

# **Spatiotemporal expansion of infectious syphilis notifications by sexual exposure groups, NSW, 2017 to 2023**

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## **Background:**

Australia is experiencing significant increases in infectious syphilis notifications. We report the epidemiology of infectious syphilis in NSW focusing on sexual groups, socio-economic disadvantage and remoteness.

## **Methods:**

We extracted infectious syphilis notifications for NSW residents  $\geq 15$  years of age from the notification system, 2017 to 2023. Data were classified according to: sexual exposure group [i) females regardless of sex of partner (F), ii) males who reported sex with females only (MSF), iii) males who reported sex with both sexes (MSF&M) and iv) males who reported sex with males only (MSM)]; place of residence; Index of Relative Socio-economic Disadvantage; remoteness areas; and time (before (T1) and after 30 June 2020 (T2)). Change over time was compared using Person's Chi-squared and Wilcoxon rank sum tests.

## **Results:**

9,916 notifications were classified, with 69.0% MSM, 13.4% MSF, 9.6% F, and 8.0% MSF&M. The greatest increase in notifications from T1 to T2 was for F (92%), followed by MSF (36%) and MSM (8%). Female and MSF notifications increased in inner Sydney and expanded into western Sydney suburbs and to nearly all regions of NSW in P2, which included a declared heterosexual outbreak in northern NSW. MSM notifications, while concentrated in inner Sydney, showed growth along the eastern seaboard. MSF&M notifications were generally confined to central and eastern NSW and inner Sydney. Females had the largest proportion of notifications associated with residing in regions with most disadvantage (29.1%), followed by MSF (21.7%), MSFM (14.6%) and MSM (9.8%). Disadvantage increased among all groups between T1 and T2 (P value 0.017 to  $<0.001$ ).

## **Conclusion:**

Evidence of expansion of infectious syphilis notifications across NSW, including into regions of socio-economic disadvantage is concerning. The NSW response to syphilis must strengthen health services in disadvantaged areas, including improving the implementation of the 'No Wrong Door' approach to STI screening.

## **Disclosure of Interest Statement:**

Nil