EPIC-STI PROJECT 4 (WHEELER): Population-Based Impact of HPV vaccination and Cervical Screening on Sexually Transmitted Infections and Outcomes.

SUMMARY

The New Mexico Human Papillomavirus (HPV) Pap Registry (NMHPVPR) is a cornerstone of the Epidemiology and Prevention Center for Sexually Transmitted Infections (EPIC-STI) representing an innovative and important public health resource for the United States. The NIH supports this large-scale population-based surveillance activity which holds the capacity to link cervical screening and outcomes to HPV vaccination status and HPV genotyping assessments. Through data linkages, the NMHPVPR can evaluate the population-based effectiveness HPV vaccines in reducing abnormal cytologic and histologic outcomes, evaluate potential HPV type replacement or competing risks from non-vaccine HPV genotypes, assess differences in the population effectiveness of current and next generation HPV vaccines, estimate the parallel impact of evolving changes in cervical screening practices among vaccinated versus non vaccinated populations and examine the impact of these changes on screening practices, detection and population dynamics of non-HPV sexually transmitted infections (STI). We will delineate the population-based impact of primary and secondary cervical prevention strategies through overarching objectives using real-world evaluations building on our past accomplishments and our unique strengths: As a measure of HPV vaccine impact and effectiveness, HPV genotype frequencies will be compared between two population-based samples of liquid cytology specimens and two population-based samples of cervical tissue biopsies ascertained at an average of 7 and 9 years post initial HPV vaccine licensure. Cervical screening practices in the NM population will be characterized over a ten year period (2008-2017) including intervals between screening episodes, between screening and diagnosis and between diagnosis and treatment. The population-based impact of changes in cervical screening on HPV and non-HPV STIs will be examined given the recent elimination of opportunistic cervical screening in women aged <21 years and the recommendation to increase intervals between cervical screening episodes among all women aged 21-65 years. With a focus on *Chlamydia trachomatis*, *Neisseria gonorrhoeae and Trichomonas vaginalis* infections, we will report population-based age-specific clinical STI-test utilization and positive test outcomes by type of sample (urine, swab, or liquid cytology specimen) across 2008-2017. The collaborative EPIC-STI will establish infrastructures to enable linkages to assess longer term clinical outcomes throughout the state including pelvic inflammatory disease, tubal pregnancies, premature births and infertility.