



Original article

## Strategies for Increasing Adolescent Immunizations in Diverse Ethnic Communities



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### ABSTRACT

**Purpose:** We sought to identify attitudes and knowledge of adolescent vaccination recommendations for tetanus, diphtheria, and acellular pertussis (Tdap); quadrivalent meningococcal conjugate (MCV4); and human papillomavirus (HPV) vaccines among Hispanic, Somali, and Ethiopian/Eritrean communities in King County, Washington.

**Methods:** In-person surveys of Hispanic, Somali, and Ethiopian/Eritrean adolescents ( $n = 45$ ) and parents of adolescents ( $n = 157$ ), and three focus groups with mothers of 11- to 18-year-olds were conducted to assess knowledge, attitudes, and barriers related to recommended adolescent vaccines. Bivariate analyses of parent survey responses were performed to evaluate possible differences between ethnic groups (chi-square test and Fisher exact test where possible). Findings were used to develop (1) culture-specific written brochures for community members, which addressed misperceptions about adolescent immunizations and related diseases, and (2) a presentation highlighting specific messages for health care providers (HCPs) in the target communities. HCPs were surveyed after delivery of the presentation ( $n = 20$ ).

**Results:** We identified barriers to adolescent immunization including: parents' and adolescents' limited awareness of, and misperceptions regarding, recommended adolescent vaccines and vaccine preventable diseases; lack of HCP recommendations for vaccination; and inability to access health information in native languages. Awareness of tetanus, diphtheria, and acellular pertussis, quadrivalent meningococcal conjugate, and human papillomavirus vaccines varied by vaccine and ethnic group. Lack of knowledge of adolescent vaccination recommendations was the main reason given by parents that their adolescents had not been vaccinated. Most parents in the focus groups identified doctors as a trusted source of health information and reported that they would vaccinate their teens if their doctor recommended it. All the surveyed HCPs routinely recommend adolescent vaccines at well-child visits, 55% at acute visits, and 35% at injury visits. Eighty percent reported that they would be more likely to recommend HPV vaccine after our on-site presentation.

### IMPLICATIONS AND CONTRIBUTION

We identified attitudes regarding adolescent vaccination among Hispanic, Somali, and Ethiopian/Eritrean communities in King County, Washington. Specific vaccine-related misperceptions were addressed through customized written materials for community members and outreach to health care providers promoting the importance of making strong vaccination recommendations and tailoring conversations with parents to include culturally relevant concerns.

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**Conclusions:** A strong recommendation from the physician is a critical factor influencing parents' decision to vaccinate, even when hesitancy exists. Other factors (such as personal experiences with these diseases and religious and cultural beliefs) also influence parents' decisions regarding vaccination. Knowledge of beliefs, misperceptions, and concerns can help inform strategies to improve adolescent vaccine uptake among specific ethnic populations, including the availability of culturally tailored, translated information. Additionally, HCPs may benefit from guidance on communicating with ethnic populations to support meaningful dialogue with families about the risks and benefits of adolescent vaccines.

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Vaccines prevent morbidity and mortality among adolescents. Three vaccines are routinely recommended specifically for adolescents: quadrivalent meningococcal conjugate (MCV4); tetanus, diphtheria, and acellular pertussis (Tdap); and human papillomavirus (HPV) vaccines. The U.S. Department of Health and Human Services' Healthy People 2020 objectives include a benchmark immunization coverage rate of 80% among adolescents for a single dose each of MCV4 and Tdap and the three-dose series of HPV vaccine (for females).

Although the Centers for Disease Control and Prevention's National Immunization Survey–Teen 2013 data reflect gradual annual increases in coverage rates, rates for the initiation and completion of the HPV series have lagged far behind. Nationally, 86% and 77.8% of adolescents have received a single dose of Tdap and MCV4 vaccines, respectively; however, only slightly more than one-third of females (37.6%) have received three or more doses of HPV, and coverage is even lower for males (13.9%) [1,2]. Adolescent immunization coverage in Washington (WA) state is comparable to the U.S. rates for Tdap (86.2%) and MCV4 (79%); however, WA exceeds the national coverage for three or more doses of HPV for females (45.3%) [1,2]. In contrast, HPV coverage for males (12.5%) is slightly lower than the national rate [1,2]. The Centers for Disease Control and Prevention estimates that increasing HPV vaccination rates to 80% would prevent an additional 53,000 future cervical cancer cases in the United States among girls who now are aged 12 years or younger over the course of their lifetimes [3].

Patient-related barriers to the receipt of adolescent immunizations include lack of knowledge about vaccine recommendations, low perceived value of vaccines, and misperceptions about the health threats posed by vaccine preventable diseases (VPDs) [4]. However, evidence is lacking regarding the following: (1) knowledge, attitudes, and barriers related to the uptake of routinely recommended adolescent vaccines (Tdap, MCV4, and HPV) among ethnic minorities and immigrant populations and (2) optimal strategies to maximize vaccine coverage among adolescents for whom access to health care may be limited [5].

This project sought to identify measures to improve Tdap, MCV4, and HPV coverage among Hispanic (primarily Mexican), Somali, and Ethiopian/Eritrean adolescents living in South King County (cities of Burien, SeaTac, and Tukwila). We assessed parent and adolescent knowledge, attitudes, and barriers related to adolescent vaccinations and promoted vaccination through tailored outreach to community members and providers. The project was a collaboration between Public Health–Seattle & King County (PHSKC) and Global to Local (G2L), a nonprofit organization that addresses health disparities and communication barriers among non-English-speaking persons; WithInReach, a local nonprofit organization that connects WA

residents to a variety of essential health care services including immunizations; and three primary care clinics and one school-based health center that provide immunizations.

## Methods

### Study location

The location for this project was purposive. Burien, SeaTac, and Tukwila are among the most diverse cities in WA; 47% of the population in these cities is nonwhite, 31% is foreign-born, and 20% is living below the federal poverty level. According to the 2010 Census, Tukwila has the most diverse school district in the nation, whereas the Highline School District serving the residents of SeaTac and Burien has a student population representing 80 nationalities with 70 different languages spoken. Prior research suggests that adolescents who are minorities, uninsured, and poor are more likely to lack a medical home and have lower rates of preventive care compared to infants and young children [6,7].

### Survey methods and analysis

In-person surveys were conducted with parents and adolescents to assess parent and adolescent knowledge and attitudes regarding adolescent vaccines, VPDs, and barriers to adolescent immunization. The survey included questions about health care access and use, receipt of routinely recommended adolescent vaccines, trusted sources of health information, and providers' vaccine recommendations. Surveys were professionally translated into Spanish, Tigrinya, and Somali and were then reviewed for accuracy by G2L-employed Hispanic, Eritrean, and Somali community health promoters (CHPs). After the surveys were revised accordingly and pretested with a small sample of community members, CHPs administered the surveys to parents and adolescents during a 2-month period (May and June 2012). Adolescents were included in the survey if they were aged 15–18 years, resided in the target cities, and represented one of the three ethnic groups. Similarly, parents of adolescents aged 11–18 years who resided in the target cities and represented one of the three ethnic groups were eligible to participate. PHSKC project staff collected the surveys, entered the data into MS Excel, and conducted descriptive analysis (mean, standard deviation for continuous variables, and absolute and percentage distributions for categorical variables). Bivariate analysis with chi-square and the Fisher exact test was performed to determine the association between ethnicity and vaccine awareness, insurance status, and indicators of access to health care. Analysis of survey data was completed using MS Excel and SPSS 14.0 (IBM Corp., Armonk, NY). Small sample size limited our ability to test for significance of adolescent survey results.

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