

Age ranged from 18 to 59 years old, and the prevalence was higher in women aged 25 to 39 (14/3.9% CI 56.99–67.01), from Teresina (23/With no partner (26/7.2%, CI 92.26–96.94), with less than eight years of education at school (19.5% and 5.4%, CI 73.07–81.73). IC 63.38–73.02), catholic (19/5.3%, IC 75.97–84.23), income less than 1 minimum national wage (14/3.9%, CI 39.85–50, 15) and acting in pubs (14/3.9%, IC 45.63–55.97).

**Conclusion** High prevalence of syphilis among the younger sex workers, unmarried, catholic, impoverished, poorly schooled and working indoors. It is necessary to reinforce intervention measures, focusing on health education, in order to reduce the chain of transmission and safer sexual practices.

### LB3.253 SPATIAL DISTRIBUTION PATTERN ANALYSIS ON SYPHILIS IN CHINA

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**Introduction** In past twenty years, incidence of syphilis has been increasing and remained a public issue in China. In order to precisely control syphilis epidemic in the country, it was very important to explore and understand the spatial distribution pattern of syphilis in county level in China.

**Methods** We used the software of ArcGIS(version 10) to set up the national geographic information system(GIS) database of syphilis of all counties in China in 2015. The exploratory spatial data analysis(ESDA), including frequency, the global and local spatial autocorrelation methods were used to explore the spatial distribution characteristics of syphilis.

**Results** The median of incidence of syphilis was 26.05/100,000 population (25% percentile and 75% percentile were 15.70 and 44.77/100,000 population, respectively), minimum with 0.84, maximum with 433.28/100,000 population in all 2925 counties of Chinese mainland in 2015, and appeared significant positive skewing (skewness was 3.19). The global trend analysis indicated that the whole distribution of syphilis from northwest to southeast appeared as “U” shape and suggested that the areas of high incidence of syphilis located in northwest and southeast coastal regions in China. The global spatial autocorrelation analysis showed a positive spatial autocorrelation (Global Moran's I is 0.5962,  $p < 0.001$ ) and a high-high aggregation model (General G is 0.0441,  $p < 0.001$ ) for syphilis epidemics in county-level in China. The local spatial autocorrelation analysis was further used to output the hot-spot mapping of syphilis, including primary and secondary syphilis, latent syphilis in county-level, and 117 hot-spots counties with high incidence of primary and secondary syphilis were recognised and identified, mainly distributed in Yangtze River delta, north-west, north-eastern and south China.

**Conclusion** GIS and exploratory spatial data analysis, with the advantages of visualisation and accurate location, should be as an important tool to apply in syphilis surveillance and control.

### LB3.254 GREATER THAN TENFOLD INCREASE IN PHARYNGEAL CHLAMYDIA TRACHOMATIS AMONG GAY AND BISEXUAL MEN ATTENDING AUSTRALIAN SEXUAL HEALTH CLINICS 2010–2016

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**Introduction** Gay and bisexual men (GBM) are disproportionately affected by Chlamydia trachomatis (CT). A steady increase in CT notifications has been observed in Australia's most populous state (NSW), with an increasing proportion being pharyngeal CT (PCT) notifications. Our aim was to investigate temporal trends and associated behavioural factors of PCT compared to anogenital CT among GBM attending NSW sexual health clinics.

**Methods** Clinical data were extracted in early 2017 for the period 2010–2016 from 26 NSW clinics. Positive test yield (“yield”) was defined as the proportion of testing occasions where CT was detected.

**Results** 23,423 GBM were tested on 84 385 occasions during the 7 year study period to end 2016. Yield of genital testing was 8.8% (95%CI: 8.5–9.0), increasing by 17% over the study period (8.1%–9.5%,  $p < 0.001$ ). Yield of anorectal testing was 7.2% (95%CI: 7.0–7.4), increasing by 23% during the study period (6.0%–7.4%,  $p < 0.001$ ). Yield of pharyngeal testing was 2.2% (95%CI: 2.1–2.3), increasing by over 1200% from 0.3% in 2010 to 3.7% in 2016 ( $p < 0.001$ ). Of the 8933 positive CT tests (at any anatomical site), 424 (4.8%) occurred without concurrent anogenital CT (“isolated PCT”). The proportion of isolated PCT increased from 2.0% in 2010, to 6.4% in 2015 and 4.4% in 2016 ( $p < 0.001$ ). In 2016, PCT was associated with injecting drug use ( $p = 0.014$ ) and higher numbers of sexual partners ( $p < 0.001$ ), after adjusting for men who reported symptoms or were CT contacts. These factors were the same as those associated with anogenital CT infections.

**Conclusion** The likelihood of detecting CT among GBM has increased over time with by far the greatest increase in positive test yield occurring in the pharynx. The same factors were associated with CT detection at all sites. Given that most untreated PCT persists on average for 2 years, is readily transmitted to anogenital sites and that one in 20 of all CT infections would be missed, consideration should be given to routine screening of the pharynx in other countries to reduce CT transmission among GBM.

### LB3.255 HIV PREVALENCE IN HOMELESS PEOPLE IN A NORTHEAST CAPITAL OF BRAZIL

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**Introduction** The Acquired Human Immunodeficiency Syndrome is one of the main public health problems in Brazil