

Monitoring STIs in the Population

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Abstract. *N. gonorrhoeae*, *C. trachomatis*, and *T. vaginalis* are biological cofactors that facilitate transmission of HIV. The recent union of population survey techniques and nucleic acid amplification testing (NAAT) for sexually transmitted infections (STIs) provides an important new tool for studying the prevalence and distribution of these STIs in the population. Results using this methodology have produced dramatic evidence of a large, hidden epidemic of asymptomatic infections. The 1997-98 Baltimore STD and Behavior Survey (BSBS) estimated that 7.9% of Baltimore adults ages 18 to 35 — and 15.0% of African-American women in that age group— had an undiagnosed and untreated gonococcal or chlamydial infection.

Traditional approaches to STI epidemiology have monitored STI incidence by tracking counts of infections reported to public health departments. The BSBS found, however, that the number of *undiagnosed* infections prevalent in the population substantially exceeded the count of infections *diagnosed* and reported to the public health authorities each year. This finding documents one of the major scientific inadequacies of the traditional approach to STI epidemiology. Estimates of the burden of STIs derived from NAAT testing in population surveys provide a new paradigm for studying the epidemiology of untreated and largely asymptomatic infections.

We propose a research program to study changes in the prevalence, distribution, and correlates in the population of untreated *N. gonorrhoeae*, *C. trachomatis*, and *T. vaginalis* infections over a four-year period. To capitalize on the availability of population prevalence estimates for 1997-98, this research will be carried out in Baltimore, MD. To permit economical data collection, T-ACASI telephone surveys will be conducted with probability samples of Baltimore adults. Over a 48 month period, 4,800 survey respondents will be offered the opportunity of STI testing using mail-out, mail-back test kits. (In a pilot test of this methodology, 85% Baltimore residents who completed a survey interview mailed back urine specimens when a monetary incentive was offered.)

This research is important both from a scientific and a public health perspective. The Institute of Medicine and JAMA have drawn attention to the need for research to unveil “the hidden epidemic of sexually transmitted diseases”. This research takes the next step toward this goal — moving from studying the prevalence of untreated infections to tracking changes over time in the prevalence, distribution, and correlates of these untreated infections.