

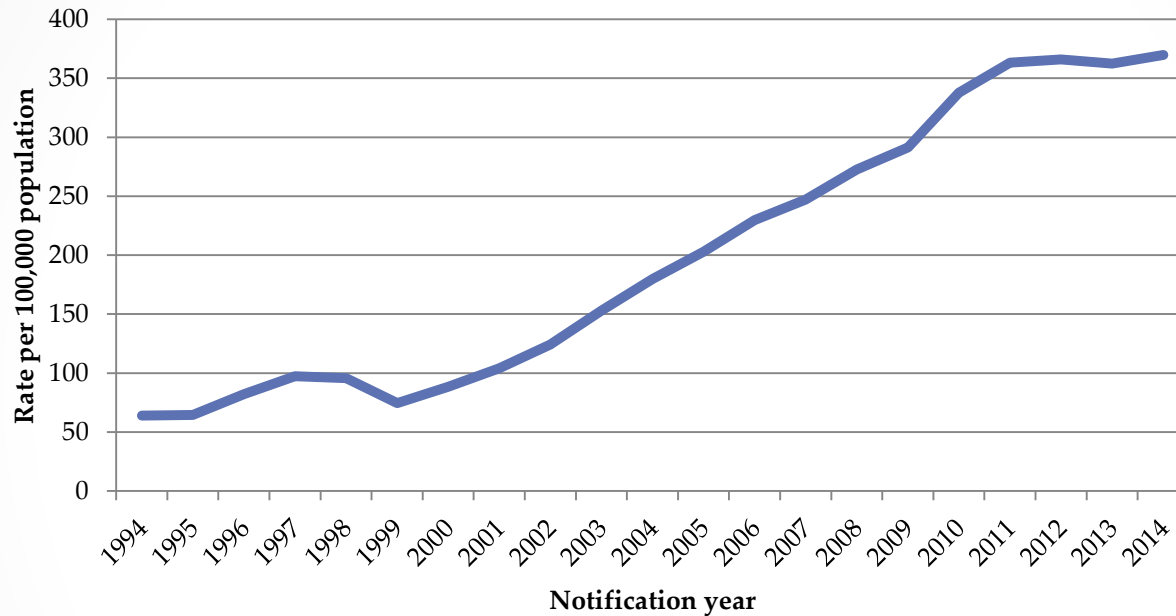
# Testing for *Chlamydia trachomatis* infection: are we meeting clinical guidelines? Evidence from a state level data linkage analysis for 15-29 year olds

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**Chlamydia**  
worth talking about



# Notification data



**Chlamydia notification rate per 100,000 population, Australia, 1994 to 2014**

# Notification data

		<b>Notification rate per 100,000 population</b>					
<b>Age group</b>	<b>Sex</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
15-19 years	Males	401	488	547	711	740	724
	Females	1383	1566	1718	2064	2299	2202
20-24 years	Males	984	1030	1159	1328	1482	1483
	Females	1595	1722	1788	2044	2228	2283
25-29 years	Males	604	663	671	786	841	866
	Females	688	733	776	814	878	882

**Chlamydia notification rates, males and females aged 15 to 29 years, Australia, 2007 to 2012 \***

- Young people aged 15-29 years make up ~80% of notified cases
- Females disproportionately represented

\* National Notifiable Diseases Surveillance System. Summary data, available at:  
<http://www9.health.gov.au/cda/source/cda-index.cfm>

# Background

- Chlamydia - mean overall prevalence in Australia estimated at 4.6%
- Australian healthcare costs AUD\$90-\$160 million
- Significant sequelae
  - infertility
  - increased transmission of other sexually transmissible infections
  - ectopic pregnancy
  - pelvic inflammatory disease
  - reactive arthritis

# Background

The costs of treating subfertility due to chlamydia are high –

- tubal surgery
- in vitro fertilisation

Costs of treating the complications of undiagnosed infection, including pelvic inflammatory disease and tubal infertility, also high -

- psychosocial
- financial

# Background

- Clinical guidelines recommend:
  - Annual chlamydia tests for all sexually active people aged 15 to 29 years
  - If positive, repeat testing at 3 months to check for reinfection
- Mathematical modelling
  - Large reductions in prevalence are possible, provided adequate testing coverage in target population

# Aim

- Measure adherence to the clinical guidelines
- Compare the testing rates to those estimated to be required to reduce chlamydia prevalence

# Datasets

- All chlamydia tests conducted in Tasmania by all public and private laboratories provided to Tasmanian Data Linkage Unit
- 2012 and 2013
- Probabilistic linkage
- Linked using a combination of
  - Name, address, date of birth, sex



# Datasets

- TDLU provided:
  - De-identified dataset
  - Laboratory identifier
  - Unique patient identifier
  - Postcode of residence
  - Date of birth
  - Sex
  - Date and result of test
- Very smooth process

# Why use linked data?

- Without linkage - unable to ascertain whether a person was tested more than once in each year
- Repeat tests can inflate estimates of population testing coverage
- First in Australia at a state-wide level

# Current status of project

- Analyses complete
- 3 papers
  - Medical Journal of Australia – under review – testing
  - Australian Journal of Rural Health – under review - geographic differences
  - Final draft – submission to Sexual Health - retesting

# Brief results

- 31,899 tests in 24,830 individuals
- Population testing coverage higher in females (21%), than males (6%)
- Highest testing rate in females 20-24 years (26%)
- Test positivity higher in males (16%), compared to females (10%)

# Brief results

- Less testing and higher test positivity in areas of most disadvantage compared to middle and least disadvantaged areas
- Testing rates higher in inner regional areas (15%), compared to outer (9%) and remote (8%) areas

# Brief results

- Retest rates at 3-month timeframe higher in females (14%) than males (10%)
- Retest positivity at 3 months higher in males (36%), than females (23%)
- Retest positivity 1-12 months post initial infection same in males and females (32%)

# Conclusions

- Testing rates are below levels recommended under clinical guidelines, particularly in males and in people living in areas of most disadvantage
- Rates are too low to impact on chlamydia prevalence in the short term, however sustained testing in age group 20-24 years may reduce prevalence over the next decade

# Conclusions

- People living in outer regional and remote areas in Tasmania are significantly less likely to be tested for chlamydia than those living in inner regional areas
- Retesting rates at the recommended 3-month timeframe are minimal in both males and females



# Benefits of data linkage project

- Valuable feedback to doctors on their testing effort (national strategy, clinical guidelines)
- Valuable feedback for DHHS for policy development

# Acknowledgements

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