

HPV Vaccination Rates at a large, public university: a quality improvement project

Background

HPV is responsible for a wide range of diseases, from warts to oropharyngeal and anogenital cancers. In the United States, it is estimated that the human papillomavirus is responsible for 18,000 new cases of cancer in women per year. In 2014, the nonavalent vaccine was released protecting against the nine most common cancer-causing HPV strains. The vaccine has been shown to significantly prevent high-risk HPV-related cervical dysplasia and associated precursors to cervical cancer; however, despite ACIP recommendations, the overall rate of vaccination is still fairly low. In 2018, only half of adolescents in the United States were vaccinated with the HPV vaccine.

The University of Virginia (UVA) enrolls approximately 25,000 undergraduate and graduate students in a year, and approximately 13,000 students access the Department of Student Health and Wellness (SHW) per year. Vaccination status among students is collected via the pre-entrance vaccination form and during visits to the medical services clinic. Of note, current Virginia law does not require students enrolling in higher education to submit verification of HPV vaccination status.

Objective

This quality improvement (QI) project was undertaken to identify the total number of students, under the age of 26 years old, who accessed SHW Medical Services during the 2018-2019 academic year (7/1/2018- 6/30/2019) and group them according to documented vaccination status in the EMR. Secondary objectives included evaluating demographic data to identify any disparities between those with documentation of full completion of the vaccine series as compared with those with incomplete or absent vaccination records and examining the process of capturing HPV vaccination rates in the SHW EMR.

Methods

Data for all students who presented to SHW Medical Services during the study period was pulled from the SHW EMR. HPV vaccination status, which is documented in numerous places in the EMR (including patient completed questionnaires, visit notes, the pre-entrance health form, and the immunization record), was compiled and linked to the list of all students who presented to SHW during the study period. Demographic data (race/ethnicity, sex and citizenship status) was obtained from the university registration database and linked back to the student list. For students with 2 vaccinations, a chart review was performed to identify specific dates of vaccinations.

Students were considered fully vaccinated if they received either 3 doses of the HPV vaccine or if they received 2 doses between the ages of 11 to 15. Students were considered partially vaccinated if they received only 1 dose of the HPV vaccine or if they received 2 doses after the age of 15. Demographic characteristics of students who had completed the vaccination series were compared to those who had partially completed the vaccination series or who had no vaccine series documented utilizing chi-square tests.

Results

A total of 10,306 students utilized SHW Medical Services between July 2018 – June 2019. Of these, 5978 (58.0%) students had a record of full HPV vaccination, 1305 (12.7%) students had a record of partial vaccination, and 3023 (29.3%) students had no record of HPV vaccination. Of those students utilizing SHW Medical Services who were fully vaccinated, 64.3% were White, 10.4% were Asian, 7.0% were Hispanic, 5.4% were Black or African American, and 12.9% were Mixed Race or Other. Female students were more likely to have record of the full vaccine series (69.0% full vs 49.8% partial/no vaccine) while male students were less likely to have record of the full vaccine series (31.1% full vs. 50.2% partial/no vaccine). Of those students who were fully vaccinated, 95.0% were U.S. Citizens and 5.0% were non U.S. Citizens.

Conclusion

The majority of students (70.7%) had record of either complete or partial HPV vaccination. EMR documentation did not allow for a distinction between those with missing vaccination records and those who did not actually receive the vaccination series. A consistent approach to soliciting and documenting HPV vaccination status from all students who access SHW Medical Services will improve the ability to accurately capture HPV vaccination information and identify barriers to completing vaccine series.