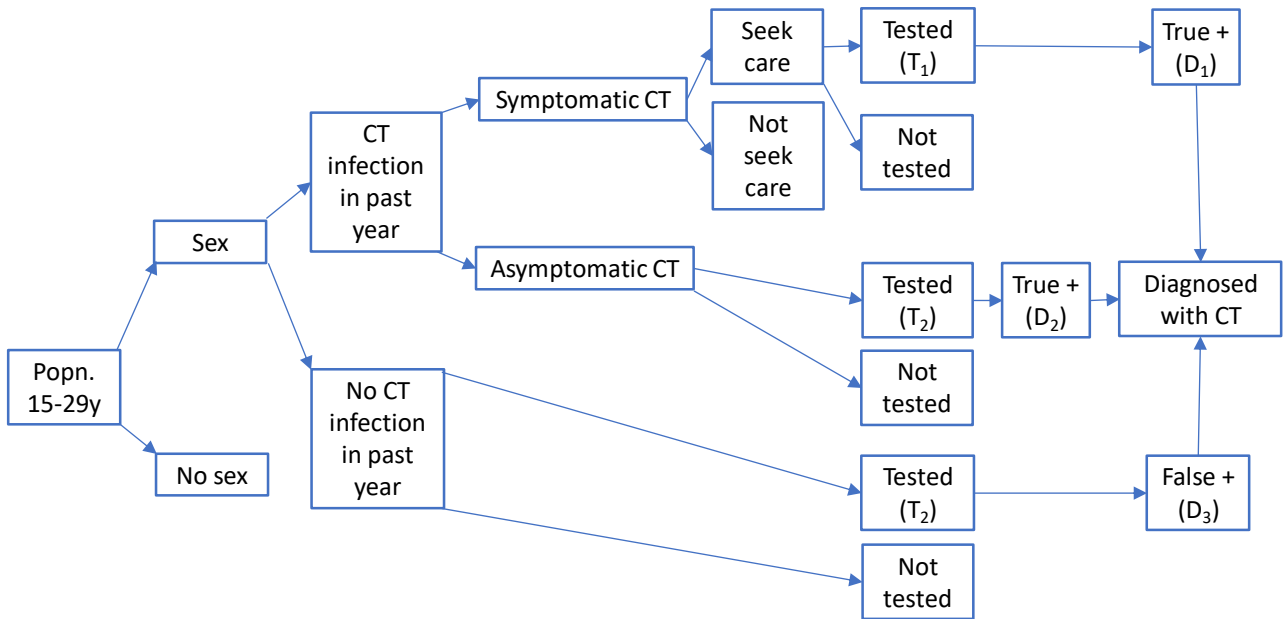
Aim

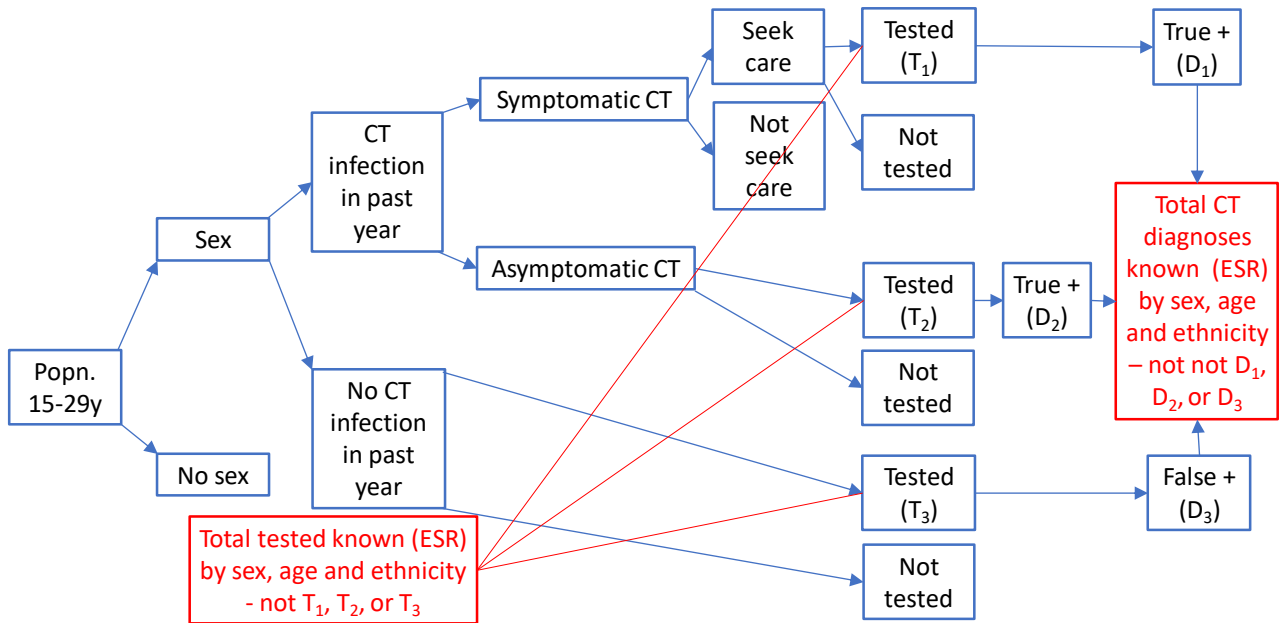
Estimate the underlying CT incidence rate for whole population aged 15-29y, by sex, 5-yr age bands, and ethnicity, using ESR data and certain assumptions.

Method

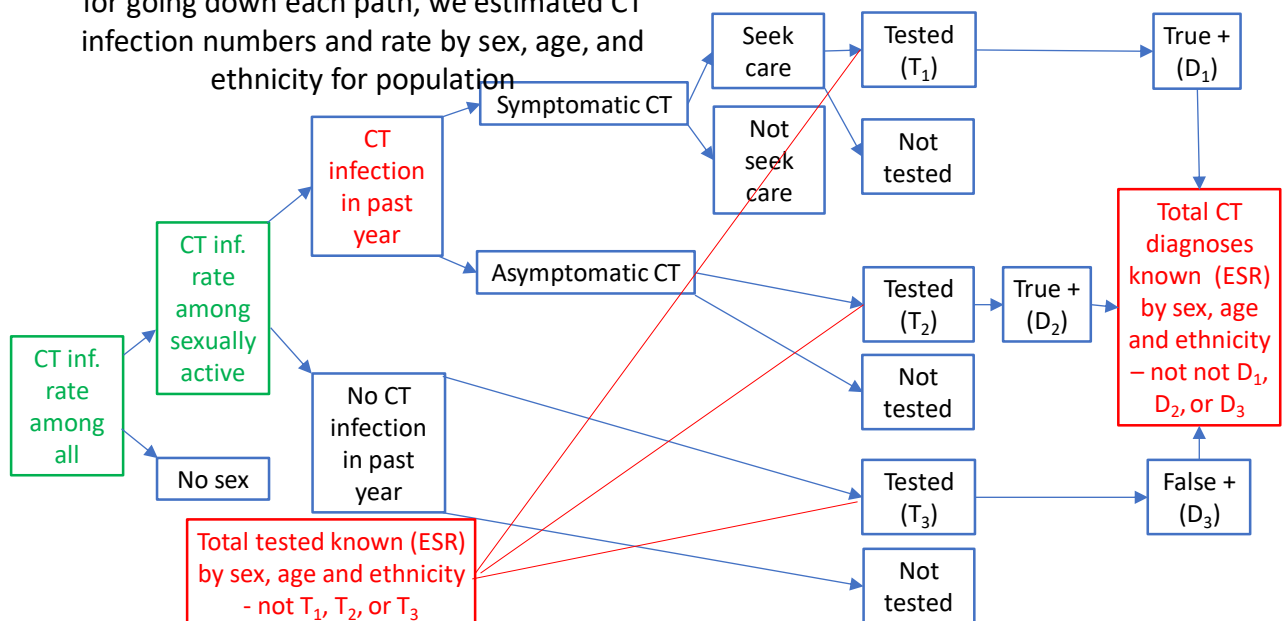
Based on a Bayesian mathematical model developed by “Australian chlamydia incidence estimation group” using routinely collected national notifications and testing data. (Ali H. *et al.* Sex Transm Infect 2015;91:513–519.)

An International collaboration comparing CT incidence in New Zealand, Australia and UK





Using known data and assumptions for probabilities for going down each path, we estimated CT infection numbers and rate by sex, age, and ethnicity for population



Assumptions/Priors

For all aged 15-29yr

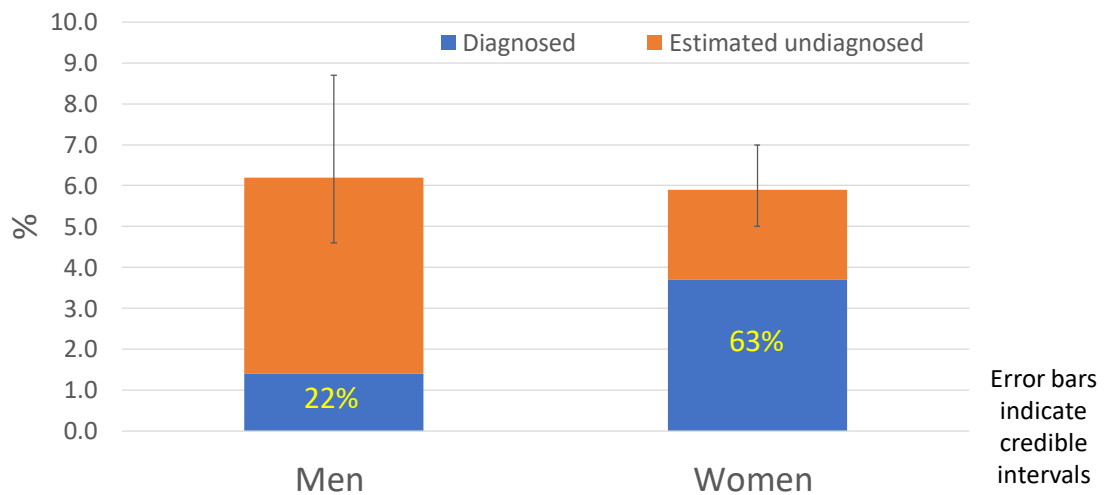
| | Men | Women |
|---|-----|-------|
| CT infections symptomatic | 9% | 16% |
| Symptomatic people with CT seek care | 80% | 85% |
| Symptomatic people having care being tested | 95% | 95% |
| Asymptomatic people with CT being tested | 18% | 60% |
| Uninfected sexually active being tested | 9% | 40% |

As used in Australian model

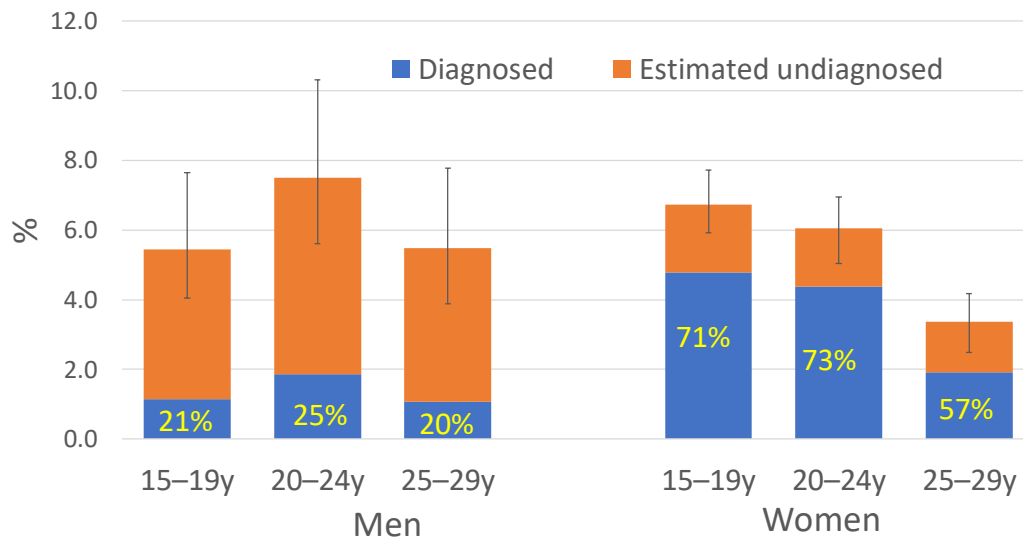
Based on NZ testing data and NZHS data

Age and ethnicity models used age and ethnicity specific priors based on ESR testing data

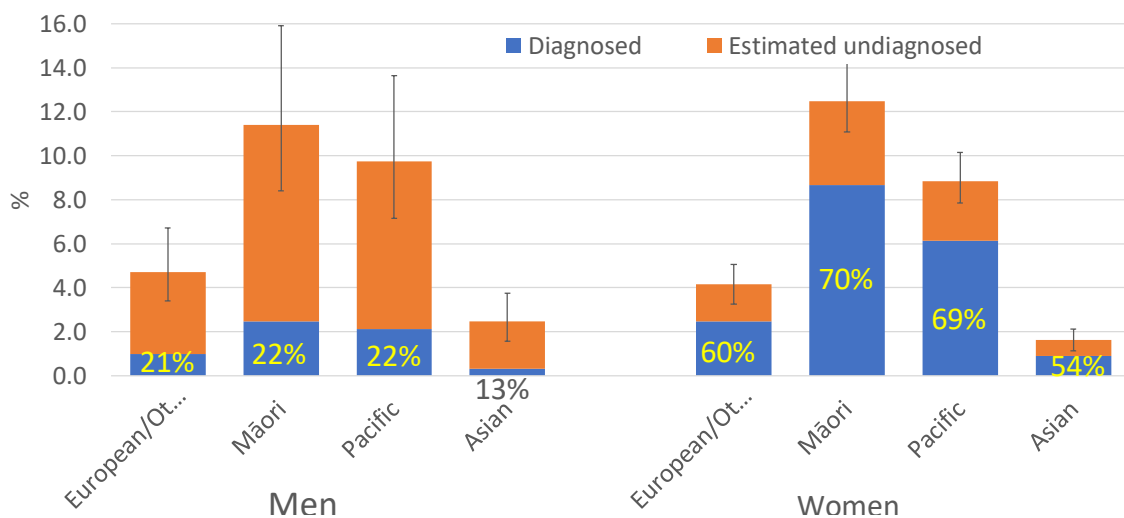
Annual rates of diagnosed and estimated undiagnosed CT and percentage diagnosed in whole population 15-29 years



Annual rates of diagnosed and estimated undiagnosed CT and percentage diagnosed in whole population by age



Annual rates of diagnosed and estimated undiagnosed CT and percentage diagnosed in population aged 15-29y by ethnicity



Limitations

- More evidence required for priors

Conclusions

- A high incidence of CT (about 1 in 17 annually), which unlike diagnoses is similar between men and women
- Peak incidence older for men than women
- Much lower proportion of infections diagnosed in men plausibly driving ongoing high incidence overall
- Higher rates among Māori and Pacific people

Next steps

- Encourage primary prevention and increase proportion of men diagnosed
- Compare our model and data with those from Australia and the UK, refine, then compare infection rates