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# Improving the accuracy of Aboriginal and non-Aboriginal disease notification rates using data linkage

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# IMPROVING THE ACCURACY OF ABORIGINAL AND NON-ABORIGINAL DISEASE NOTIFICATION RATES USING DATA LINKAGE

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Routinely collected infectious disease surveillance data provide a valuable means to monitor the health of populations. Notifiable disease surveillance systems in Australia have consistently reported high levels of completeness of demographic data fields of age and sex, but low levels of completeness of Aboriginality data. Significant amounts of missing data associated with case notifications can introduce bias in the estimation of disease rates by population subgroups.

The aim of this analysis was to evaluate the use of data linkage to improve the accuracy of estimated notification rates for sexually transmitted infections (STIs) and blood borne viruses (BBVs) in Aboriginal and non-Aboriginal groups in Western Australia.

Probabilistic methods were used to link disease notification data received in Western Australia in 2004 with core population health datasets from the established Western Australian Data Linkage System. A comparative descriptive analysis of STI and BBV notification rates according to Aboriginality was conducted based on the original and supplemented notification datasets.

Using data linkage, the proportion of STI and BBV notifications with missing Aboriginality data was reduced by 74 per cent. Compared with excluding notifications with unknown Aboriginality data from the analysis, or apportioning notifications with unknown Aboriginality based on the proportion of cases with known Aboriginality, the rate ratios of chlamydia, syphilis and hepatitis C among Aboriginal relative to non-Aboriginal people decreased when Aboriginality data from data linkage was included.

Although there is still a high incidence of STIs and BBVs in Aboriginal people, incompleteness of Aboriginality data contributes to overestimation of the risk associated with Aboriginality for these diseases. Record linkage can be effectively used to improve the accuracy of estimated disease notification rates.