SYPHILIS SURVEILLANCE IN AUSTRALIA: A REVIEW OF DATA SYSTEMS AND GAPS DURING AN EPIDEMIC

Authors:
Manoj-Margison S[1], Donaldson C[1,2], Guy R[3], Huynh E[1], Olsen A[1], Whop L[1]

[1] Australian National University

[2] Glasgow Caledonian University

[3] University of New South Wales

Background:
Infectious syphilis notifications in Australia have more than doubled in the last decade, reaching 5866 cases in 2024. Aboriginal and Torres Strait Islander notification rates are five times higher compared with non-Indigenous Australians. Between 2016-2024, 99 cases of congenital syphilis resulted in 33 infant deaths. In August 2025, syphilis was declared a Communicable Disease Incident of National Significance (CDINS). Syphilis surveillance remains fragmented across state and territory systems, with only a fraction of data reported to the National Notifiable Diseases Surveillance System. This study maps data variations to inform nationally consistent surveillance requirements.

Methods:
We identified syphilis surveillance systems through literature review, document analysis and stakeholder consultation. We systematically analysed 15 syphilis surveillance databases across eight Australian states and territories, plus national and New Zealand systems. Variables were extracted using a structured matrix and categorised through an iterative process using the READ approach. Systems were compared examining both data content and process. An Aboriginal and Torres Strait Islander Governance Group provided oversight of the research design and conduct.

Results:
Substantial heterogeneity exists across jurisdictions, with variation seen across sexual identity and details of sexual encounters, social vulnerability and partner notification. Operational challenges include reliance on fax, mail, or phone reporting, creating data entry delays. These variations hinder capacity to identify transmission patterns and target interventions to particular populations. Absence of standardised identifiers may also preclude data linkage with other national datasets.

Conclusion:
While Australia's National Notifiable Diseases Surveillance System provides minimum core data, jurisdictions independently collect substantially more detailed variables though in inconsistent ways. Harmonising surveillance data represents one critical component of a multi-pronged response to this CDINS, alongside clinical, public health, and social interventions. This study provides a first systematic, cross-jurisdictional documentation of syphilis surveillance data variables in Australia, identifying specific areas where harmonisation could improve comparability and support more effective public health action.

Disclosure of Interest Statement:
The authors declare no conflicts of interest. This research is supported by a scholarship from the Sir Roland Wilson Foundation. The funding body had no role in study design, data collection or analysis, decision to publish, or preparation of the manuscript.