Oral Presentation
Trends in HPV Vaccine Types in Cervical Precancers in Five States — United States, 2008-2014
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Background:
Human papillomavirus (HPV) causes cervical cancer, diagnosed in 12,000 women annually in the United States. Since 2006, HPV vaccination has been recommended routinely for 11-12 year-old girls and for catch-up vaccination through 26 years. While the effect of vaccination on cancers might take more than a decade to detect, cervical precancers can provide more timely evidence of vaccine impact. Declining precancer incidence in the vaccine era has already been described in young women.

Objectives:
To further evaluate vaccine impact, we described trends in HPV vaccine types 16/18 in cervical precancers.

Methods:
We analyzed data from a 5-site, population-based surveillance system (2008-2014). Archived lesions from women ages 18-39 years diagnosed with cervical precancers (cervical intraepithelial neoplasia grades 2-3, adenocarcinoma in situ) were tested for 37 HPV types. We described the proportion of precancers HPV16/18-positive over time, overall and by age, race/ethnicity, and vaccination history, and conducted Cochrane-Armitage trend tests.

Results:
In 8,554 cases (63% non-Hispanic White, median age 28 years) with HPV typing results, the proportion of HPV16/18-positive cases declined (from 51.4% in 2008 to 44.1% in 2014, \( P<.001 \)). Declines were observed in non-Hispanic white (57.6% to 47.5%, \( P<.001 \)) and non-Hispanic black (39.6% to 26.8%, \( P<.001 \)), but not Hispanic (43.8% to 44.9%, \( P=.8 \)) or Asian (40.6% to 49.4%, \( P=.1 \)) women; in women ages 21-24 (50.9% to 40.6%, \( P<.001 \)) and 25-29 (55.1% to 41.9%, \( P<.001 \)), but not in older groups; and in vaccinated (51.4% to 34.0%, \( P<.001 \)), but not unvaccinated (49.8% to 53.0%, \( P=.4 \)) women.

Conclusion:
The declining proportion of HPV16/18-positive cervical precancers provides additional evidence of vaccine impact. The greatest reductions in vaccine types were among vaccinated women. Despite baseline differences in proportion of HPV16/18-positive precancers, both black and white women had significant declines. Monitoring trends by race/ethnicity should continue in order to evaluate equity of vaccination program benefits.
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