

Barriers to School-Age Immunization and Potential Intervention Opportunities for the Latino Population of Carver County, MN



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Barriers to School-Age Immunization and Potential Intervention

Opportunities for the Latino Population of Carver County, MN

Sierra Beckman, Ghazaleh Sadr Dadres, Andrew Sieben, Megan Udoeyop

The Resilient Communities Project (RCP) is a cross-disciplinary partnership between the University of Minnesota and communities in Minnesota to advance local sustainability and resilience. In 2015, Carver County was selected as the community partner for RCP. The partnership involves 34 potential projects in a wide spectrum of fields including Public Health and Education. The following report investigates Latino communities engagement, specifically “identifying best practices and strategies for Carver County, local governments and other agencies to more effectively engage the Latino population in the County to utilize community services and programming” (Resilient Communities Project, 2015).

In the original meeting with the community representatives, improving immunization uptake in school-age children to prevent the spread of vaccine preventable diseases, specifically among recent immigrants, was named one of the areas of concern for the Carver County public health officials. A second area of concern is the presence of undocumented migrants in the community who are hard to reach, and as such have lower rates of vaccination.

In keeping with the objectives of the public health specialists from Carver County, the main goal of this project is to identify potential barriers that deter Latino community members, including those who are new or undocumented immigrants, from accessing health services, and provide potential strategies to improve utilization and uptake of immunizations in school-age

children of this County. Potential barriers and interventions were identified through an extensive search of the literature on this, and related, subjects.

Background Information

Minnesota's population has grown to 5,435,281, an increase of 2.8% in 2014 compared to the 2010 decennial census (Minnesota State Demographic Center, 2015). According to the 2010 Census, 81.4% of Minnesota's population is of white/non-Hispanic race, 5.1% identify as Hispanic or Latino origin, and 5.9% are Black/African American alone. About 4% are non-English speakers. Based on data from 2010-2012, behind English, the most commonly spoken languages in homes of Minnesotans five years and older are Spanish, Hmong and Somali (Minnesota State Demographic Center, 2014). Similar to the national trends, Minnesota's Hispanic population is one of the fastest growing ethnic groups, and one in twenty Minnesota residents identify as Hispanic (Hartzler, 2014).

The population of Carver County has increased significantly since 1990, growing by about 49,423 people (Carver County, 2014). The Caucasian population has been decreasing slowly and steadily, while the Hispanic/Latino population has increased in a similarly steady way (2.6% in 2000 to 4.2% in 2013) (Carver County, 2013). It is estimated that the population of Carver County will grow by an additional 76.9% by 2040, with more households and people living alone. This will likely be the highest population and household growth rate in the Twin Cities metro region (Carver County, 2014). 3% of the population in Carver County and 6% of the Chaska residents five and older are non-English speaking (Minnesota State Demographic Center, 2010).

The Minnesota Department of Health (MDH) follows the same recommendations and immunization schedule (Appendix 1) as set forth by the Centers for Disease Control and Prevention (CDC). The Minnesota Vaccines for Children Program (MnVFC) is Minnesota's version of the Vaccines for Children Federal program (VFC). The program ensures that vaccines are available and affordable for all Minnesota residents under 18 years of age at their health care provider facility. Carver County Public Health clinics offer immunization services for its residents who are uninsured, underinsured, and those whose insurance does not cover immunization. Carver County also participates in the MnVFC program, ensuring that infants six weeks of age and children up to age 18 receive their recommended vaccines at no additional cost. The County's Public Health office offers biweekly immunization clinics at the County Government Center (Appendix 2), with limited evening hours. In an effort to reach the Latino population in the county, the immunization clinics pamphlet is printed in English as well as Spanish, and Spanish interpreters are available at the immunization clinics (Carver County, 2014).

Based on the available data, Carver County's vaccination series coverage rates of 35.6% are below the rates in State of Minnesota at 59% (Childhood Immunization in Minnesota, 2015), and fall short of the goals of Healthy People 2020 of 80% for infants and children up to 35 months of age. The coverage rates increase in Minnesota for adolescents aged 13-17 for childhood immunizations, but the HPV vaccination coverage rates remain less than 70% for female and 50% for male adolescents respectively (MMWR, 2015). Based on the available data, Public health officials at Carver County have seen a need for assessment of potential barriers

that prevent their residents, specifically the hard to reach sector of the community (i.e. Latino community) from utilizing the currently available services.

Literature Review Methods and Findings

The literature review was separated into time periods (1990-1997, 1998-2002, 2003-2007, 2008-present) that were assigned to a respective team member. Initial searches were narrowed using a combination of key terms, including, but not limited to: Latino children; Latino communities; immunization; school-age children; barriers; vaccination; undocumented migrants; and best practices. Suggested articles were also used to find other key terms and relevant sources. As members of the team searched the literature, summaries of the findings were organized into a shared chart that was used to elucidate common themes, identify barriers, and best practices. Some of these common themes included: General access to health care, lack of community and family support, concern for vaccination safety, and lack of education or problems with communication.

1. General access to health care and potential lack of family and social supports

According to the literature, members of the Latino community face a variety of barriers that prevent effective implementation of immunization programs. A study conducted by Lumen et al analyzed data from 21,212 children aged 19 to 35 months in the National Immunization Survey. The results suggested that factors most strongly associated with undervaccination included having mothers who had less than a high school education, were divorced, separated, or widowed, had multiple children, were eligible for the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) but not participating, or had incomes below

50% of the federal poverty level. In addition, public health initiatives directed towards Latino communities are often impeded by common difficulties such as cost, transportation, and insurance coverage. One study stated that these barriers were serious enough to actually prevent utilization of health care, saying, "...cost of health care was the most frequently encountered barrier among Mexican Americans, followed by having to wait too long at the doctor's office or clinic, waiting too long to get an appointment to be seen, inconvenient clinic or office hours, and losing income as a result of having to be away from work to obtain health care" (Estrada et al, 1990).

It is often thought that a lack of acculturation (merging cultures over time) prevents members of the Latino community from immunizing their children or seeking other health programs. However, one study, "...challenged the notion that children of recent immigrants bear a higher risk of underimmunization", noting that the rate of underimmunization increased by 1.31 for each level of acculturation (Anderson et al, 1997). This could be explained by a lack of family and social supports for parents who are more acculturated, indicating a possible route for interventions and community supports.

2. Safety concerns

In addition to logistical impediments to immunization access, parents in the Latino community, like many others, may be concerned regarding the safety of vaccines. Parental concerns about immunization safety have been covered widely in the media and on the Internet and have been correlated in some studies with underimmunization and the late receipt of immunizations. ConsumerStyles (2004) survey data of a nationwide panel of U.S. adults were

analyzed in January 2006. Factors associated with parental concerns about immunization safety and immunization attitudes among non-Hispanic African American, Hispanic (both races), and non-Hispanic Caucasian parents were analyzed. The response rate was 62% and analysis was restricted to 47% of respondents who were parents with a child aged 18 years or younger. Demographics (Hispanic ethnicity/nonwhite race, low income, and less education) and negative attitudes toward immunization and the child's healthcare provider were significantly associated with high-level concern (Shui et al, 2006).

The issue of thimerosal-containing vaccines as a possible cause of autistic spectrum disorders (ASD) and neurodevelopmental disorders (NDDs) has been a controversial topic. However, to assess the quality of evidence for a potential association between thimerosal-containing vaccines and autism and evaluate whether that evidence suggests accepting or rejecting the hypothesis, a September 2004 issue of *Pediatrics* systematically reviewed published articles that report original data pertinent to the potential association between thimerosal-containing vaccines and ASD/NDDs. They concluded that the studies do not demonstrate a link between thimerosal-containing vaccines and ASD. They state that epidemiologic studies that supported a link demonstrated significant design flaws that invalidated their conclusions (Parker et al, 2004).

3. Source and amount of information and education

More recent literature has explored additional factors that may deter Latino parents from immunizing their children. Hoffstetter et al (2015) found in their study that many parents were not aware of the full requirements for complex immunization regimens. Many parents

considered their children to have up to date vaccinations, yet this was not often the case (Adorador et al, 2011). The studies suggested that ensuring parents are well informed regarding the status of their child's vaccination as well as the immunization requirements are vital. Furthermore, Gerend et al found that physician recommendation was one of the most influential factors in Latino parents' decision to immunize their children. In a study that examined the acceptability of preventive human papillomavirus (HPV) vaccination among Latina immigrants and African American women through eight focus groups (n = 55, 28 Latinas and 27 African Americans), Latina immigrants unanimously stated that they would get the vaccine (Scarinci et al, 2007). However, they believed that multiple credible sources of information (educational talks, doctor's office, television, churches, and other women) needed to promote the vaccine before the Latino community at large would accept it. These findings suggest that unique educational strategies need to be developed, based on the needs and perceptions of the targeted audience, in order to achieve widespread acceptability of this vaccine.

Another study, by Gerend et al (2007), found that characteristics of the message recipient may affect the success of framed messages promoting vaccine acceptance. This study has practical implications for the development of health communications promoting vaccination. In this study, undergraduate women (N = 121) were randomly assigned to read a booklet describing the benefits of receiving (gain-framed message) or the costs of not receiving (loss-framed message) a prophylactic HPV vaccine. After reading the booklet, participants indicated their intent to obtain the HPV vaccine. The effect of message framing on HPV vaccine acceptance was moderated by risky sexual behavior and approach avoidance motivation. A loss-framed message led to greater HPV vaccination intentions than a gain-framed message but

only among participants who had multiple sexual partners and participants who infrequently used condoms. The loss-frame advantage was also observed among participants high in avoidance motivation.

However, lack of cultural competency, linguistic competency, and properly translated material has posed barriers to Latino parents' access to health care and community services (Clark, 2002; Seth et al, 2015). Furthermore, even if more relevant forms of communication (such as through texting, social media, or email) are used, members of the Latino community did not always understand the medical abbreviations used by the health care providers and community health workers (Ahlers-Schmidt et al, 2013). Therefore, ensuring that community staff members who engage with the Latino community are culturally trained, that written material is properly translated, and that bilingual staff meet adequate standards, is crucial to promoting clear understanding. Communication, especially in the case of immunizations, should serve to provide reminders about appointments time and what the appointment is for.

Discussion and Recommendations

Because most mothers play an important role in their children's vaccination, it is important to address maternal concerns and barriers when developing public health interventions for promoting childhood vaccinations. Encouraging eligible women and their children to participate in the WIC program and providing support and encouragement for immunization to mothers with multiple children may improve early childhood vaccination coverage (Luman et al, 2003). Nurses can play a major role in reducing a mother's information needs by asking what she knows or would like to know about the vaccine her child is receiving that day. In addition to the

vaccine information sheets provided at each immunization visit, nurses also can give mothers a copy of the CDC's Recommended Childhood and Adolescent Immunization Schedule and explain where the child is in the immunization process. Reminder calendars with the date of the next immunization could be given to each mother who brings her child in for immunization. Nurses can also collaborate with librarians in their institutions to ensure that mothers are receiving information that is tailored to their specific needs. Librarians can provide pamphlets, books, or the addresses of relevant web sites for interested mothers. They could set up a laptop computer in (or near) the clinic and introduce parents to MedlinePlus for information about vaccinations and vaccination schedules.

Because many parents may not be adhering to the recommended vaccine schedule due to a lack of knowledge, or because they believed they were up-to-date, it is important to explore education and outreach activities. These campaigns should be culturally appropriate with special attention to language, education outlets (i.e. television, radio), and input directly from community members. Many traditional interventions and campaigns, designed for the dominant Caucasian culture, cannot simply be translated into Spanish and expected to work (Marin et al, 1990). Use of social media to inform adolescents about HPV vaccine has the potential to increase vaccine uptake in this group, if the messages are delivered through news feeds on social network sites. Teenagers in a focus group study by Ortiz et al (2015) responded favorably to social media messages that were delivered through well-known people or people they know personally. Health care providers were named a trusted source of information. On the other hand, paid advertisement was not considered a trustworthy source as it was seen for the profit of drug companies.

As parents become more acculturated, they may likely lose many of the close family and social supports they could rely on for childcare, transportation, and financial help. This can negatively impact a parent's ability to adhere to immunization schedules, hold health care appointments, and more.

Conclusion

Given that Carver County's vaccination series coverage rates are far below the State of Minnesota and Healthy People 2020 goals for infants and children, this literature review sought to identify potential barriers that prevent their residents, specifically the hard to reach sector of the community (i.e. undocumented Latino Immigrants), from utilizing the currently available services. Some of the major barriers identified were problems with general access to health care, lack of family and social supports, vaccine safety concerns as well as source and amount of information and education. Considering these barriers, we recommend: Support and encouragement for immunizations to mothers with multiple children in a family centered care setting; assessment of convenient hours for immunization clinics among Latino families in order to reduce barriers related to access; and multiple tools for education and outreach (ex. Spanish text messages, involvement of community and church leaders).

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Appendices

Appendix 1: Recommended Immunization Schedule for Children and Adolescents 2015.

<http://www.health.state.mn.us/divs/idepc/immunize/hcp/casched.pdf>

Appendix 2: Immunization Clinics Schedule

http://www.co.carver.mn.us/departments/PH/docs/March_Dec_2015_Immunization_Clinic_Schedule.pdf

Barriers to School-Age Immunization and Potential Intervention Opportunities for the Latino Population of Carver County, MN

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Improving immunization rates among school-age Latino children

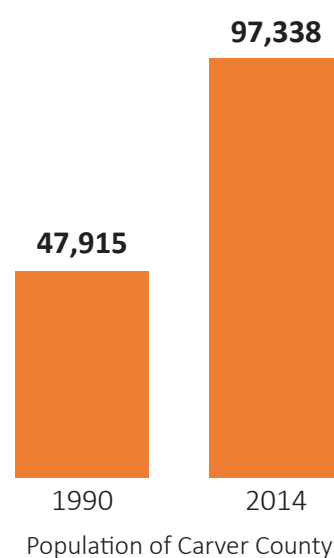
- The Carver County Public Health Department participates in the Minnesota Vaccines for Children Program (MnVCP), which ensures vaccines (immunizations) for all children who are Medicaid-eligible, uninsured, or under-insured.
- Immunizations are provided during biweekly immunization clinics at the County Government Center
- In the original meeting with the community representatives, improving immunization uptake in school aged children to prevent the spread of vaccine preventable diseases, specifically among recent immigrants, was named one of the areas of concern for the Carver County public health officials.

An extensive literature search to identify barriers and solutions

- Using a combination of key terms, including, but not limited to: *Latino children; Latino communities; Hispanic; immunization; school-age children; barriers; and best practices*
- Search included articles published between 1990-2015
- Suggested articles, similar to ones that group members found useful, were also used
- Summaries of the search were organized into a shared chart that was used to elucidate common themes, identified barriers, and best practices

Carver County will likely have the highest population and household growth rate in the Twin Cities metro region (Carver County, 2014)

- Estimated to grow by an additional 76.9% by 2040
- 3% of Carver County residents - and 6% of the Chaska residents - five and older are non-English speaking
- Hispanic/Latino population has been increasing steadily (2.6% in 2000 to 4.2% in 2013)



Barriers to health care utilization and immunization adherence

1. General access to health care

- Waiting too long to get an appointment
- An appointment taking too long
- Missing work in order to make an appointment (loss of income)
- Inconvenient clinic or office hours
- Lack of transportation

*Cost and lack of insurance were also identified as common barriers, but are not included here due to the availability of immunizations for this group.

2. Potential lack of family and social supports: Increasing acculturation

One study, "...challenge[d] the notion that children of recent immigrants bear a higher risk of under-immunization", noting that the rate of under-immunization increased by 1.31 for each level of acculturation (Anderson et al, 1997)

- Potential loss of family and social supports
- Increased demands from work or education
- Adopted concerns about safety

3. Safety concerns

Parental concerns about immunization safety have been covered widely in the media and on the Internet and have been correlated in some studies with under-immunization and the late receipt of immunizations.

- In one survey found Hispanic ethnicity/nonwhite race, low income, and less education were significantly associated with a high-level of concern about safety of immunizations

4. Source and amount of information and education

- Hoffstetter et al found in their study that many parents were not aware of the full requirements for complex immunization regimens
- Many parents considered their children to have up to date vaccinations, yet this was not often the case (Adorador et al, 2011)
- Gerend et al. found that physician recommendation was one of the most influential factors in Latino parents' decision to immunize their children
- Multiple credible sources of information (educational talks, doctor's office, television, churches, and other women) needed to promote the vaccine before the Latino community at large would accept it.

Recommendations for Carver County

- Provide support and encouragement for immunizations to mothers with multiple children
- Create family-centered health care settings that accommodate family members, child care, and other support needs
- Assess the best hours to provide immunization clinics in the community, to reduce the barrier of lost work hours
- Explore additional locations for immunization clinics that are accessible to the community with limited transportation, culturally appropriate, and non-threatening
- Utilize multiple outlets for education and outreach efforts, including community leaders
- Encourage eligible families to enroll in WIC
- Reduce misconceptions by providing vaccine schedules and asking parents what they know or would like to know about the vaccine(s) their child is receiving

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