1641. A Comparison of Human Papilloma Virus Infection Prevalence Trends Pre- and Post- HPV Vaccine Implementation

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Background. Human papilloma virus (HPV) is the most common sexually transmitted infection in the United States, with an annual incidence rate of approximately 14 million people. The HPV vaccine has been demonstrated to be highly effective in the prevention of HPV infection and HPV-associated diseases. This study aims to evaluate the impact of HPV vaccine on the prevalence of HPV infection in the United States and evaluate the trends of disease prevalence pre- and post-HPV vaccine implementation.

Methods. We conducted a secondary data analysis of the National Health and Education Survey (NHANES) for trends in HPV infection from 2003 to 2016. The analysis was grouped into a pre-HPV vaccine implementation (2003–2006) cohort including 4064 females, aged 18–59 years; and a post-HPV vaccine implementation (2007–2016) cohort which included 10718 females, aged 18–59 years; and a post-HPV vaccine implementation era. Females with less than high school education had a higher prevalence of HPV infections in the pre-HPV vaccine implementation cohort. The prevalence of HPV infection prior to HPV vaccine implementation was 43.96% (95 CI 42.71%–46.58%) compared with 40.55% (95 CI 40.55%–40.56%) in the post-HPV vaccine implementation era. Among females with HPV infections in the post-HPV vaccine implementation cohort, 82.6% (95% CI 80.41%–83.42%) were uncircumcised. In both cohorts, black females had a significantly higher prevalence of HPV with a prevalence rate of 18.56% (95% CI 18.23%–20.56%) in the pre-HPV vaccine implementation cohort and 15.61% (95% CI 14.82 –19.4%) in the post-HPV vaccine implementation cohort. Females with less than high school education had a higher prevalence of HPV in the pre and post- HPV vaccine implementation cohorts with prevalence rates of 25.77% (95% CI 23.44%–28.72%) and 24.96% (95 CI 23.41%–26.67%), respectively.

Conclusion. The results suggest that HPV infection prevalence has declined since the implementation of HPV vaccine to US national immunization program. Our findings highlight disparities in HPV infection prevalence by race and educational status, and these patterns are in keeping with HPV-associated disease such as warts and HPV-associated cancers.

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incurred difficulty of associating outcomes, limited post-index time period, and potential misclassification when establishing a standardized algorithm for PWID identification.

Results. Of 2,431 eligible illness episodes among 1,716 participants, 142 (5.8%) were positive for influenza. Among individual symptoms, runny nose was most sensitive and measured fever ≥ 38°C was most specific (Figure 1). In a multivariable model, measured fever ≥ 38°C (adjusted odds ratio = 3.8, 95% confidence interval [CI] = 2.0–7.2), cough [2.7, CI 1.6–4.7], chills [2.2, CI 1.2–3.8], and myalgia [1.4, CI 0.7–2.5] were independently associated with influenza illness. A case definition based on the four measured fever, cough, chills, or myalgia was highly-sensitive and moderately specific among pregnant women, case definitions requiring measured or subjective fever may miss many influenza cases making them sub-optimal for studies of burden or vaccine efficacy. The intended use of case definitions should be considered when evaluating the tradeoff between sensitivity and specificity.

Conclusion. While a case definition based on one or more of fever, chills, cough, or myalgia is highly-sensitive and moderately specific among pregnant women, case definitions requiring measured or subjective fever may miss many influenza cases making them sub-optimal for studies of burden or vaccine efficacy. The intended use of case definitions should be considered when evaluating the tradeoff between sensitivity and specificity.

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1645. High Seroprevalence and Seroconversion Rate of Borrelia burgdorferi Infection Among Hispanic/Latino Immigrant Workers in Eastern Suffolk County, New York: A Longitudinal-Based Study
Malin Valcarce krono, MD, DTM&H1; Ana M. Nunez, MS1; Katherine Y. Husband, BS1; Julianna Russo, Bachelor of Science in Health Science2; Saadia Mahmood, MPH (c)2; Anna-Marie Wellins, DNP3; Ximena Lopez-Carrillo, PhD (c)3; Yun Xu, PhD3; Xiaohua Yang, MS3; Luis Marzor, MD, MPH3; Chrsara Arzani-PhD, MHS, MBA, RD4; Benjamin J. Luft, MD, 5; stony Brook University, Brentwood, New York; 5stony Brook University, Commack, New York

WHO Influenza-like illness (ILI) 2013. Case Definition includes measured fever ≥ 38°C and cough.
Modified WHO 2013 Case Definition 1 includes measured fever ≥ 38°C or subjective fever and cough.
Modified WHO 2013 Case Definition 2 includes measured fever ≥ 38°C or subjective fever or cough and one of the following: sore throat, runny nose or difficulty breathing.
WHO All Case Definition includes at least one of the following: cough, sore throat, runny nose or difficulty breathing.

Final model includes measured fever ≥ 38°C or cough, chills or myalgia.
MTP-PCR for influenza is used as the gold standard for these calculations.

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