

## Neurosyphilis, Ocular, and Otic Syphilis Cases — Chicago, Illinois, January–August 2023

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**Background:** Neurologic, ocular, and otic (NOO) manifestations can occur at any stage of syphilis and are debilitating. NOO syphilis is most common among persons living with HIV, particularly men who have sex with men (MSM). Recently, healthcare providers in Chicago have reported increased NOO syphilis among heterosexual persons without HIV. We characterized NOO syphilis cases stratified by HIV status to determine factors associated with diagnosis.

**Methods:** We queried Chicago’s Health Information Management System to identify potential syphilis cases defined as cerebrospinal fluid tests (eg, VDRL [Venereal Disease Research Laboratory], protein, glucose) consistent with neurosyphilis, treatment with intravenous penicillin, or any documented syphilis sign or symptom in Chicago residents during January 1–August 24, 2023. We reviewed medical records to confirm cases using the 2018 CDC NOO syphilis case definitions. We matched cases using Enhanced HIV/AIDS Reporting System and compared differences by HIV status.

**Results:** We identified 36 potential cases, including 28 NOO syphilis cases. Twenty (71%) were neurosyphilis, 17 (61%) ocular syphilis, and 1 (4%) otic syphilis; 10 (36%) had >1 type. Twenty-one (75%) patients were male at birth, and 20 (71%) were non-Hispanic Black. Median age was 50 years (range: 23–82 years). Nine (32%) were HIV-positive. Six (21%) identified as MSM, 15 (54%) as heterosexual, and 7 (25%) had undocumented sexual preference. Nineteen (68%) lacked typical syphilis symptoms (eg, chancre or rash); 16 (57%) had decreased vision and 6 (21%) acute headaches. There were no significant differences stratified by HIV status, except persons without HIV identified as heterosexual more often ( $P = .008$ ).

**Conclusions:** Majority of NOO syphilis cases were among persons without HIV. Signs or symptoms consistent with NOO syphilis (eg, decreased vision) were often the only presentation. Clinicians should consider NOO syphilis even in persons presenting without typical syphilis signs and symptoms and persons without HIV.