

**Type: Poster Presentation**

Final Abstract Number: 62.016  
 Session: Sexually Transmitted Diseases  
 Date: Saturday, April 5, 2014  
 Time: 12:45-14:15  
 Room: Ballroom

**A risk prediction rule for screening asymptomatic chlamydia and gonorrhea**


T. Falasinnu<sup>1,\*</sup>, M. Gilbert<sup>2</sup>, J. Shoveller<sup>1</sup>, P. Gustafson<sup>1</sup>

<sup>1</sup> University of British Columbia, Vancouver, Canada  
<sup>2</sup> BC Centers for Disease Control, Vancouver, Canada

**Background:** This study aims to derive and validate a risk-scoring algorithm to accurately identify asymptomatic patients at increased risk for chlamydia and gonorrhea (CT/GC) infection.

**Methods & Materials:** This study is a population-based, cross-sectional analysis of electronic records of visits collected at two publicly funded sexual health clinics in Vancouver, British Columbia between 2000 and 2012. We conducted multivariate logistic regression of first 7 years (2000–2006) of clinic visits data (derivation population). We identified significant predictors of CT/GC infection from the final regression model and then weighted and summed their regression coefficients to calculate a risk score for each individual that is a direct reflection of the probability of infection. The model's discriminative and calibration performance was evaluated using the area under the receiver operating characteristic curve (AUC) and the Hosmer-Lemeshow (H-L) statistic, respectively. We examined the sensitivity (i.e., proportion of all cases identified) and fraction of patients that would need to be screened at different cutoffs of the risk score. Temporal validation was assessed using clinic visits from 2007–2012.

**Results:** The prevalence of infection was 1.8% (n = 13,791) and 2.1% (n = 18,050) in the derivation and validation datasets, respectively. The final logistic regression model included male gender, younger age, non-white ethnicity, multiple sexual partners and previous CT/GC diagnosis. The model showed reasonable performance in the derivation (AUC, 0.74; H-L  $p = 0.99$ ) and validation (AUC, 0.64; H-L  $p = 0.78$ ) datasets. Possible risk scores ranged from -3 and 25. We identified a risk score cutoff point of  $\geq 4$  that detected cases with a sensitivity of 89% and 80% by screening 64% and 63% of the derivation and validation populations, respectively.

**Conclusion:** This is the first study in sexual health contexts that derived and temporally validated a well-performing risk-scoring algorithm for screening asymptomatic CT/GC infection, an issue particularly salient in this field because of the shift to more sensitive diagnostic tests over this time period. These findings support the use of the algorithm for tailoring risk assessment to the specific circumstances of the patient and have important implications for reducing unnecessary screening and saving costs.

<http://dx.doi.org/10.1016/j.ijid.2014.03.1305>

**Type: Poster Presentation**

Final Abstract Number: 63.001  
 Session: Vaccines and Vaccine Development  
 Date: Saturday, April 5, 2014  
 Time: 12:45-14:15  
 Room: Ballroom

**Pneumococcal conjugate vaccine (non-typeable Haemophilus influenzae (NTHi) Protein D, diphtheria or tetanus toxoid conjugates) in prevention of acute otitis media in children: A cohort study**


T.G.T. Chu<sup>\*</sup>, D.R.I.R. Cachola

University of Santo Tomas Hospital, Manila, Philippines

**Background:** Acute otitis media (AOM) is a common diagnosis among children. The most common causative bacteria in AOM are *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis*. In March 2009, a pneumococcal vaccine containing ten serotype-specific polysaccharides conjugated to *Haemophilus influenzae* protein D, tetanus toxoid, and diphtheria toxoid as the carrier proteins was developed and licensed.

**Methods & Materials:** Objectives: To compare the incidence of AOM among the children ages 2 months to 6 months old previously given 3 doses of Pneumococcal conjugate vaccine (PCV) and those who did not received the vaccine over a period of one year.

**Study Design:** Historical Cohort Study

**Setting:** Earnshaw Health Center, Sampaloc, Manila

**Participant:** A total of 176 subjects participated in the study. Exposed Group: children vaccinated with 3 doses of PCV. Unexposed Group: children not vaccinated with PCV.

**Methodology:** Medical records of both exposed and unexposed groups were reviewed. Both groups underwent history and physical examination including otoscopy and any sign and symptoms of active ear infection were noted.

**Results:** The overall incidence of AOM was 5.11% (9 out of 176). An incidence of 3.75% (8 out of 80) and 6.25% (6 out of 96) had AOM among the exposed and unexposed groups, respectively. A Chi-square test value of 0.165 ( $p$  value = 0.685) was obtained. The relative risk (RR) was computed at 0.6 (95 percent CI 0.155, 2.323). The number needed to treat (NNT) is 40.

**Conclusion:** The result showed no difference in the development of AOM in the two groups, however, PCV based on the relative risk is still beneficial in preventing AOM in children.

<http://dx.doi.org/10.1016/j.ijid.2014.03.1306>