American and 20 out of 180 (11.1%) were AA. 91 out of 180 (50.6%) indicated that the highest level of education in their immediate family was some college credit, no degree. 91 out of 179 (50.8%) respondents have had >2 sexual partners, and 134 out of 180 (74.4%) used condoms. 25 out of 179 (14.0%) had not been sexually active. 3 out of 180 (1.7%) had experienced genital warts and 9 out of 131 (6.9%) had been diagnosed with cervical cancer. 36 out of 180 (20.0%) indicated that they had "no knowledge" of HPV. 95 out of 180 (52.8%) received the HPV vaccine, 44 out of 180 (24.4%) had not and 41 out of 180 (22.8%) did not know. 106 out of 180 (58.9%) participants did not know that the HPV vaccine is recommended for women and men through age 26, and 89 out of 180 (49.4%) did not know that they can get the HPV vaccine at the college student health center or youth friendly clinics.

Conclusion. A considerable proportion of college students are unaware of HPV disease, the age recommendations for the vaccine, who should receive the vaccine and where they can receive it. Educational programs targeting college students may be effective to close the HPV vaccine gaps.

Disclosures. **All authors:** No reported disclosures.

2465. A Pilot Program to Improve Human Papillomavirus Vaccination Status of Adolescents at a School-Based Health Center

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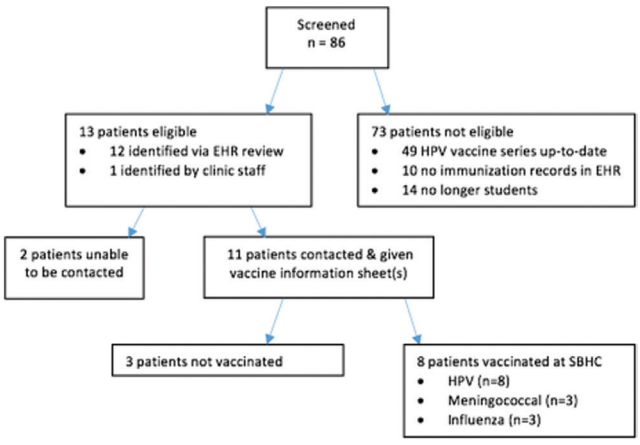
Background. Human papillomavirus (HPV) vaccine uptake is suboptimal in the United States. School-based health centers (SBHCs) could improve rates of uptake by making HPV vaccination available in schools and more accessible and convenient to adolescents and families. To explore the potential of SBHCs to expand HPV vaccine uptake, we sought to determine whether a pilot program to actively promote the SBHC as a venue for HPV vaccine receipt could improve HPV vaccination status.

Methods. A pilot program aimed at increasing HPV vaccine uptake was implemented at a SBHC affiliated with a hospital-based primary care center (PCC) between October 2016 and June 2017. This SBHC is located in a high school and provides vaccination services, including HPV vaccine, but no systematic protocol existed to actively identify, and target for vaccination, patients who accessed clinical services at the PCC and were also enrolled in the SBHC. Immunization status of adolescents enrolled in the SBHC who were also patients of the PCC was screened by review of the common electronic health record (EHR) that is shared between both sites. Patients were eligible for inclusion if they were in need of ≥1 dose of HPV vaccine. Eligible patients were contacted by clinic staff and offered the opportunity to receive HPV vaccine at the SBHC in accordance with usual clinic practices.

Results. Of 86 patients screened, 13 were found to be eligible for HPV vaccination at the SBHC (Figure 1). By the end of the project period, 62% of those eligible had received ≥1 dose of HPV vaccine ($n = 8$) and 38% ($n = 5$) also received another vaccine (flu, meningococcal) at the same time as HPV vaccination.

Conclusion. A pilot program consisting of determining HPV immunization status and actively offering the opportunity to receive needed doses of HPV vaccine at a SBHC resulted in improvement of vaccination status among eligible patients. Success was limited by the relatively small number of patients identified. While SBHCs may be one strategy to address missed opportunities for HPV vaccination, lack of centralized immunization records among patients who receive care from multiple providers and processes to directly communicate with parents about vaccination during school hours were identified as primary challenges.

Figure 1. Flow diagram of HPV vaccination pilot program at SBHC.



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2466. Evaluation of Immunization on the Neonatal Intensive Care Unit at British Columbia Women's Hospital

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Background. Term and preterm infants in the neonatal intensive care unit (NICU) should be immunized at the same chronological age and on the same schedule as healthy term infants, but are often under-immunized. Reasons for under-immunization in this population have not been well-defined. The aim of this study was to assess the immunization rates of hospitalized term and preterm infants in the NICU and examine reasons for under-immunization.

Methods. Pharmacy and NICU databases were utilized to determine the immunization rates of eligible babies admitted to the NICU between 2011 and 2015. A retrospective review of unimmunized infants was undertaken to identify barriers to timely immunization. Patient demographics and transfers to other hospitals were recorded. Reasons for the delay in immunization were evaluated by detailed review of the hospital medical record.

Results. Of the 3,261 babies admitted to the NICU during the study period, 534 (16%) were hospitalized at ≥8 weeks of age, when first immunizations are administered. Of these, 142 (27%) received no immunizations in hospital. Sixty-five medical records were reviewed in detail. Thirty of the 65 (46%) medical records did not document that immunizations were due. In 21 (32%) of the 65 cases, there was no clear reason for lack of immunization. Of the remaining cases, infants were not vaccinated for 1 or more reasons. Infants deemed too unwell, including recovery from surgery, seizures/encephalopathy, severe immunocompromise, or palliative care, was one of the reasons for lack of vaccination in 35 (54%) of the 65 cases, parental refusal of vaccinations in 8 (12%) of cases, and deferral to discharging hospital in 7 (11%) of cases.

Conclusion. Significant comorbidity appeared to be the major reason behind vaccination delays, with 27% of highly vulnerable infants unimmunized. Significant improvements are required to ensure these babies receive vaccines upon recovery from their illness, and to ensure absence of immunization is clearly documented upon hospital discharge.

Disclosures. **All authors:** No reported disclosures.

2467. Timeliness of Childhood Vaccination With the Combination Measles–Mumps–Rubella–Varicella Vaccine vs. the Separate Measles–Mumps–Rubella and Varicella Vaccines in the United States

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Background. A combination measles mumps rubella varicella (MMRV) vaccine was first licensed for use in the United States in 2006. The ACIP has recommended that all children receive 2 doses of measles mumps rubella (MMR) and varicella (V) vaccines on the same schedule, with the first dose at 12–15 months and second dose at 4–6 years and that MMRV vaccine could be used for each dose. Post-licensure studies suggested a small increased rate of febrile seizure when MMRV is used as the first dose vs. MMR+V. In 2009, the ACIP revised its guidance to recommend separate injections of MMR+V for the first dose unless the parent or caregiver expressed a preference for MMRV. The objective of this study was to evaluate patterns of coverage and product utilization between 2006 and 2016.

Methods. This was a retrospective study of health insurance claims data in the MarketScan® Commercial Claims and Encounters Database from 2006 to 2016. Two cohorts were defined: children eligible for vaccination with continuous enrollment during ages 12–23 months (first dose cohort), and/or 4–7 years (second dose cohort). The primary outcome measures were vaccine coverage for first (by 19 months) and second (by 7 years) doses, percent with delays in vaccination, and length of vaccine delay.

Results. The analysis included 850,779 and 1,403,139 children in the 1st and second dose cohorts, respectively. Of the children in each dose cohort (1st/second), 7%/14% received MMRV vaccines, 77%/62% received MMR and/or V, and 17%/24% had no records of receiving any of the vaccines by the milestone age. Of those receiving MMR and/or V vaccines, 9%/21% were missing one of the two vaccines, 70%/65% had both on the same day, and 21%/14% received them on different days with median delays of 3 months/1 year (first/second dose, respectively).

Conclusion. MMRV vaccine is used infrequently as a first dose in this commercially insured population. Despite the ACIP recommendation to use MMRV for second dose, this vaccine is underutilized; use of MMR and V instead may result in delayed vaccination. Increased use of MMRV vaccines for the second dose between 4 and 6 years of age has the potential to improve vaccine compliance and coverage, and reduce the number of physician office visits.

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