

## **Reproducibility and validity problems associated with nucleic acid amplification tests for detecting *Chlamydia trachomatis*.**

A Hadgu and M Sternberg

*Chlamydia trachomatis* (CT) is the most prevalent bacterial sexually transmitted disease in the western world and is associated with annual cost that exceed \$2 billion in the U.S alone. Thus, accurate diagnosis and prompt treatment of CT is an important public health effort. Unfortunately, for many infectious diseases including CT, a true gold standard simply does not exist. As a result, estimation of test performance parameters for chlamydia in the absence of a gold standard is a challenging task. In this presentation, we will attempt to address issues pertaining to the evaluation of NAATs including NAAT validity and reproducibility, test validity and the manner in which positive results are confirmed. More specifically, we will review and apply traditional latent class models and their recent extensions, such as the hierarchical latent class model with random effects which assumes that the different CT tests are measuring more than one latent variable which in turn measure the true but unknown latent disease status.