

55.

**HPV VACCINE HESITANCY: FINDINGS FROM A STATEWIDE SURVEY OF HEALTH CARE PROVIDERS**Annie-Laurie McRee, DrPH<sup>1</sup>, Melissa B. Gilkey, PhD<sup>2</sup>,  
Amanda F. Dempsey, MD, PhD<sup>3</sup>.<sup>1</sup>The Ohio State University; <sup>2</sup>The University of North Carolina; <sup>3</sup>The University of Colorado, Denver.

**Purpose:** Despite national guidelines for routine administration of human papillomavirus (HPV) vaccine to 11–12 year old females and males, uptake remains suboptimal. Communication with a doctor or other health care provider about HPV vaccine is an important predictor of vaccine uptake yet, little is known about providers' communication with parents who are perceived as hesitant to get their child vaccinated against HPV. We sought to describe health care providers' HPV vaccine recommendation practices and to explore their perceptions of, and approaches to addressing, HPV vaccine hesitancy among parents of young adolescents.

**Methods:** A statewide sample (n=575) of Minnesota health care providers drawn from state Board lists completed our online survey in April 2013. Respondents were pediatricians (20%), family physicians (47%), and nurse practitioners in pediatric and family specialties (33%). We analyzed data using descriptive statistics and assessed differences by provider type using chi-square analyses and one-way ANOVAs. Logistic regression analyses assessed associations between HPV vaccine recommendations and (a) parental reactions to HPV vaccine recommendations, and (b) providers' self-efficacy to address parental concerns, controlling for provider type.

**Results:** Only three-quarters of providers (76%) reported routinely recommending HPV vaccine for girls ages 11–12, and far fewer (46%) did so for boys of the same age ( $p < .001$ ). Pediatricians recommended HPV vaccine for boys more frequently than did family physicians or nurse practitioners (67% vs. 42% and 41% respectively,  $p < .001$ ); there were no statistically significant differences in recommendation practices for girls by provider type. Health care providers reported that parents frequently reacted to HPV vaccine recommendations with requests to delay vaccination (51%) or with vaccine refusal (12%). While most (74%) reported asking questions to explore parents' concerns, many felt they lacked time to probe parents' reasons (47%) or that there was not much they could do to change parents' minds (55%). Providers who more frequently reported that parents request to delay or refuse HPV vaccine had lower odds of routinely recommending the vaccine to girls or to boys (OR=.40 and OR=.46, respectively, both  $p < .001$ ). Providers with higher self-efficacy to address parental concerns had greater odds of routinely recommending HPV vaccine ( $p < .05$ ). Information tailored to parents' specific concerns or cultural background, screening tools to identify specific concerns, and discussion guides were identified as potentially helpful tools for addressing HPV vaccine hesitancy.

**Conclusions:** Health care providers perceive parental HPV vaccine hesitancy as widespread and such hesitancy may discourage providers from routinely offering the vaccine. Findings suggest that improving providers' self-efficacy to address parental vaccine hesitancy may be important for improving HPV vaccine uptake in the target age group, and point to potential avenues for tools and strategies to support these efforts. Future research is needed to identify effective ways of recommending HPV vaccine and best practices for assessing parental concerns.

**Sources of Support:** Funded by the Academic Pediatric Association, supported by MCHB and AAP (#U04MC07853-03; PI: McRee).

Staff time was further supported by a NRSA in Primary Medical Care from HRSA (#T32HP22239; PI: Borowsky) and the UNC Lineberger Cancer Control Education Program (R25 CA57726).

56.

**BASELINE TRUST IN SCHOOL-LOCATED IMMUNIZATION PROGRAMS: CORRELATES AND FUTURE DIRECTIONS**Tiana L. Won<sup>1</sup>, Amy Middleman, MD, MPH, FSAHM<sup>2</sup>,  
Mary Short, PhD<sup>3</sup>, Kelly Wall, BS<sup>1</sup>, Beth Auslander, PhD<sup>4</sup>.<sup>1</sup>Baylor College of Medicine; <sup>2</sup>University of Oklahoma Health Sciences Center; <sup>3</sup>University of Houston Clear Lake; <sup>4</sup>University of Texas Medical Branch.

**Purpose:** School-located immunization programs (SLIPs) provide a convenient avenue of access for adolescents to receive their vaccines, and trust in SLIPs is an important factor in parents' decisions to participate. The extent to which parents trust SLIPs is unknown. The aim of this study was to examine baseline trust in SLIPs of a low-income, largely Hispanic population of middle school students' parents prior to the implementation of a SLIP in their school.

**Methods:** Middle schools with high percentages of students in the free lunch program were invited to participate in a multi-visit SLIP in Fall, 2012. Eight schools participated and received surveys in Spanish and English for parents to complete. Surveys assessed demographic items (race, ethnicity, level of education, primary language spoken at home, annual household income, type of child's health insurance, child's participation in a medical home), history of participation in SLIPs, and degree of agreement with the importance of vaccines. Parental trust in SLIPs was assessed using a five-item scale; mean trust score (range: 1–5, 5 = maximum trust) was calculated based on parents' responses to the scale items. Associations between demographic items and trust score were examined using two-sample t-tests, one-way ANOVA, and multiple regression analysis.

**Results:** 1608 of 1913 surveys contained completed 5-item scales and were included in the analysis. The majority of respondents were Hispanic (85%), spoke Spanish at home (67%), had a medical home for the child (82%), had never participated in a SLIP (86%) and felt that vaccines were important (93%). One-third of parents reported an annual income = \$10,000, and fewer than 5% of respondents had an annual income over \$50,000. Medicaid/CHIP (68%) was the primary form of insurance for children. Mean trust score among all respondents was 3.59; 25% had a trust score corresponding to 3.0 or below. Correlation between reported assessment of vaccines' importance and trust in SLIPs was 0.20 ( $P < 0.001$ ). Statistically higher mean trust scores were noted among parents who: had an annual income  $< \$50,000$  (3.60) vs. higher income (3.32); completed Spanish surveys (3.68) vs. English (3.53); had previously participated in a SLIP (3.76 vs. 3.57); identified as Hispanic (3.61 vs. 3.51); had not graduated from high school (3.63 vs. 3.56); were Medicaid or self-pay (3.59, 3.70) vs. those with private insurance (3.44); and those who spoke Spanish (3.62) vs. those who spoke primarily English (3.53) at home. In the multiple regression analysis, survey version, annual income, perceived vaccine importance, Medicaid versus private insurance, and previous SLIP participation were significant independent variables in the model describing trust; however, all betas were less than 0.16, implying questionable practical importance.

**Conclusions:** These analyses indicate that parental trust in SLIPs among a primarily lower SES, Hispanic population in a large, urban

area was high. Future research should examine whether greater trust in SLIPS is associated with greater likelihood to participate in school-located immunization programs.

**Sources of Support:** SAHM Public Demonstration Grants through Merck.

57.

#### SOCIAL AND BEHAVIORAL FACTORS ASSOCIATED WITH HPV VACCINATION UPTAKE IN ADOLESCENTS

Roman H. Gebremeskel, BS<sup>1</sup>, Chassidy J. Haney, MPH<sup>2</sup>, Tamera Coyne-Beasley, MD, MPH, FSAHM<sup>2</sup>.

<sup>1</sup>Meharry Medical College; <sup>2</sup>University of North Carolina.

**Purpose:** HPV vaccination uptake has plateaued compared to its adolescent vaccine counterparts. With persistently low proportions of adolescents receiving HPV vaccination, the true benefits of a safe and effective vaccine cannot be fully achieved. To increase HPV vaccination, we sought to determine social and behavioral factors that may contribute to vaccination uptake.

**Methods:** Data were obtained from male and female patients, ages 11–21 at an outpatient pediatric and adolescent clinic in the South. Demographics, insurance status and HPV vaccination history were obtained through electronic medical record abstraction. The self-administered Guidelines for Adolescent Prevention Services cross-sectional survey was used to collect data on health, risk and protective behaviors. Chart abstraction and survey data were combined and analyzed using STATA 12.0. Univariate analysis was used to evaluate sample characteristics and bivariate chi-square analysis assessed associations between demographics, insurance and behaviors on HPV vaccination initiation and completion.

**Results:** 314 adolescents (48% male, 52% female, 21% white; 45% black, 27% Hispanic, 8% other) participated. Most had public insurance or were uninsured (82%). 36% of teens had initiated HPV vaccination; 43% completed vaccination. There were no differences in HPV vaccination initiation or completion between those with public or private insurance or uninsured. There were differences in vaccination uptake by race, but these differences were not statistically significant. Females were more likely to complete vaccination than males (54% vs. 32%,  $x^2 < 0.001$ ). Increasing age was also associated with HPV vaccination completion ( $x^2 < 0.001$ ). At age 11, 75% had begun the HPV vaccination series, but none had completed it. The greatest initial peak of HPV vaccination completion occurred at age 15, where 61% of 15 year olds had completed vaccination, compared with 38% of 12 year olds, 33% of 13 year olds and 52% of 14 year olds. Teens who reported currently dating (56%), prior sexual activity (61%), having sexually active friends (60%), or using pregnancy prevention methods (56%) were more likely to complete HPV vaccination than those who did not ( $x^2 < 0.05$ ). Teens who reported their parents discussing sex with them were more likely to complete vaccination than those whose parents did not discuss sex with them or those who were unsure (47% vs. 24% vs. 32%,  $x^2 = 0.014$ ). No other personal risk behavior measured: eating/weight/body, schools, weapons/violence/safety, tobacco, substance use, emotions or special circumstances were significantly associated with HPV vaccination.

**Conclusions:** Among the measured demographics and behaviors surveyed, only female gender, age, parent discussion of sex, and teen sexual behaviors were associated with HPV vaccination initiation and/or completion. While encouraging that sexually experienced adolescents were more likely to be vaccinated, it is important to ensure vaccination of young adolescents prior to

sexual activity and emphasize HPV vaccination of males. Since parent communication about sex was associated with increased vaccination, future interventions incorporating parent discussions of sex may be effective and should be explored.

**Sources of Support:** R.H.G was supported through an award from The U.S. Health Resources and Services Administration (HRSA), D34HP16299.

58.

#### DO ADOLESCENTS WANT THEIR PARENTS TO RECEIVE TEXT MESSAGE REMINDERS FOR THEIR APPOINTMENTS?

Tracy King, MD, MPH, Kathy Tomaszewski, BSN,

Nichole Persing, MPH, Renata Arrington-Sanders, MD, MPH, Cassia Land, MS, Michelle Willcox.

Johns Hopkins University.

**Purpose:** Application of text messaging by health care providers among adolescent patients is often shaped by provisions for keeping information about health care encounters among adolescents confidential from their parents or guardians. We examined text messaging enrollment patterns among adolescents and their guardians to determine whether adolescents and their parents seek similar partitioning of information.

**Methods:** Data were drawn from a study offering text message appointment reminders to adolescents (ages 11–21) and/or their parents for the HPV vaccine in a single urban clinic in an academic medical center. Adolescents receiving either the first or second HPV vaccine in the 3-dose series were offered the option of receiving text message appointment reminders for subsequent doses. Adolescents were offered the option of having reminders sent to their phone, to the phone of a parent or guardian, or to both. During the consent process, each potential participant (adolescent or parent) was reminded of adolescents' rights to obtain confidential care and that the confidentiality of text messages cannot be guaranteed. Descriptive and chi-squared analyses were used to examine recipient preferences and whether these varied by age, gender, and contract versus pay-as-you-go cellular plans. Based on analysis of enrollment preference patterns, participants were grouped by the following age categories: 11–15, 16–17, and 18–21.

**Results:** In a 4-month period, 211 patients had at least 1 family member opt to receive appointment reminders for the adolescent's next dose of HPV. We had 231 discrete phone numbers— including 20 adolescent and parent pairs jointly enrolled—and only 5 recipients without unlimited texting and 68 pay-as-you-go plans (vs 162 contract vs 1 text application). The average age at enrollment was 14.4 years (Median 13.6 years, SD 2.8). One-quarter (N=52) of recipients were adolescents, 65.9% (N=139) were parent/guardian, and 9.5% were sent to both the adolescent and parent (N=20). 112 adolescents enrolled at shot 1 and 99 enrolled at shot 2.

Adolescent preference for having a parent receive reminders did not vary by gender ( $p=0.88$ ); however there were differences in enrollment patterns by age. Among adolescents ages 11–15, 93.5% of families opted to have text messages sent to the parent (either alone or in conjunction with the adolescent); of those ages 16–17, 51.8% of adolescents elected to be the sole recipient, while 48.2% elected to have messages sent only to the parent or to both the parent and adolescent. Of those 18 and older, 90.3% opted to have all text messages sent only to the adolescent ( $p < 0.001$ ).

**Conclusions:** In an urban clinic setting, younger adolescents (=15) prefer to have parents receive reminders. As adolescents age, they prefer to be the only recipient of text message reminders. This