RESEARCH

HPV Vaccination Strategies in Immigrant Dense Communities

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ABSTRACT

We aimed to identify practices and barriers affecting HPV vaccination (HPVV) within immigrant dense communities. Interviews were conducted with multisectoral stakeholders including safety-net clinic personnel, parents, and members of the HPVV community advisory council. The results underscored poignant issues relevant to immigrant communities at local and national levels: 1) Immigrant inclusive, public health and health system interventions to increase awareness of health facilities safe zone for immigrant children tied to HPVV campaigns. 2) Clear and strong provider HPVV recommendation approaches that are culturally and linguistically responsive. 3) Provider must be aware of his/her own biases and attend to the cultural beliefs and practices of parents for a more genuine and effective facilitation of vaccination. Providers, in particular, emphasized examining the provider cultural continuance relevant to HPVV clinical encounter and provider-patient relationship, as well as ongoing provider education and communication for increased HPVV among immigrant providers. At the national and local levels, we must ensure health facility safe-zone for immigrant children to obtain low/no cost healthcare including HPVV to attain the Healthy People 2020 goals of 85% HPVV.

KEYWORDS: adolescent HPV vaccination, immigrant health, HPV-related cancer prevention

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INTRODUCTION

Oncogenic Human Papillomavirus (HPV) is responsible for several cancers including cancers of the genitalia and oral cavity. Every year approximately 27,000 individuals are affected by cancers caused by HPV(8). Low income, ethnic minority and immigrant communities suffer unequal burden and death due to HPV-related cancers (Aragones et al., 2013; Bruno et al., 2014; Kobetz et al., 2012). Today we have the HPV vaccine (HPVV) that is one of only two cancer prevention vaccines. Therefore, it is not surprising that increasing HPV vaccination (HPVV), among eligible population aged 9-26 years, is singled out as "one of the most profound opportunities for cancer prevention" in the report "Accelerating HPV Vaccine Uptake: A Report to the President of the United States."(2014) Improving HPVV rates among all youths is highly desirable. Unfortunately, uptake and coverage remain unacceptably low. Therefore, increasing HPVV in youths who are members of communities with elevated risk and burden of HPV infection, and HPV-related illnesses and cancers is especially critical and urgent. (Aragones et al., 2013; Bruno et al., 2014; Jeudin et al., 2013; Joseph et al., 2014; Kobetz et al., 2012).

Immigrant HPV Vulnerability and Missed Opportunity for Cancer Prevention: Immigrant populations, in particular Latin American and Caribbean immigrants, have the highest HPV-related cancer burden and death in the U.S.(Jeudin et al., 2013; Joseph et al., 2014). Among immigrant women, HPV-related cervical cancer incidence is 2 times, and mortality 3 times greater than the general U.S. population. Further, the mortality rate for Whites at 2.8 reflects a 17% decline compared Black and Latina immigrants with a mortality rate of 6.5 that is equivalent to a 22% increase (Kobetz et al., 2012; Senkomago et al., 2017; Villa, 2012). In general, mortality from cervical cancer is declining nationally (Smith et al., 2018) and even in the Caribbean (Cancer, 2012; Warner et al., 2018), but cervical cancer mortality shows increases for immigrant women (Schleicher, 2007; Seeff and McKenna, 2003). Immigrants' HPV-related cancer burden is an unacceptable yet preventable U.S. health disparity. Immigrant communities must be targeted for HPV vaccination (HPVV) to prevent cancer and reduce mortality disparities.

However, immigrant communities face unique healthcare barriers and challenges. Immigrants tend to concentrate in ethnic enclaves and immigrant dense neighborhoods with low provider HPVV recommendation and delivery (Aragones et al., 2013; Bruno et al., 2014). Additionally, immigrants while suffering disproportionate disease burden, have low HPVV acceptability, and uptake (Ashing et al., 2017; Blackman et al., 2013; Cofie et al., 2018; Goss et al., 2013; Jemal et al., 2013; Joseph et al., 2014), leaving immigrants at persistent, elevated risk for oncogenic HPV infections and HPV-related cancers.

HPVV can prevent cervical, genital and oral cancers (Siegel et al., 2015). The U.S. advises HPVV improvement by changing clinic and provider practice (Senkomago et al., 2017) (Kessels et al., 2012; Krantz et al., 2018; Perkins et al., 2012). Providers who are predominant in HPV-vulnerable immigrant communities ought to be identified. Health organizations, and the fields of Public health and Behavioral Medicine acknowledges the importance of multisectoral engagement including patient/community involvement to inform both population as well as local community responsive healthcare structure and practice (Alcaraz et al., 2017; Martin et al., 2016). Immigrant community members and parents are valuable sources of data, yet they

are often not included in developing health care practice. This informative study aims to engage multisectoral stakeholders including clinic personnel, providers, public health professionals, advocates and parents to identify practices and barriers affecting HPVV within an immigrant dense community.

APPROACH AND METHODS

A discovery science informative research design was employed using qualitative methods. Therefore, we conducted informative, qualitative research employing a semi-structured interview. This format allowed us to exam targeted domains with open discussions to capture the relevant narrative of the issue(s) of interest.(Jamshed, 2014) Specifically for this study, in-depth interviews were conducted with diverse stakeholder participants. The City of Hope IRB was submitted and reviewed, and the study was approved as exempt status.

Participants

As community clinics provide much of the HPVV to adolescents in particular low-income and immigrant families; for example, over 55% of HPVV in LA County adolescents occur at community clinics (Los Angeles County Department of Public Health and Office of Health Assessment and Epidemiology, 2011). Thus, clinic personnel were interviewed including administrators (e.g., 1 medical director and 1 CEO), 5 providers (pediatricians (n=2), physician assistant, nurse, behavioral health specialist); support teams (e.g., scheduler, administrative analyst). Additionally, we interviewed14 persons representing regional HPVV Community Advisory Boards – public health professionals and community advocates within county and regional HPVV focused coalitions. These interviews were conducted via phone or face-to-face in their offices by the lead author.

In addition, semi-structured interviews and open-ended questions were conducted with 8 clinic parent/patients who were immigrants (5 vaccine initiators and 3 non-initiators). Immigrant participants were identified via community organization partners. We had a high response rate of 80% as 8 of the 10 invited participated. Clinic participants were Latina (3 Mexicans; 3 Central Americans; and 2 Afro-Caribbeans, English language proficient). The Latinas were mostly Spanish language preferred; thus, there interviews were conducted in Spanish. The patient interviews were conducted by well-trained bilingual staff at community centers. All interviews lasted about 45 minutes and copious notes were taken. The notes were then organized into a thematic matrix.

RESULTS

Clinic-Level

The clinic-level formative interviews underscored community clinic administrative and provider buy-in as well as technological capacity to implement and evaluate multilevel HPVV improvements. Most community clinics, especially those designed as Federally Qualifies Health Centers (FQHC) under the Affordable Care Act, have in-place electronic medical records (EMR) systems in place that can be effectively utilized. Coordinated utilization of clinic's EMR system for HPVV improvements was identified by the clinical administrators and providers. They highlighted that, EMR systems can be used to better track HPVV dosage and completion, identify patients who are HPVV naivee, and identity patients who are schedule for well visits and other adolescent vaccine – so that providers can be prompted, both via the EMR and on the schedule to recommend the HPVV. Clinic administrators and support staff endorsed addressing system-level factors such as improving clinic vaccination scheduling and diversity inclusive

visual and printed displays that is careful not to label or stigmatize any particular ethnic or immigrant group. It was recommended that the clinic provide more flexible immunization and HPVV appointments, including vaccine only appointments; as well as displaying the benefits of all adolescent immunization. Further, these prominent visual and printed displays must be culturally and linguistically responsive.

Community Advisory Board (CAB)

The HPVV Community Advisory Board (CAB) formative interviews focused on healthcare system factors that emphasized the community clinic model of healthcare for the community, especially youth and children. The CAB emphasized that healthcare facilities must be safe zones for immigrant families and children. The CAB recommended creating a vaccine friendly clinic culture by: 1) displaying prominent, culturally and linguistically informed poster and printed resources highlighting the benefits of adolescent vaccine including HPV vaccine; 2) having vaccine only appointments and giving provider recommendation and reminders so that following the initial dose that subsequent vaccine completion appointments are made prior to patients leaving the clinic; and 3) attending to broader social determinants including community and neighborhood characteristics and socioeconomic status including education, age, gender, job status and immigrant experience. Additionally, the CAB highlighted parental constraints (including concerns about safety and cost, as well as time needed for the two or three HPVV within 6-12months for HPVV completion –depending on age at initiation). The CAB also presented parental values that inhibit parents from vaccination due to country of origin cultural stigma associated with HPVV due to the HPV-infection link with sexually transmitted diseases (STD), sexual promiscuity that is particularly prominent among immigrant populations especially from the Latin American region(Joseph et al., 2014; Villa, 2012).

Provider-level

The formative narrative from the providers also revealed concerns about parents' hesitance due to: 1) parental stigma associated with HPV as a STD and hence, the HPV vaccine is condoning early sexual initiation; 2) parental cultural gender attitude that influence practices allowing for positive increases in vaccination among boys but hesitance for vaccination among their girls. This is evident by data showing greater progress in male HPVV (Control and Prevention, 2013); 3) parental mistrust of the health system that may be especially present in a cross cultural provider-patient relationship. The providers also identified provider-driven factors that can improve HPVV; they advised their provider colleagues to de-emphasize provider fragility -- "do not take the vaccine rejection personally and permanently".

These providers emphasized provider responsibility such that each new visit is an opportunity to re-introduce vaccination…"doctors are influential" and "persistence pays". These providers acknowledged that providers ought to consider their/provider cultural issues… "as providers may themselves be immigrants with cultural beliefs and practices that may influence their [provider] HPVV recommendation and facilitation. These providers believe that these HPVV focused trainings will enhance their patient education and communication during physical examination visit. Together with using every visit as an opportunity to educate and vaccinate, this patient-centered, provider-directed approach for building trust and parental adherence were noted.

The three professional groups including clinic administrators, CAB and providers all agreed that there are social determinant factors that critically influence HPVV uptake among immigrants. These social determinants include immigration histories of both providers and patients e.g., country of origin. These stakeholders identified social status as another social determinant. The interviewees, affirmed that many recent immigrants in particular those who are lower income, educational attainment and job status experience both health care cost (i.e., HPVV cost) as well as health care access (e.g., HPVV initiation and completion) concerns. They also asserted that health care access is further hampered by a related social determinant– place and stability of residence. These interviewees identified that immigrants who are poor suffer housing instability. They contended that housing instability and insecurity exacerbate health care access challenges and make having a place to call ones medical home extremely difficult.

Patient-Level

Overall, immigrant parents advised that parents are not sufficiently aware of the HPVV and where to get the vaccine. Our immigrant parents voiced that they are, in general, very concerned about where to safely access healthcare (health facility safe-zone for healthcare delivery) and the cost of health care. Thus, the parents recommended: 1) ensure healthcare safe zone for all immigrant children; and 2) create welcoming health centers by prominent culturally and linguistically responsive displays e.g., pictures within the clinics. These parents also recommended posting clinic specific ads within local ethnic newspapers and on local advocacy organizations' websites -- that reflect the immigrant communities. The parents advised that these ads should inform them where to get the vaccine, lists the benefits of the vaccine, and state that the vaccines are covered regardless of all youth regardless of immigration status. Among the parents, they agreed that stigma is a consideration that may be a more serious concern especially among the elite classes of immigrants. Only two parents reported stigma as a primary barrier. All parents underscored the centrality of the provider role as they reported that most immigrants and immigrant communities are served by immigrant providers. Moreover, they acknowledged that in many immigrant communities medical providers are held in great esteem and prominence in their countries of origin(Esposito and Castaneda, 2017).

However, provider-parent communication challenges were revealed. Immigrant parents had specific advice for providers regarding improving HPVV: 1) Give HPVV recommendation that is strong, matter-of-fact and states the greater protection benefit for younger girls and boys and that " it [HPVV] is best medicine for 11-12 year olds". In fact, 4 of the 5 who vaccinated, revealed that they had some concerns i.e., safety-- but the provider recommendation prevailed; this was revealed and supported in the provider input. 2) Remove the words "new vaccine" from their recommendation (as commonly done by providers). These parents articulated that "new" means "innovation" to providers, but "new" means "experimental" within the community. Experimental for our parents connotes that they and their children are being used without full disclosure for medical experiments. They confirmed that the provider recommendation of the "new vaccine" feeds into parents' safety and efficacy concerns. 3) Schedule subsequent vaccine dose appointments at the time of vaccine initiation so the parent has the appointments before leaving the clinic. Parents preferred this pre-scheduling that served as an education about the vaccines as well as it give them sufficient time to plan for this brief medical visit. Saturday clinics were highly favored.

The parents also indicated that, personal time constraints and being able to vaccinate up to age 18 may contribute to low vaccine uptake especially at the younger ages—parent believed that they can wait till the teen is older.

DISCUSSION

Immigrant communities are at elevated risk for HPV-related cancers. Hence, immigrant communities ought to be prioritized for HPVV improvements. Our results underscored poignant issues relevant to immigrant communities that may be relevant no only at our local level but at the national level as well. Our findings suggest that: 1) Immigrant inclusive, public health and health system interventions to increase awareness of health facilities safe zone for immigrant children tied to HPVV health literacy campaigns including where to obtain low/no cost HPVV are urgently needed. 2) Clear and strong provider HPVV recommendation approaches that are culturally and linguistically responsive. 3) Provider must be aware of his/her own biases and attend to the cultural beliefs and practices of parents for a more genuine and effective facilitation of vaccination. The parents and providers agreed on the centrality of the provider-parent relationship and appropriate communication. The caring, trustworthy, persistent providers trump parental hesitation and results in acceptance and vaccination.

The provider responsibility finding, suggests that providers' cultural persistence and continuance -- that is the adherence to cultural beliefs and values, in particular beliefs and values about sexuality and gender roles -- may influence providers' own HPVV acceptability and practice. Hence, these providers emphasized examining the provider cultural continuance relevant to HPVV clinical encounter and provider-patient relationship, as well as ongoing training to increase HPVV.

Populations with particularly low HPVV rates and those with high HPV infection and HPV-related cancer burden must be prioritized for provider-driven and parent focused vaccination improvement projects. This formative research underscored the importance of focusing on HPVV within immigrant dense communities. Our findings suggest that there are distinct facilitators and barriers to HPVV improvements among immigrant groups. This discovery science with key stakeholders also suggested that social determinants including immigration histories of providers and patients as well as social status -- type and place of residence, income, education and job status of patients -- influence immigrant providers' clinical encounter and HPVV care delivery.

This paper presents the voices of immigrant parents and broad based community advocates along with clinic administration and providers to inform clinic practice aimed at appropriate and sustainable HPVV improvement practices particularly targeting immigrant populations. Therefore, systemic factors including assuring health facility safe zone for immigrant children ought to be considered in order to achieve the nations' health agenda of protecting all our children against HPV-related cancers. Over all, responding to systemic, provider and parent issues are central to informing our efforts to improve the clinical encounter promoting HPVV among all populations -- especially among immigrant and HPV vulnerable communities towards attaining the Healthy People 2020 goal of 85% HPVV.

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Conflict of interest

The authors declare that they have no conflict of interest.

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Authors' contributions

Kimlin Ashing led the overall study and writing. Mayra Serrano, Marisela Garcia, Katty Nerio, Alejandro Fernandez contributed to the data collection and writing. Margaret Martinez , Rita Singhal, Andrette Ward, Aneesah Robinson, Karen Tinsley, Camille Ragin, Marcella Nunez-Smith, Rebecca Perkins, Gerard Antoine contributed to the conceptualization and writing

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