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Primary and Secondary Syphilis in Nashville and Davidson County, TN: 1996-1999 Epidemic Risk Factors Examined

An Investigative Report on the Current Syphilis Epidemic
In Nashville and Davidson County, Tennessee

Part Two

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EXECUTIVE SUMMARY

Background: Nashville has experienced a syphilis epidemic since 1996. The first part of an investigative report on this epidemic, titled “Epidemiology of Primary and Secondary Syphilis in Nashville and Davidson County, Tennessee”, was released in October 1998. An effort to examine risk factors contributing to the current epidemic continues, and has resulted in this second part of a two-part investigative report on Nashville’s syphilis epidemic.

Objective: To examine the risk factors associated with the syphilis epidemic for the purpose of syphilis prevention and control throughout Nashville.

Methods: Multiple approaches were used to conduct the investigation. The methodology includes descriptive epidemiology, a literature and government document review, an analysis of local relevant data, a TennCare utilization data matching study, a Metropolitan Health Department (MHD) clinic visitation data analysis, and a series of three matched case-control studies.

Results: Syphilis is a sexually transmitted disease (STD). Both social and biological factors influence the occurrence of syphilis. Although the transmission of syphilis between and among sexually active persons is a direct result of individual behaviors, the social factors examined in this report reaffirm and support the environmental and ecological conditions that increase and intensify the risk of each individual’s behavior and thereby serve to promote and sustain the epidemic. Because of the complexity of the issue, part of the observations and statements made here are far from conclusive. However, this report identified several risk factors (or possible risk factors) relating to the Nashville syphilis epidemic.

1. Illegal sex and drug related activities among syphilis cases are important contributors to Nashville’s current syphilis epidemic. It is estimated that the risk of syphilis acquisition increased 16.7% to 62.6% per each additional sex related charge and increased 4.9% per each additional drug related charge based on study data. Given the facts that from 1994 to 1998 there were 99 primary and secondary (P & S) syphilis cases that had sex related criminal charge records, with a total of 494 sex related charges, and 312 P & S syphilis cases had drug related criminal charge records, with a total of 1,589 drug related charges, the opportunities for these cases to serve as “core transmitters” to spread syphilis in Nashville is substantial.
2. Syphilis cases in the homeless population may be an addition to the “core transmitters” in Nashville’s syphilis epidemic. However, it is realized that this statement is based on limited data and further investigation is needed.
3. Potentially unreported syphilis cases may contribute to the Nashville’s existing syphilis “core transmitters” pool. TennCare utilization data matching found 312 TennCare provider-diagnosed P & S syphilis

patients were not matched with MHD reported P & S syphilis cases during 1994-1998. Although the MHD STD Clinic audit data provided some underreporting and/or misdiagnosis evidence, the impact of underreporting and misdiagnosis on Nashville's syphilis epidemic is unknown at this time. A study is warranted to assess and verify these 312 TennCare provider-diagnosed syphilis patients.

4. The decrease in public health services capacity, coupled with the increased needs and demands for STD services in the community, may suggest missed opportunities for syphilis prevention and control.
5. Introduction of TennCare in 1994 changed the dynamics of syphilis care in this community, which may have had some impact on the syphilis epidemic.
6. Nashville's social environment and ecological conditions provided soil for the current syphilis epidemic to grow.
7. The conjunction of syphilis' unique biological and biomedical features with a favorable social environment resulted in Nashville's current syphilis epidemic.

Recommendations:

1. Continue to enhance the syphilis surveillance system.
2. Continue to strengthen community involvement and partnerships.
3. Expand outbreak response efforts to include the homeless population.
4. Continue to provide quality clinic services, laboratory services, and health promotion interventions.
5. Invest in Nashville's public health infrastructure.

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