Vaccine Behaviors and Lessons Learned from a Survey of Spanish-Speaking Parents of Kindergartners – Marin County, California, 2016

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Marin County Office of Education
Objectives

• Describe vaccination beliefs and behaviors among Spanish-speaking parents of Kindergartners

• Describe one method to effectively reach Spanish-speaking parents of elementary-aged children

• Explain how to conduct a community-wide survey of parent's vaccine behaviors and beliefs
Marin County, California

Population: 258,349

- Percent Spanish-speaking adults (18+): 15%
- Percent with a high school degree or higher: 93%

19 school districts in Marin

Source: American Community Survey 2011-2015 5-Year Estimates
Marin County, a vaccine hesitant community

- Highest PBE rate of Bay Area counties
- 18th highest PBE rate out of California's 58 counties

Image Source: http://www.cc.com/video-clips/5t2dw1/the-daily-show-with-jon-stewart-les-measlesrables
Immunization Status Types

- Up-to-Date
- Personal Belief Exemption
- Medical Exemption
- Conditional Entrant
PBE Rates in Marin County

Personal Belief Exemption (PBE) Rates among Kindergarten Students
Marin County v. California, School Years 2000-01 through 2015-16

Source: Kindergarten Summary Reports, Immunization Branch, CDPH
Vaccination Rates in Marin County

Kindergarten Students Up to Date with All Required Immunizations
Marin County vs. California, School Years 2000-01 through 2015-16

Source: Kindergarten Summary Reports, Immunization Branch, CDPH
Survey Background

AB 2109 goes into effect in California
Requires parents seeking personal belief exemptions (PBEs) to have a documented conversation with health care provider about vaccination safety and risks, and about vaccine-preventable diseases
Survey Background

- **First Vaccine Decision Making Survey**
  - **Fall 2013**

- **Jan 2014**
  - AB 2109 goes into effect in California
    - Requires parents seeking personal belief exemptions (PBEs) to have a documented conversation with health care provider about vaccination safety and risks, and about vaccine-preventable diseases

- **Dec 2014-Apr 2015**
  - Disneyland Measles Outbreak

- **June 2015**
  - SB277 passes; community galvanization
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Disneyland Measles Outbreak

June 2015
SB277 passes; community galvanization

2016
Follow-up Vaccine Decision Making Survey

January 2016
SB277 goes into effect in California
New PBEs no longer permitted
Determine if vaccination beliefs and behaviors differ between Spanish and English-speaking parents of kindergartners
Methods: Survey development and dissemination

- Developed survey with input from local stakeholders
- Disseminated in English and Spanish
- Partnered with school nurses and health liaisons, who:
  - E-mailed a Survey Monkey link and/or
  - Distributed paper copies of the survey
- 1,000 paper surveys distributed
Methods: Survey content

- Demographic information
- Sources of immunization information
- For up-to-date, if delayed in the past and why
- Current year influenza vaccination status
- SB277 attitudes and beliefs
Methods: Data Analysis

• Calculated aggregate proportions for all responses
• Compared demographic information between 2013 and 2016 survey respondents
• Stratified by survey language
• Compared Spanish and English-speaking responses using Pearson’s chi-squared tests and Fisher’s exact tests:
  – Sources of vaccine information
  – Vaccine behavior
  – SB277 support
Methods: Paper Survey Quality

• Entered all paper surveys into Survey Monkey database
• Followed a set of rules for discordant responses and violated skip patterns
• Two individuals involved in each entry:
  – Primary survey entry
  – Survey entry check
Results: Study Population

Respondents
N=740
(31% of recipients)

Up to Date
N= 684 (92.6%)

Not Up to Date
N= 55 (7.4%)

PBE
N= 43 (5.8%)

Medical Exemption
N= 3 (0.4%)

No Exemption
N= 9 (1.2%)
## Results: Demographic Variations between Vaccine Decision Making Surveys

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<tr>
<th>Demographic Characteristic</th>
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**Total**: 740
## Results: Sources of Vaccination Information

<table>
<thead>
<tr>
<th>Source</th>
<th>Spanish-Speaking (N=128)</th>
<th>English-Speaking (N=612)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician or other healthcare provider</td>
<td>84%</td>
<td>91%</td>
<td>0.03</td>
</tr>
<tr>
<td>Complementary and alternative medical providers</td>
<td>12%</td>
<td>8%</td>
<td>0.16</td>
</tr>
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<td>Family</td>
<td>23%</td>
<td>15%</td>
<td>0.03</td>
</tr>
<tr>
<td>Health-related website</td>
<td>0%</td>
<td>32%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Social media website</td>
<td>2%</td>
<td>4%</td>
<td>0.41</td>
</tr>
<tr>
<td>Friends</td>
<td>6%</td>
<td>11%</td>
<td>0.19</td>
</tr>
<tr>
<td>Complementary medicine website</td>
<td>1%</td>
<td>4%</td>
<td>0.07</td>
</tr>
<tr>
<td>Books about Vaccinations</td>
<td>7%</td>
<td>10%</td>
<td>0.50</td>
</tr>
<tr>
<td>News sources</td>
<td>5%</td>
<td>19%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Results: Personal Belief Exemptions by Survey Language

<table>
<thead>
<tr>
<th>Proportion with PBES</th>
<th>Spanish-Speaking (N=128)</th>
<th>English-Speaking (N=612)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Results: Past Vaccine Delay by Survey Language

Proportion Reporting a Past Vaccination Delay by Survey Language
Marin County Vaccine Decision Making Survey, 2016

\[ p=0.10 \]

Spanish-Speaking Respondents
N=106 (83%)
- Yes: 7%
- No: 93%

English-Speaking Respondents
N=525 (86%)
- Yes: 12%
- No: 88%
Results: Vaccine Behavior by Survey Language

Influenza Vaccination Status by Survey Language – Marin County Vaccine Decision Making Survey, 2016

n=681 (92%)

p=0.005

Proportion of Respondents

<table>
<thead>
<tr>
<th>Yes</th>
<th>Wanted to, but experienced barriers</th>
<th>Plan to</th>
<th>Have not, and do not plan to</th>
</tr>
</thead>
<tbody>
<tr>
<td>78%</td>
<td>0%</td>
<td>15%</td>
<td>7%</td>
</tr>
<tr>
<td>65%</td>
<td>3%</td>
<td>16%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Spanish-Speaking

English-Speaking
Results: SB277 Support by Survey Language

Level of Support for SB277 by Survey Language
Marin County Vaccine Decision Making Survey, 2016
n=659 (89%)

p<0.001

Proportion of Respondents

<table>
<thead>
<tr>
<th>Support</th>
<th>Oppose</th>
<th>Neutral</th>
<th>Did not know about the law</th>
</tr>
</thead>
<tbody>
<tr>
<td>54%</td>
<td>12%</td>
<td>15%</td>
<td>21%</td>
</tr>
<tr>
<td>80%</td>
<td>10%</td>
<td>2%</td>
<td>5%</td>
</tr>
</tbody>
</table>
Results: Spanish Paper Survey

- Some issues indicated that some of the survey may have been unclear
  - Presence of violated skip patterns
  - Discordant responses
  - Free text answers to required questions
Conclusions

• Majority of Spanish-speaking parents completed paper surveys
• Many Spanish-speaking parents seek vaccination information from friends
• High level of reported vaccination among Spanish-speaking parents of kindergartners
• Spanish-speaking respondents were more likely than English-speaking respondents to report:
  – Neutral feelings towards SB277
  – Not knowing about SB277
Lessons Learned

• Paper survey distribution helps reach the Spanish-speaking community
• Barriers to school-based survey release
• Literacy level for Spanish-speaking survey too high
  – Pilot in Spanish-speaking community
  – Develop a team to vet Spanish surveys and communications
  – Conduct focus groups instead of surveys
Applications

• Paper correspondence is used to promote school-based influenza clinics
• Health liaisons are very involved in school-based influenza clinic planning and execution
• School-based health liaisons may be helpful in improving other types of health communication
Acknowledgements

- Marin County Office of Education
- Marin School Nurses Organization (MSNO)
- School Immunization Coordinators and Health Liaisons
- Marin County Department of Health & Human Services
  - Cio Hernandez, Oscar Guardado

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Thank you!
Supplemental: Respondents by School Type

Respondents with School Reported
N=704
(95% of all respondents)

Private School Respondents
N=39 (6%)

Public School Respondents
N=665 (94%)
Supplemental: All Survey Content

- Demographic information
- Status of meeting mandatory school entry vaccines
- For opt out or delay
  - Reasons for opting out or delaying
  - Reaction if SB277 had gone into effect in the 2015-16 year
- For up-to-date
  - Reasons for vaccination
  - If delayed in the past and why
- Current year influenza vaccination status
- Sources of immunization information
- Influence of Measles outbreak on MMR vaccination
- SB277 attitudes and beliefs
Supplemental: Immunity Varies by Area and School Type

PBEs in Public Schools
Non-West Marin - 2015-2016
2,607 Students

- With PBE: 5%
- Without PBE: 95%

PBEs in Private Schools
Marin County - 2015-2016
507 Students

- With PBE: 14%
- Without PBE: 86%

PBEs in Public Schools
West Marin - 2015-2016
154 Students

- With PBE: 12%
- Without PBE: 88%