

Trends, patterns, and factors associated with HIV infection among male syphilis cases, 2014-2019, Hawaii (#20158)

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Background and Objective

•Background

- Reported cases and rates of syphilis have increased dramatically in the past decade in US. The increase in syphilis is of particular concern in the era of ending the HIV epidemic, given that syphilis infection facilitates HIV acquisition and transmission.

•Objective

- This study aims to describe HIV infection among males diagnosed with syphilis from 2014 to 2019 in Hawaii. Reliability of reported HIV status from Hawaii sexually transmitted infection (STI) registry and risk factors for HIV infection was also evaluated.

- Hawaii STI registry records for males diagnosed with syphilis during 2014-2019 were crossmatched with Hawaii HIV surveillance registry records (data through 2020) using CDC's Link Plus probability matching (LPPM).
- Reported HIV status from the STI registry was validated by the results from CDC's LPPM.
- A logistic regression model was used to examine demographic and behavioral factors associated with having a history of being infected with both syphilis and HIV.

Results – HIV coinfection

- From 2014 to 2019, a total of 947 males were diagnosed with syphilis in Hawaii.
- Incidence rates of syphilis among males increased by 56.0% from 16.6 per 100,000 in 2014 to 25.9 per 100,000 in 2019 in Hawaii.
- Among the 947 male syphilis cases, 257 (27.1%) were identified by LPPM as having both syphilis and HIV infections, of whom 200 (77.8%) had been diagnosed with HIV more than 60 days prior to the syphilis diagnosis, 48 (18.7%) had HIV and syphilis diagnosed within 60 days of each other, and 9 (3.5%) were diagnosed with HIV infection more than 60 days after the syphilis diagnosis.
- Dual infection rates were higher in earlier years (e.g., 30.5% in 2014 and 39.2% in 2015), among older patients (41.6% among cases ≥ 45 years old), among males who have sex with males (MSM, 36.6%), and among cases with repeated syphilis events (59.5%).

Results – Validating reported HIV status from the STI registry with Link Plus matching

- Among the 947 male syphilis cases, 219 (23.1%) reported as HIV positive, 484 (51.1%) as HIV negative and 244 (25.8%) with unknown HIV status, based on STI registry data.
 - Of the 219 reported as HIV positive, 202 (92.2%) were matched and 17 (7.8%) not matched to any HIV case record through LPPM.
 - Of the 484 reported as HIV negative, 471 (97.3%) were not matched to any HIV case record and 13 (2.7%) were matched through LPPM. Of those matched, 7 had HIV diagnosed after the syphilis diagnosis and 6 were diagnosed with HIV prior to the syphilis diagnosis.
 - Of the 244 persons with unknown HIV status, 42 (17.2%) were matched through LPPM, of whom 5 (11.9%) were concurrently diagnosed with HIV and 37 (88.1%) were diagnosed with HIV prior to the syphilis diagnosis.
- Among cases with a known reported HIV status, the overall percentage agreement between reported HIV status from the STI registry and LPPM results was 95.7%. Of note, reported HIV status from the STI registry underestimated the true burden of HIV infection.

Conclusions and Implications

- Over a quarter (27.1%) of males diagnosed with syphilis during 2014-2019 were also infected with HIV. Dual infection rates were higher among MSMs (36.3%), patients aged ≥ 45 years (41.6%), and males with repeated syphilis events (59.5%).
- Reported HIV status from the STI registry is a reliable tool for evaluating HIV infection, although it underestimates the true burden of HIV infection.
- Periodic matching between registries of STI and HIV provides insight into trends of coinfection, quality control to both registries, and opportunities to identify patients not linked to or who have fallen out of HIV care.