Spatial and temporal epidemiology of infectious syphilis in Victoria, Australia, 2015-2018

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Background:

The study aims to examine the trends of syphilis infection in Victoria and the characteristics of notified cases of syphilis among different population groups stratified by risk and in different geographical distributions.

Methods:

We analysed the demographic characteristics, notification trends and geographical distribution of notified cases of syphilis in Victoria between 2015 and 2018. Infectious syphilis cases were categorised into four population groups: men who have sex with men (MSM), men who have sex with women (heterosexual males), females, and men who have sex with men and women (bisexual males). We examined the staging of syphilis, geographic location by residence of cases, HIV status, reasons for testing, and notifying source.

Results:

Of the 4,808 notified infectious syphilis cases, there were 3,801 (64%) MSM, 593 (12%) heterosexual males, 465 (10%) females, and 118 (2%) bisexual males. Females (219\% increase, p\textsubscript{trend}<0.001) and bisexual males (220\% increase, p\textsubscript{trend}=0.004) had the greatest increase in the number of cases, followed by heterosexual males (129\% increase, p\textsubscript{trend}<0.001) and MSM (21\% increase, p\textsubscript{trend}<0.001). Geographical mapping showed the majority of the syphilis cases in MSM occurred in inner metropolitan Melbourne suburbs, while the cases in heterosexuals occurred in outer Melbourne suburbs.

Conclusion:

Notified cases of syphilis infection had significantly increased across all population groups but particularly in heterosexual males and females. Campaigns and control measures should be specific for each population group with targeted screening and education in areas with a high number of syphilis cases.
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