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# Prevention of Vaccine-Preventable Diseases through Information and Education at the California Department of Public Health

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Prevention of Vaccine-Preventable Diseases through Information and Education at the California

Department of Public Health

Submitted by

Vaisali Patel

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## Abstract

Immunizations are one of the most important developments in the twentieth century towards the prevention of infectious diseases. Vaccinations against communicable diseases have helped reduce morbidity and mortality all over the world. Despite having numerous vaccines that protect individuals from serious and deadly diseases, vaccination rates in the United States remain at an all-time low. The Information and Education section of the Immunization Branch within the Division of Communicable Disease Control at the California Department of Public Health (CDPH) focuses on working with local health departments, primary care providers, immunization coalitions, and other statewide organizations to increase the rates of vaccinations in the United States. The Information and Education section aims to address vaccination disparities in the state of California. The main reasons parents and guardians opt out of fully vaccinating their children are due to personal belief exemptions (PBEs), concerns regarding vaccine-related side effects, and low provider recommendation. The Information and Education section is in charge of creating statewide campaigns and educational materials to help increase immunization rates. Four goals were developed for this fieldwork experience: general familiarization with the Immunization Branch; participate in the planning of Preteen Vaccine Week Campaign 2015, an immunization informing campaign; conduct impact evaluation and education material; and participate in maintenance of other immunization informing campaigns. The following paper is a summary of a 300-hour fieldwork experience at the CDPH to help increase awareness of vaccine-preventable diseases and the importance of being fully immunized through the development of informational and educational materials.

Prevention of Vaccine-Preventable Diseases through Information and Education at the California  
Department of Public Health

The increase in life expectancy in the twentieth century is predominantly due to the development of vaccinations. Vaccines have helped reduce mortality and disability due to infectious disease. Even though vaccinations go through numerous research and study trials, vaccination rates remain low (United States Department of Health and Human Services [HHS], Healthy People 2020, 2014). People in the United States continue getting diseases that are vaccine preventable.

Roughly speaking, 42,000 adults and 300 children die in the United States annually from vaccine-preventable diseases (Centers for Disease Control and Prevention [CDC], 1999). Communities with unvaccinated and under-vaccinated residents are at greater risks for outbreaks of vaccine-preventable diseases (HHS, Healthy People 2020, 2014). For example, on average, 200,000 hospitalizations and 36,000 deaths occur annually in the United States due to influenza (CDC, 2011). The goal of public health professionals is to concentrate on decreasing the rates of hospitalization and deaths due to vaccine-preventable diseases.

Currently, there are 17 vaccine-preventable diseases vaccinations (HHS, Healthy People 2020, 2014). Even though diseases, such as polio, have been eradicated in the United States, does not mean children should not be vaccinated against it. All infectious diseases are only a plane ride away. A recent example is the rise of measles in the United States. Measles is a highly contagious respiratory disease caused by a virus. Measles can spread through the air by coughing or sneezing and can lead to a fever, sore throat, and rash covering the body (CDC, 2014a). The rates of measles in the United States had been low since the endemic was eradicated in 2000

(Orenstein, Papania & Wharton, 2004); unfortunately, measles cases have been on the rise. Currently, the CDC (2014a) has confirmed 603 cases of measles and 20 outbreaks this past year – the most number of confirmed cases since 1994. Measles can spread when members of communities are not vaccinated.

The best way for populations to be protected against infectious diseases is to be fully vaccinated. However, more and more individuals are choosing not to vaccinate themselves or their children due to personal belief exemptions (PBEs), fear of side effects, and low rates of provider recommendations.

### **Background**

There was a time when families could not afford vaccines. In the early 1990s, racial and ethnic minority children were at a greater risk for measles (Walker, Smith & Kolasa, 2014). In order to address the gaps of vaccination coverage, the Vaccines for Children (VFC) Program was established in 1994 (The Childhood Immunization Initiative, 2000). VFC is a program managed by the CDC and has provided vaccines to children at no cost who might not be vaccinated due to their inability to pay (Walker, Smith & Kolasa, 2014). Disparities in vaccination coverage amongst racial and ethnic minorities have declined; the VFC program continues to provide access to vaccinations to protect all children in the United States from vaccine-preventable diseases (Walker, Smith & Kolasa, 2014).

In the 1980s, children were not vaccinated because parents and guardians could not afford the cost of vaccines. Today, many affluent parents and guardians are refusing to vaccinate their children in the state of California (Khazan, 2014). Parents and guardians are submitting PBE forms to schools and opting out of vaccinating their child because the vaccines are against

their personal beliefs (Allen-Price & Aliferis, 2014). PBE rates have doubled in the last 7 years in the state of California (Allen-Price & Aliferis, 2014). This leads to elite counties such as Marin, Los Angeles, Santa Monica, and Beverly Hills, to have lower rates of vaccinations and higher rates of vaccine-preventable diseases such as whooping cough and measles (Appendix A; Khazan, 2014).

Since several parents and guardians are opting out of vaccinating their child, herd immunity is being impacted (Khazan, 2014). When large proportions of community members are vaccinated against infectious diseases, other members of the community are protected against the disease because there is a smaller chance of an outbreak through what is coined, herd immunity (CDC, 2013). Those individuals who may be ineligible for certain vaccines – pregnant women, infants and immunocompromised individuals – are in turn protected because there is a lower risk of outbreaks (Appendix B; “Community Immunity,” 2013). Since many counties have lower numbers of vaccinations, parents are not only negatively impacting their child’s health; they are risking the health of everyone in their community.

Other reasons why families do not vaccinate their children is due to safety concerns regarding vaccinations. Parents are fearful of the adverse effects of immunization. In a survey conducted for the National Consumers League, 1 in 3 parents continue to worry vaccines cause autism (Yang, 2014). Despite indisputable evidence regarding vaccines not having a relationship with autism, some parents continue to believe there is a positive relationship between vaccinating their child and developing autism (Gupta, 2010). Parents who choose not to vaccinate their children due to the fear of adverse side effects have different vaccine knowledge compared to those parents who choose to vaccinate (Kennedy, Basket, & Sheedy, 2011).

Health care providers influence parental vaccination decisions. More than 90% of parents state they receive vaccine information from their child's health care provider (Mergler et al., 2013). Parents trust their health care providers regarding vaccine safety. Providers are the best source of information for parents regarding the importance of vaccinating their children and the benefits of full immunization (Grabowsky, Orenstein, & Marcuse, 1996). For many recommended vaccines, such as the Human Papillomavirus (HPV) vaccine, there are many missed opportunities of provider recommendation for parents of preteen boys and girls (Vadaparampil et al., 2011).

Each year, the Information and Education section of the Immunization Branch at the California Department of Public Health (CDPH) concentrates on increasing immunization rates in the state of California. This year, the focus of the CDPH is increasing the immunization rate of HPV among boys and girls. HPV is a common virus in the United States – so common that most sexually-active men and women will be diagnosed with one type of HPV at some point in their lifetime (California Department of Public Health [CDPH], 2014). Currently, about 79 million people are infected with HPV and about 14 million more will become infected every year. Each year in the United States, roughly 19,000 women and 8,000 men develop HPV-related cancers (CDC, 2014a). HPV causes cancers of the cervix, vulva, and vagina in women and causes cancer of the penis in men. HPV can also cause oropharyngeal cancer in both men and women (CDC, 2014b). There are no routine screening methods for HPV-related cancers for men and the only method available for women is during routine PAP smears and testing for HPV infection. The HPV vaccine prevents most HPV-related cancers (CDPH, 2014).

In a recent study, researchers indicated that vaccine-type HPV prevalence has dropped by 56% among 14-19 year old females since the vaccine was introduced in 2006 (Markowitz et al., 2013). Even though the HPV vaccine is effective and safe, the immunization rates remain low for adolescents and adults. In 2013, 68% of teen girls in the state of California received  $\geq 1$  dose of HPV vaccine, but only 46% of the teen girls and only 17% of teen boys had completed the three-dose series (CDC, 2014b). In the same study, vaccination coverage of one dose of the Tdap vaccine reached 91%; rates of the HPV vaccination would be identical if adolescents received the HPV vaccine at every given opportunity (Appendix C; Stokley et al., 2014). Missed vaccinations signify vulnerability to potential HPV-related cancers for preteen boys and girls (CDPH, 2014).

The CDPH celebrates an annual statewide observance called Preteen Vaccine Week in the month of February. During this week, the CDPH works with local health departments, schools, local organizations, immunization coalitions, and primary care providers to increase awareness of adolescent immunizations and to schedule preteen doctor visits for adolescents to be immunized against HPV, Tdap (tetanus, diphtheria, whooping cough), meningococcal, influenza, and second dose of the chickenpox vaccine (CDPH, 2014). With the collaboration of statewide organizations, the mission of the Information and Education section is to prevent disease and death due to vaccine-preventable diseases.

The Information and Education section created a Toolkit for [Preteen Vaccine Week 2015](#) which can be found at the link provided. In the Toolkit, state organizations and health care providers are supplied various tools such as: talking points, media alerts, various print materials, and activities for organizations to utilize to promote preteen vaccines, especially the HPV



vaccine. The Toolkit provides organizations around the state with helpful materials regarding increasing the immunization rates against all Advisory Committee on Immunization Practices (ACIP) recommendations. The Information and Education section conducts monthly planning calls with all local health departments and immunization coalitions regarding the Preteen Vaccine Week campaign and addresses all concerns and issues that may arise during the planning calls.

The Information and Education section has also developed a Tdap prescription pad (see Appendix D) in order to vaccinate all women in their third trimester of pregnancy against whooping cough. In California, children less than 3 months of age have the highest rate of pertussis-related complications and mortality than other age groups. These infants are too young to have completed the primary series of pertussis vaccine, and many are too young to have received one dose of vaccine (CDC, 2014c). Prior studies indicate that parents, most often the mother, are a common source of pertussis infection to young infants. ACIP and the American College of Obstetricians and Gynecologists (ACOG) recommend that all women be vaccinated with pertussis-containing vaccine (Tdap) during the third trimester of every pregnancy. Currently, in the state of California, estimates of uptake of Tdap vaccine among pregnant women are below 30% (CDC, 2014d). The approach of shielding infants from pertussis by vaccinating those individuals in close contact to the infant is known as cocooning. ACIP recommends cocooning along with maternal Tdap vaccination and childhood DTaP series to best protect infants from pertussis. However, full cocooning is a challenge so maternal vaccination of Tdap is the best chance of protecting infants from pertussis (CDC, 2014e).

The goal of this evaluation is to assess the impact of a written vaccine recommendation on pertussis immunization receipt by comparing the immunization rates of third trimester pregnant women in the intervention group using the written recommendation against a control group using only a verbal recommendation or historic data. The evaluation is currently in progress, and the CDPH plans to use the findings to determine continued use of the Tdap prescription pad and inform future development of other materials. Results may be shared with other statewide partners to help promote the use of the Tdap prescription pad currently being evaluated. If the pad is proven effective in increasing pertussis immunization rates among pregnant women, all OB/GYN providers will be provided with prescription pads to recommend Tdap vaccine in California.

The Information and Education section continues working on various campaigns in hopes of increasing all vaccination rates in California. Another campaign the section is currently working on is called *Vaccinate Before You Graduate*, where parent letters and educational flyers have been developed for graduating 8<sup>th</sup> graders and high school seniors. The materials recently underwent pre- and post-tests to check the efficacy of the message presented and whether the educational flyers were informative and helpful. Based on the results of the tests, the Information and Education section will modify the materials and make the materials available on the California School Nurse Organization (CSNO) website and to all middle and high schools in California.

The success of all the informational and educational materials the CDPH presents is measured through annual studies that are conducted regarding vaccination rates, and information presented through the California Immunization Registry (CAIR). CAIR allows providers storage

of accurate and confidential information related to immunizations. The registry also helps CDPH keep track of immunization rates in different regions, target at-risk populations, and can categorize which vaccines need higher uptake. CAIR helps the Information and Education section evaluate campaigns and programs they develop by keeping track of who is being immunized and with which vaccines.

### **Implementation of the project/methods used**

The mission of the fieldwork experience was to assist the Information and Education section develop materials that can help increase the vaccination rates in the state of California. This fieldwork practice required the development of educational and informational materials for statewide organizations, maintain communication with local health departments and primary care providers, and raise awareness of vaccine-preventable diseases through novel channels, such as social media messages. The following section of the paper discusses the four goals and learning objectives of this fieldwork experience.

### **Methods**

#### General Familiarization with the Immunization Branch of the CDPH

It is important to learn the daily activities of the Information and Education section and learn the different roles of each staff member. This objective was achieved through the completion of the orientation training and reviewing all websites and materials of the Immunization Branch.

Another objective was to observe how the Information and Education section develops training, education and communication to providers, the general public, local health departments, partner organizations, and schools, and become a contributing member. This objective was

achieved by collaborating with various staff members as materials are designed, tested, revised, and sent through the approvals process. Through participation with team members, campaign materials were discussed, revised, and tested as required. All developed materials must gain approval from the entire team before becoming available to statewide organizations.

The third objective for this goal was to expand the knowledge of public health topics. This was achieved by attending CDPH-Richmond lectures as well as webinars and familiarization of federal and state immunization programs and policies.

#### Participate in the planning of Preteen Vaccine Week Campaign 2015

This goal was achieved by learning principles of social marketing campaigns through participating in planning, design, implementation and evaluation of statewide campaign. By working alongside Jane Pezua, MPH, the Health Educator and lead developer of the Preteen Vaccine Week 2015 campaign, campaign materials focusing on the HPV vaccine were developed and published on the CDPH website so all organizations in California could access the materials.

Another objective was to assist in the execution of statewide planning calls regarding Preteen Vaccine Week. This objective was met by participating in planning stages and execution of statewide conference calls. Every month, planning calls are conducted with local health departments and immunization coalitions. Prior to all conference calls, planning call slides must be created with agenda discussing relevant topics and must be e-mailed on the Monday before the call (see Appendix E for web link for example slides). During all planning calls, participants were listed by their name and the county they were calling from, and accurate notes and questions were recorded to be addressed on the following planning call.

The next objective was to prepare promotional materials to accompany the campaign. This objective was completed by tracking and evaluating materials created. The materials developed were: online and print materials, E-blasts, template materials and new media. PowerPoint presentations were created and presented on the importance of using URL shortners ([Bit.ly](#) and [Bit.do](#)) and social media sites to promote vaccinations. Trending Facebook and Twitter messages were also developed and approved for health care providers and parents to post and promote Preteen Vaccine Week (see Appendix F for approved social media messages).

#### Conduct Impact Evaluation on Educational Material

To achieve this goal, the objective of learning how the Immunization Branch responds to vaccine preventable disease-epidemics (pertussis) and outbreaks must be achieved. To achieve this objective, it was important to review data, publications, and materials relevant to Immunization Branch's tracking of and response to pertussis epidemic in 2014. Different materials were evaluated from the CDC and ACOG regarding the pertussis epidemic in California. Studies conducted on the pertussis epidemic were reviewed to learn how to better promote stronger uptake of the Tdap vaccine.

Additionally, an objective to coordinate with other interns and Immunization Branch staff on a project testing the impact of a recently developed Information and Education material was also developed. The Information and Education section developed and tested a prescription pad of the Tdap vaccine to increase vaccination rates of third trimester pregnant women. An application was submitted for approval to the Institutional Review Board (IRB) and evaluation model and methodology was created (see Appendix G). In order to test the prescription pad with

health care providers, participants had to be recruited in the state of California. This was done by finding all OB/GYNs in the state of California and calling them to see if they vaccinated for Tdap on site. If the OB/GYN provider does not vaccinate on the site, they were provided with information regarding the study and asked to participate. If the provider agreed, packets with instructions, prescription pads and tracking methods were mailed to their office. Qualitative surveys were created for the comparison groups for a more thorough study.

#### Participate in Maintenance of a To Be Determined Immunization Informing Campaign

This goal was achieved by fulfilling the objective of assisting another team member in the design and promotion of materials promoting immunization. Different educational materials such as flyers and parent letters were created related to the promotion of immunization. The materials for the *Vaccinate Before You Graduate Campaign* were outdated, thus new and updated versions were developed (see Appendix H). The materials were tested with graduating 8<sup>th</sup> graders and high school seniors to test efficacy and layout of the materials. The pre- and post-tests were developed and presented to participants in community settings (see Appendix I). The results were presented to the team and revisions of the materials were done as required. The final materials will be posted on the CSNO website and provided to middle schools and high schools throughout California once final approval is received.

### **Results/Findings**

The CDPH is an established governmental agency, and the Immunization Branch is dedicated to improving the rates of immunizations for all individuals in California. The Information and Education section begins planning for all of the campaigns months in advance. The staff of the Information and Education section maintains communications via phone and e-

mail with members from the CDC, health care providers, and organizational partners throughout the campaign planning. All questions regarding campaign materials and how to best promote vaccinations are addressed by the Information and Education section. The Information and Education section maintains close relationships with all of the partners because combating vaccine-preventable diseases is a group effort.

The campaigns developed through the Information and Education section are successful because they have one aim: to decrease vaccine-preventable diseases by increasing immunization rates in statewide. The materials developed are available for everyone to utilize on the CDPH website and local health agencies can order mass quantities of print materials for no charge. Materials are developed with cultural and racial variations in mind. Many of the materials developed by the Information and Education section are translated in Spanish and appropriate web links are provided on the CDPH website to route individuals from different cultures to appropriate vaccine-related information.

The Tdap prescription pad evaluation is currently underway so the results are not yet available. However, through follow-up phone calls and surveys conducted with participating providers, OB/GYNs provided positive feedbacks regarding increased vaccination rates of third trimester pregnant women in their respective clinics. After checking in with providers on how the study is going and whether or not they like utilizing the prescription pad when recommending the Tdap vaccine to their patients, all of the participating OB/GYNs have stated that the prescription pads are more effective in recommending the Tdap vaccine to patients than verbal recommendations alone.

### **Application of Results/Public Health Significance**

Having a governmental organization partner with local health departments and other organizations within the state to address vaccination rates is a significant public health project. Through the development of campaigns and creating Toolkits to help organization increase rates of vaccinations provides local organizations with guidance of how to better improve vaccination rates in the state. Vaccines have been proven to save lives, but due to confounding factors the rates of vaccinations have decreased. By having governmental support from agencies like the CDPH, providers can be educated on how to stress the importance of recommended vaccines and local agencies can help educate community members on vaccine safety and regarding the protection vaccines can provide against deadly communicable diseases.

It is rewarding to ask representatives from all the different counties in California regarding what information and materials they need to help increase the rates of vaccinations in their specific counties. Through the monthly planning calls, members of the different counties are able to request specific educational materials for their counties. For instance, through the planning calls, members of the Information and Education section were asked to provide a guest speaker from the CDC to discuss evaluation methods of activities on one of the scheduled planning calls. Since this was something all participating counties expressed interest in, the CDPH was able to have two members from the CDC talk about campaign evaluation methods and metrics (see Appendix J for web link).

Through communicating with immunization coordinators throughout the state, the CDPH is able to keep track of what the different counties are doing to increase the rates of immunization in their communities. The campaigns have helped increase awareness of



immunization in many communities of California, and through the development of different educational materials, further awareness can spread.

### **Competencies Addressed**

The fieldwork experience has allowed for the incorporation of classroom knowledge to be applied to real-life public health settings combating real-life public health problems. Through the fieldwork practice, experience was gained on how to assess the need of communities, distinguishing stakeholders, creating innovative ways to increase awareness of the public health problem, and how to track and evaluate measures that are developed to address the problem. The fieldwork experience has also helped strengthen communication skills between partners to address the problem and to develop a solution.

Through this fieldwork experience, University of San Francisco (USF) MPH core competencies and cross-cutting competencies were utilized (see appendix K). Since the goal of the Information and Education section is to increase the rates of vaccinations among community members, social and behavioral science core competency was greatly addressed through this experience because vaccine uptake depends on factors within individuals and communities. Campaigns and materials are developed to help educate community members regarding the importance of full vaccination at the individual and community levels. Different activities are also provided in the Preteen Vaccine Week 2015 Toolkit to help members of the community become more informed on the importance of being vaccinated against all vaccine-preventable diseases.

The core competencies of biostatistics and epidemiology were applied when developing the Tdap prescription pad evaluation study and surveys to increase the Tdap vaccination rates of

third trimester pregnant women. Data is in the process of being collected and evaluated to determine whether the created Information and Education material increases Tdap vaccine uptake. Epidemiology was addressed when monitoring the distribution of decreased vaccination rates in certain counties of California. Through research, CDPH has a better understanding of which communities are submitting greater PBEs and where immunization rates remain low.

The environmental health science core knowledge was applied when creating educational materials in regards to community and social organizations. In reference to the Tdap prescription pad evaluation, in order for the study to be effective, it was important to find OB/GYN providers that do not vaccinate for Tdap on site.

One of the important core knowledge that has been shaped and improved throughout the experience is leadership skills and abilities. For many of the materials developed, the fieldwork experience provided ample opportunities to step into leadership position and take charge. When developing and presenting PowerPoint presentations on social media and URL shortners, creating evaluation plan for the Tdap prescription pad study, submitting documents for approval, developing certain materials and activities for Preteen Vaccine Week campaign Toolkit, and updating versions for the *Vaccinate Before You Graduate* educational materials, all leadership responsibilities were handed over with minimal supervision.

Along with these core competencies, cross-cutting knowledge areas were also addressed. The cross-cutting knowledge of health communication and informatics are essential for the promotion and education of vaccinations. Through effective communication and development of appropriate health materials, public health professionals are able to change the health beliefs and behaviors regarding immunization in the communities. Through developing educational

materials targeted to specific groups of individuals, such as social media messages geared towards parents and teenagers, community members can help spread awareness of the importance of being fully vaccinated to other individuals in their social networks.

Program planning is another cross-cutting knowledge that was addressed during this fieldwork experience. Through determining the needs, planning the materials, and creating an evaluation plan, appropriate materials are created to address the public health problem. For instance, since there is a pertussis epidemic in the state of California this year, the need was addressed by creating a prescription pad providers can use when recommending the Tdap vaccine to pregnant women in their third trimester of pregnancy. A full evaluation plan was developed to see whether the prescription pad is effective in increasing vaccination rates among target population. Providers were recruited based on the requirement of not vaccinating on site and appropriate materials were sent to the providers to conduct the evaluation.

The final cross-cutting knowledge that was widely addressed was diversity and culture. Most of the campaign materials that are developed keep cultural beliefs and attitudes in mind. Most of the materials are also translated into Spanish to help raise awareness of vaccine-preventable diseases in the Hispanic communities of California. The CDPH website has also been recently updated to direct different ethnic minorities to culturally appropriate websites regarding vaccine safety information.

The USF MPH program has provided adequate coursework for this fieldwork experience to be successful. The professors have taught the students to determine the needs of the community while keeping moral and ethical values in mind. By providing classes focused on core knowledge areas, students are prepared to enter real public health settings ready to address

any public health problem. For this fieldwork experience, biostatistics helped develop surveys and interpret health data, epidemiology helped understand the characteristics of human population and distribution of vaccination rates, environmental health sciences helped look at community and social structures, social and behavioral sciences helped develop appropriate educational materials, and leadership helped build confidence in addressing the public health need.

### **Conclusions**

This fieldwork experience was extremely enriching and provided immense knowledge of how to address vital public health problems such as increasing immunization rates in the United States. The fieldwork was a great experience because it went hand-in-hand with the USF MPH program. All of the information learned in the classroom was applied in developing materials for the Information and Education section.

The projects assigned during the fieldwork have helped develop skills such as communicating and networking with other members to meet a common goal, not being afraid to ask questions or request clarifications when things may seem unsure, and not being afraid to step into leadership positions. None of this would have been possible without the support and trust from the preceptor, Jane Pezua, MPH.

Jane has always been approachable and understanding. She assigned work with confidence and was always available to help if things were unclear. The fieldwork experience has helped develop skills and insights of working in the governmental sector of a public health setting. The combination of courses offered within the MPH program at USF and the public health fieldwork practice have provided with great experience in understanding a great public

health need, learning how to build relationships with team members and members of the community, and developing and evaluating appropriate materials to combat a public health problem.

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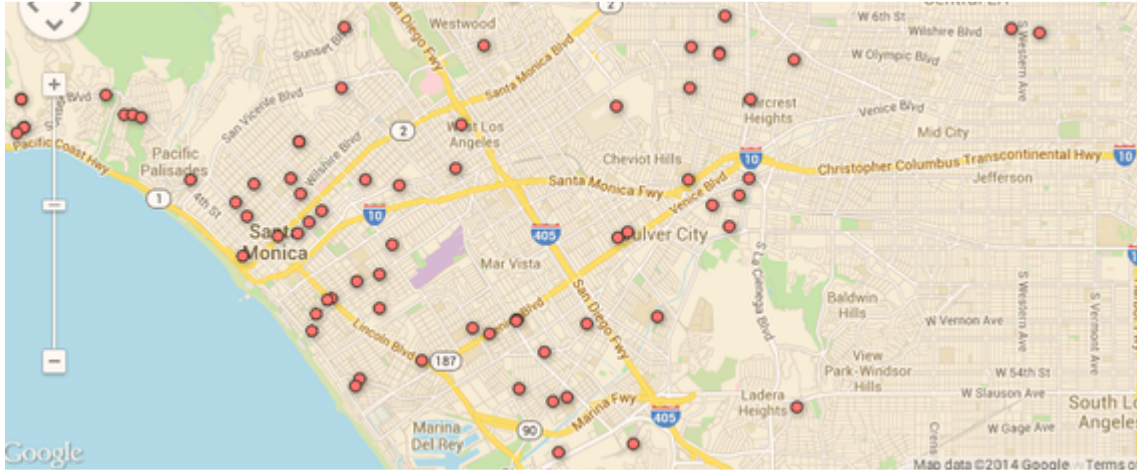
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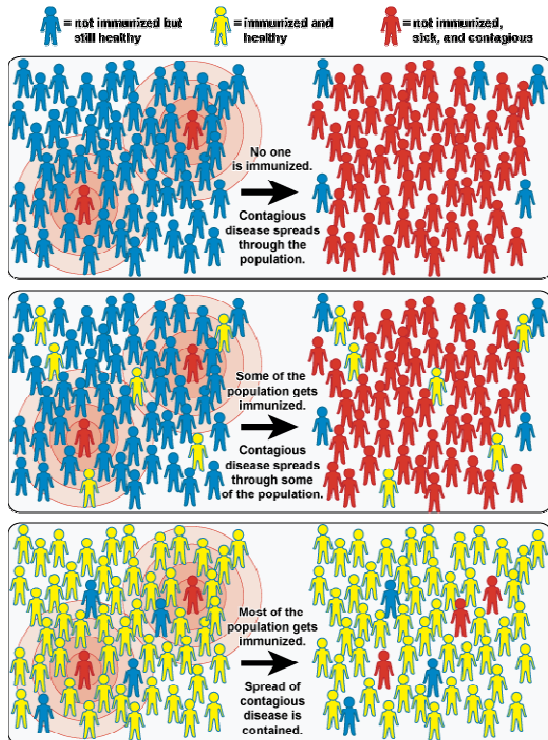
Appendices

Appendix A

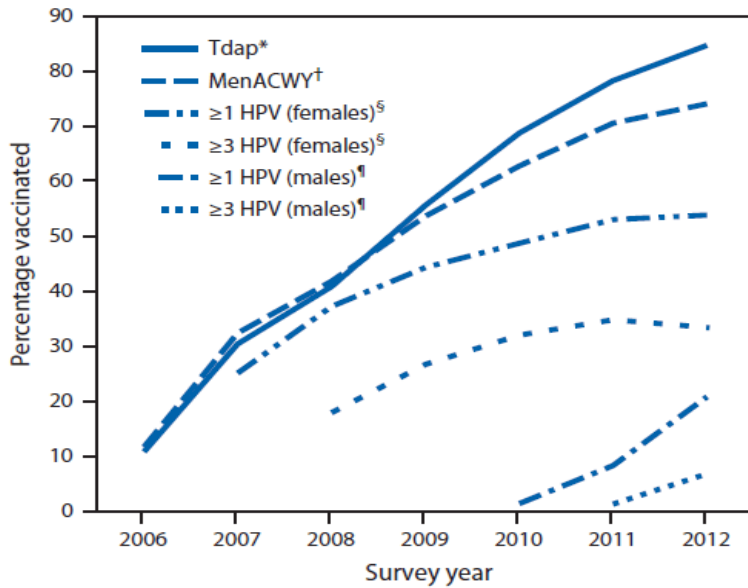


This is a map of schools in Santa Monica. The red dots signify schools with severely low rates of vaccinations.

Appendix B



Appendix C



Appendix D

**R<sub>x</sub>**

Prescriber Name, Address, Phone Number:

Patient Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Vaccines recommended during pregnancy:**

**Tdap** (tetanus, diphtheria, pertussis [whooping cough]) during 3rd trimester  
0.5 mL IM x 1

**Inactivated Influenza**  
0.5 mL IM x 1

Prescriber's Signature: \_\_\_\_\_ License #: \_\_\_\_\_

These vaccines may be available from your primary care physician, local health department, or pharmacy. To find a nearby location, please visit [www.vaccine.healthmap.org](http://www.vaccine.healthmap.org).

**Your baby is counting on you for protection. Get vaccinated.** IMM-1143 (7/14)

Appendix E

Please visit the [CDPH Preteen Vaccine Week](http://bit.do/PlanningSlides) page (<http://bit.do/PlanningSlides>) for example of planning slides created before each planning call.

## Appendix F

***Social Media Messages***

Use the accurate, science-based health messages below to spread the word about Preteen Vaccine Week. Don't forget to end your social media messages with "[#PreteenVax](#)"! (Phrase must be un-spaced, just as written.)

**Sample Facebook Posts**

Here are sample Facebook posts of 250 characters or less to allow the entire post to be viewed in the newsfeed.

- While your preteens are thinking about all the fun things they will be doing this summer, you are probably thinking about keeping them healthy and safe. Vaccines can help prevent serious diseases. There are vaccines specifically recommended for preteens. Don't wait— make their next doctor's appointment today. [#PreteenVax](#)
- Shots are not just for babies. Preteen Vaccine Week, February 8-14, is a reminder that 11- and 12-year-olds need shots too. Talk to your preteen's doctor about recommended vaccines today. [#PreteenVax](#)

**Sample Tweets**

Here are sample Twitter messages. Remember the 140 character limit! Consider using 120 characters or less to allow room for a shortened URL and hashtag ([#PreteenVax](#)).

- Shots don't end at kindergarten. Make sure your 11- or 12-year-old gets the recommended shots. [#PreteenVax](#)
- You can't protect your preteens from everything, but you can help protect them from infectious diseases. [#PreteenVax](#)
- 27,000 U.S. women and men get cancer from HPV each year. HPV vaccine is cancer prevention. [#PreteenVax](#)
- More throat and mouth cancers are caused by HPV than smoking - Vaccinate your 11- and 12-year-olds TODAY. [#PreteenVax](#)
- Protect your preteen against cancer with HPV vaccine before they can become infected. [#PreteenVax](#)
- HPV vaccine is cancer prevention. Protect your kids today. [#PreteenVax](#)
- 1 person every 20 minutes is diagnosed with an HPV-associated cancer in the US. HPV vaccine is cancer prevention. [#PreteenVax](#)

## Appendix G

**Evaluating the effectiveness of a written vaccine recommendation in improving immunization rates against pertussis in third trimester pregnant women: Evaluation plan for October – November 2014****Prepared by: Jane Pezua and Vaisali Patel****California Department of Public Health – Immunization Branch****Introduction**

In California, children less than three months of age have the highest rate of pertussis-related complications and mortality than other age groups. These infants are too young to have completed the primary series of pertussis vaccine; many too young to have even received one dose of vaccine.

Prior studies have shown parents, most often the mother, are a common source of pertussis infection to young infants. The Advisory Committee on Immunization Practices and the American College of Obstetricians and Gynecologists recommend that all women be vaccinated with pertussis-containing vaccine (Tdap) during the third trimester of each pregnancy, regardless of whether they have ever received the vaccine previously; however estimates of uptake of Tdap vaccine among pregnant women are low (below 30%).

**Evaluation Goals**

The goal of this evaluation is to assess the impact of a written vaccine recommendation on pertussis immunization receipt by comparing the immunization rates of third trimester pregnant women in the intervention group using the written recommendation against that of the control group using only a verbal recommendation/historic data. We plan to use the findings to determine continued use of the material being evaluated and inform future development of other materials. Results may be shared with other state partners to help promote the use of the material being evaluated if proven effective at increasing pertussis immunization rates among pregnant women.

**Evaluation Team**

Our team consists of members of the Immunization Branch at the California Department of Public Health.

**Table 1. Roles and responsibilities of the evaluation team members**

Individual	Title/Role	Responsibility
Jane Pezua	Principal Investigator (PI)	<ul style="list-style-type: none"> <li>• Application for Determination for Exempt Research to CPHS</li> <li>• Recruitment</li> <li>• Training</li> <li>• Qualitative survey design and analysis</li> <li>• Packaging and mailing of participant packets</li> <li>• Data Collection</li> <li>• Consultation with EHR/EMR representatives</li> <li>• Screening of evaluation study participant applicants</li> <li>• Oversight of all evaluation activities to ensure the evaluation is conducted as planned</li> <li>• Coordinate team meetings</li> <li>• Presentation of findings</li> </ul>
Vaisali Patel	Research Coordinator (RC)	<ul style="list-style-type: none"> <li>• Application for Determination for Exempt Research to CPHS</li> <li>• Recruitment</li> <li>• Packaging and mailing of participants packets</li> <li>• Data Collection</li> <li>• Analyze quantitative data</li> <li>• Ensure implementation of findings</li> </ul>
Steven Smith	Research Coordinator (RC)	<ul style="list-style-type: none"> <li>• Data collection</li> <li>• Analyze quantitative data</li> <li>• Coordinate the analysis of qualitative data</li> <li>• Ensure implementation of findings</li> </ul>

## **I. BACKGROUND AND DESCRIPTION OF THE IMPACT STUDY AND LOGIC MODEL**

**Need**

A pertussis epidemic has been declared in the state of California in 2014. Pertussis infection acquired within the first 3 months of life is frequently severe and fatal. Recently, three infants have died and many more have been hospitalized. Previous studies have found mothers to be a common source of pertussis infection in young infants. With a pertussis epidemic declared and evidence of waning immunity within two years after vaccination with Tdap, immunization of pregnant women is disappointingly uncommon: a survey of women delivering in California hospitals in October 2013 indicated that only 20-25% received Tdap during pregnancy. Prenatal care providers play an important role in preventing additional infant deaths due to pertussis.

As a standard of care, ACOG, ACNM, CDC, and CDPH strongly recommend that all pregnant women receive Tdap vaccine between 27 and 36 weeks gestation during every pregnancy, regardless of the number of doses of Tdap they have previously received. Of the infant pertussis cases reported so far this year (including fatal and hospitalized cases), at least 91% of their mothers had not received Tdap at the optimal time.

**Target Population**

The target population for this impact study is pregnant women who were seen by an obstetrician at a participating practice during the third trimester of pregnancy, however only aggregated totals of the number of patients presenting for a third trimester appointment and number reporting receipt of Tdap vaccine on a follow-up visit will be reported to CDPH.

**Objectives**

The goal of providing prenatal care providers with a Tdap prescription pad is to help providers communicate a strong recommendation to pregnant women thereby increasing the number of women receiving the Tdap vaccination during their third trimester of pregnancy. In order to achieve this overarching goal, objectives were identified for the impact study.

1. There will be an increase of Tdap immunization rates in the intervention group compared to the control group.
2. More women in their 3<sup>rd</sup> trimester of pregnancy will receive the Tdap vaccine compared to baseline data.
3. 50% of OB providers will agree the Tdap prescription pad aided them in providing a strong recommendation for women to receive the Tdap vaccine in their 3<sup>rd</sup> trimester of pregnancy.

**Stage of Development**

The Tdap prescription pad was developed by the Immunization Branch in 2014. It has been made available to providers for use in August, 2014.

**Resources/Inputs**

Immunization Branch staff and interns (Principal Investigator and two Research Coordinators), OB physicians, nurses, MAs, office managers, third trimester pregnant women, EHR/EMR systems and data, Tdap prescription pad, EHR system representative, funds for distribution of mailers, Tap vaccine, and qualitative surveys of OBs.

**Outputs**

Print supply of Tdap prescription pads for participating OBs, training of relevant staff at participating clinics, prescribing of Tdap using the Tdap prescription pad by OBs for 3<sup>rd</sup> trimester pregnant women, receipt of Tdap by 3<sup>rd</sup> trimester pregnant women, reporting of EHR/EMR generated data to PI and RCs, analysis of aggregate data, completion of qualitative survey by OBs

**Outcomes**

A short outcome is to emphasize importance of Tdap in 3<sup>rd</sup> trimester pregnant women to OBs. Intermediate outcomes include: increase vaccination rates of 3<sup>rd</sup> trimester pregnant women and use evaluation results to determine future promotion of Tdap prescription pad by CDPH. Long term outcomes include: decrease incidence of pertussis infection in mothers of infants too young to be vaccinated, decrease incidence of pertussis infection in infants too young to be vaccinated, and improve effectiveness of Tdap recommendation by OBs to 3<sup>rd</sup> trimester pregnant women.

**Logic Model**

Please refer to the Logic Model at the end of the document.

**II. FOCUS OF EVALUATION****Evaluation questions**

Although the evaluation team produced many questions in a brainstorming session, the evaluation team arranged the following questions as representing the most important for this impact study.

To determine if the intervention has been implemented as planned:

- Have an appropriate number of OB providers been recruited to participate in this study?

To determine if the study is meeting its objectives:



- Are OB providers adhering to the utilization of the Tdap prescription pad when consulting with women in their third trimester of pregnancy?
- Are OB providers stressing the importance of being vaccinated with Tdap in the third trimester of pregnancy to prevent pertussis infection in infants?

**Evaluation Design**

Intervention/control group; analysis of aggregate data. OR intervention group; analysis of pre and post-intervention data.

**III. GATHERING CREDIBLE EVIDENCE: DATA COLLECTION**

**Data Collection**

The evaluation utilizes the following data collection: quantitative aggregate data from EHR/EMR generated reports on number of third trimester women seen by participating OB providers and number who later receive Tdap vaccine and qualitative survey administered to participating OB providers via internet survey (i.e., SurveyMonkey). Table 2 summarizes the data source and data collection methodology that will be used to gather evidence for the evaluation.

**Table 2. Data Collection Plan**

Indicator	Data Source	Data Collection Method
Number of women who received the Tdap vaccine after receiving a prescription	Aggregate data from EHR/EMR system generated reports	Review submitted reports from participating OB providers on Tdap immunization of 3 <sup>rd</sup> trimester pregnant women <ul style="list-style-type: none"> <li>• Jane Pezua and Vaisali Patel</li> <li>• TBA</li> </ul>
Qualitative survey administered to OB providers	Internet survey (SurveyMonkey)	Review questions asked and responses received from participants <ul style="list-style-type: none"> <li>• Jane Pezua &amp; Vaisali Patel</li> <li>• TBA</li> </ul>

**Plan Timeline**

**Table 3. Illustrative Timeline for Evaluation Activities**

Evaluation Activities	Timing of Activities for Sep. – Dec. 2014			
	Sep	Oct	Nov	Dec
Evaluation planning	+			
Data collection		+	+	
Analysis/interpretation			+	
Report/dissemination				+

**IV. JUSTIFY CONCLUSIONS: ANALYSIS AND INTERPRETATION**

**Analysis**

We will conduct an observational study to compare the frequency of immunization receipt in the group offered the prescription pads and the group given only verbal recommendation to vaccinate. We will use Statistical Analysis System to examine the bivariate relationship between the two groups. Categorical data will be analyzed for significance using a Chi-square test and Fisher’s exact test.

It is important to remember that data from all observational studies require attention to reduce possibility of bias and confounding, given self-selection for vaccination and the influence of health-seeking behavior.

**Table 4. Analysis Plan**

Data Analysis Technique	Responsible Person
Quantitative – frequency/counts	Jane Pezua and Vaisali Patel
Qualitative – content analysis	Jane Pezua, Vaisali Patel and Steven Smith

**Interpretation**

The PI and the two RCs will be in charge of interpreting the findings. The data from the evaluation will be compared to the statewide average rates of 3<sup>rd</sup> trimester women who receive the Tdap vaccine.

**V. ENSURE USE AND SHARE INFORMATION: REPORT AND DISSEMINATION**

**Dissemination**

Evaluation findings will be disseminated through various routes. Findings will be presented to the Health Educator Supervisor and Chief of the Information and Education Section of the Immunization Branch. A summary of findings will be published in the quarterly Immunization Branch newsletter. The report will be available to the Information and Education staff, different sections of the Immunization Branch, and participating practices and physicians.

**Table 5. Dissemination Plan**

Dissemination Medium	Responsible Person
Presentation to Health Educator Supervisor and Section Chief, Information and Education Section, Immunization Branch, CDPH	Jane Pezua
Report of findings provided to the Information and Education staff, different sections of the Immunization Branch, and participating practices and physicians	Jane Pezua, Vaisali Patel, and Steven Smith
Article in quarterly Immunization Branch Newsletter	Jane Pezua and Vaisali Patel

### Use

The findings from this study will help the Immunization Branch at the CDPH understand how to better campaign for Tdap immunization of 3<sup>rd</sup> trimester pregnant women. OB providers will use the finding to improve patient adherence to recommended vaccinations. Providers will see an increase in Tdap immunization rates and will use the prescription pad strategy as a means for effective recommendation of the vaccine. Ultimately, the findings from this evaluation will be used for future evaluations.

LOGIC MODEL

**Program: Evaluating the effectiveness of a written vaccine recommendation in improving immunization rates against pertussis in third trimester pregnant women**

**Situation: Statewide efforts to prevent pertussis infection in infants during pertussis epidemic**

Inputs	Outputs		Outcomes -- Impact		
	Activities	Participation	Short	Medium	Long
<ul style="list-style-type: none"> <li>• IZ Branch staff and interns (PI, 2 RCs)</li> <li>• OB physicians, nurses/MAs, office managers</li> <li>• 3<sup>rd</sup> trimester pregnant women</li> <li>• EHR/EMR systems and data</li> <li>• Tdap prescription pad</li> <li>• EHR system representative</li> <li>• Funds for distribution of mailers</li> <li>• Tdap vaccine</li> <li>• Qualitative survey of OBs</li> </ul>	<ul style="list-style-type: none"> <li>• Print supply of Tdap prescription pads for participating OBs</li> <li>• Training of relevant staff at participating clinics</li> <li>• Prescribing of Tdap using the Tdap prescription pad by OBs for 3<sup>rd</sup> trimester pregnant women</li> <li>• Receipt of Tdap by 3<sup>rd</sup> trimester pregnant women</li> <li>• Reporting of EHR/EMR generated data to PI and RCs</li> <li>• Analysis of aggregate data</li> <li>• Completion of qualitative survey by OBs</li> </ul>	<ul style="list-style-type: none"> <li>• 3<sup>rd</sup> trimester women</li> <li>• OB physicians</li> <li>• Nurses/MAs</li> <li>• Office managers</li> </ul>	<ul style="list-style-type: none"> <li>• Emphasize importance of Tdap in 3<sup>rd</sup> trimester pregnant women to OBs</li> </ul>	<ul style="list-style-type: none"> <li>• Increase vaccination rates of 3<sup>rd</sup> trimester pregnant women</li> <li>• Use evaluation results to determine future promotion of Tdap prescription pad by CDPH</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease incidence of pertussis infection in mothers of infants too young to be vaccinated</li> <li>• Decrease incidence of pertussis infection in infants too young to be vaccinated</li> <li>• Improve effectiveness of Tdap recommendation by OBs to 3<sup>rd</sup> trimester pregnant women</li> </ul>

**Assumptions**

Utilization of Tdap prescription pad by OBs with 3<sup>rd</sup> trimester pregnant women will result in higher immunization rates than a verbal recommendation alone.  
 OBs will provide Tdap prescription to every 3<sup>rd</sup> trimester pregnant woman seen during intervention period.

**External Factors**

Inconsistent use of Tdap prescription pad  
 Influence of media coverage of pertussis epidemic on 3<sup>rd</sup> trimester pregnant women's decision to get vaccinated  
 Loss of Tdap prescription by 3<sup>rd</sup> trimester pregnant woman

Appendix F

Vaccines	What this means for YOU
<b>Tdap</b> (tetanus, diphtheria, whooping cough) tetanus, diphtheria 1 dose	Tdap protects against 3 diseases, including whooping cough, a disease that can lead to really bad coughing for weeks or even months. Some people may even break their ribs from coughing too hard! You may have already received this vaccine before starting the 2011 school year. Check with your doc!
<b>Meningococcal</b> meningococcal 2 doses	Meningitis is spread by kissing, sharing drinks, or by having close contact with others. This disease can be deadly and could cause you to lose an arm or leg, have hearing loss, or suffer brain damage. The shot can protect you from several types of this serious infection. College students living in campus housing are also at higher risk for this disease. If you didn't get your shot at age 16, make sure to get it before you graduate!
<b>Flu</b> 1 dose every year	Even if you're healthy, flu vaccine is very important. The flu is not a cold. It can send even healthy teens to the hospital; some may even die from flu. The flu vaccine is the best way to lower your chances of getting flu and spreading it to friends and family.
<b>Human Papillomavirus (HPV)</b> papar-to-mah-vir-tes 3 doses	Did you know that more than half of all men and women will catch HPV at some point in their life? This vaccine series can protect guys and girls from common types of HPV known to cause warts on the penis, vagina, and other genital areas as well as cancer of the throat and mouth, cervix (opening to the uterus), vagina, vulva, penis, and anus later in life. It takes 6 months to complete this 3-shot series, so start now!
<b>Chickenpox (Varicella)</b> 2 doses	Chickenpox is usually worse for teens than for little kids. If you've never had chickenpox, make sure you received 2 doses. Some teens have only received one.

Many colleges require shots, including Hepatitis B and MMR (measles mumps, and rubella).  
 Graduating high school is an exciting time, but it is also time to **take charge of your health.**

Talk to your doctor about getting these vaccines today!  
 Want to know more? Visit [www.shotsforschool.org/college/](http://www.shotsforschool.org/college/)

Updated high school flyer

Vaccines	What this means for YOU
<b>Tdap</b> (tetanus, diphtheria, whooping cough) tetanus, diphtheria 1 dose	Tdap protects against 3 diseases, including whooping cough, a disease that can lead to really bad coughing for weeks or even months. Some people may even break their ribs from coughing too hard! You may have already received this vaccine before starting 7 <sup>th</sup> grade. Check with your doc!
<b>Meningococcal</b> meningococcal 2 doses	Meningitis is spread by kissing, sharing drinks, or by having close contact with others. This disease can be deadly and could cause you to lose an arm or leg, have hearing loss, or suffer brain damage. The shot can protect you from several types of this serious infection. You need one shot at age 11 or 12 and another at age 16.
<b>Flu</b> 1 dose every year	Even if you're healthy, flu vaccine is very important. The flu is not a cold. It can send even healthy teens to the hospital; some may even die from the flu. The flu vaccine is the best way to lower your chances of getting flu and spreading it to friends and family.
<b>Human Papillomavirus (HPV)</b> papar-to-mah-vir-tes 3 doses	Did you know that more than half of all men and women will catch HPV at some point in their life? This vaccine series can protect guys and girls from common types of HPV known to cause some types of cancer.
<b>Chickenpox (Varicella)</b> 2 doses	Chickenpox is usually worse for teens than for little kids. If you've never had chickenpox, make sure you received 2 doses. Some teens have only received one.

Be sure to ask your doctor about which vaccines you need!  
 Being a teenager is more than doing well in school, playing sports or hanging out with your friends; it's also about taking charge of **your health.**

Talk to your parent or guardian about getting these vaccines today!

Updated 8<sup>th</sup> grade flyer

## Appendix I

**Background Questionnaire**

Your initials: \_\_\_\_\_ Date \_\_\_\_\_

Please answer all of the questions below. Your answers are confidential and will be used for research purposes only. Your initials will not appear in any reports.

1. **What is your age?** \_\_\_\_\_
  
2. **Your gender?**  Male  Female
  
3. **What best describes your racial/ethnic identity?**  
 White (Non-Latino)  Asian  
 Black  Latino  
 Pacific Islander  Mixed Race  
 Other \_\_\_\_\_
  
4. **How much do you agree with the following statement? Vaccines are safe and effective.**  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
  
5. **Which of the following shots are recommended before you graduate?**  
 Tdap  Meningococcal  Flu  HPV  All of these  
(whooping cough) (human papillomavirus)
  
6. **Who do you think is at risk for getting a vaccine-preventable disease?**
  
7. **How much do you agree with the following statement? Do you believe YOU are at risk for getting a vaccine-preventable disease?**  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

8. **What shots have you received?**

- Tdap       Meningococcal       HPV       None of these       Not sure

(whooping cough)

(human papillomavirus)

9. **What have you heard about any of these shots?**

10. **On a scale of 1 to 5** (*1 = not at all important to 5 = critically important*)

How important do you think it is for you to protect yourself from vaccine-preventable diseases by getting the recommended shots?

**1                      2                      3                      4                      5**

**Not Important**

**Critically Important**

11. **On a scale of 1 to 5**, (*1 = not at all important to 5 = critically important*)

How likely is it that you will ask your parents/guardians and doctor about getting the recommended shots before you graduate?

**1                      2                      3                      4                      5**

**Not Important**

**Critically Important**





Appendix J

Please take a look at the [September Planning Call](http://bit.do/SeptemberPlanningCall) slides (<http://bit.do/SeptemberPlanningCall>) for information regarding evaluation and metrics from guest speakers from the CDC.

## Appendix K

## Student Preceptor Agreement

<b>Goal 1: General familiarization with the Immunization Branch of the California Department of Public Health (CDPH)</b>				
<b>Objective(s)</b>	<b>Activities</b>	<b>Start/End Date</b>	<b>Who is Responsible</b>	<b>Tracking Measures</b>
Learn the daily activities of the I&E section and the different roles of each staff member.	Complete orientation training. Review all websites and materials of Immunization Branch.	August 25, 2014 – September 5, 2014	Vaisali Patel and Jane Pezua	Jane will give Vaisali a rundown on the I&E section, introduce Vaisali to different staff, and provide trainings.
Observe how the Information and Education (I&E) section develops training, education and communication to providers, the general public, local health departments, partner organizations, and schools, and become a contributing member.	Collaborate with various staff members as materials are designed, tested, revised, and sent through the approvals process. Participate in I&E health education team meetings.	August 26, 2014 – November 26, 2014	Vasali Patel and Jane Pezua	Jane will include Vaisali in all of the meetings and assign Vaisali to work on specific projects.
Expand knowledge of public health related topics.	Attend CDPH-Richmond lectures. Familiarization of federal and state immunization programs and policies.	August 25, 2014 – November 26, 2014	Vaisali Patel	Vaisali will attend all relevant lectures and seminars presented at the CDPH and will, through her assignment to various projects, research federal and state immunization programs and the vaccine policy process.

<b>Goal 2: Goal: Participate in Planning of Preteen Vaccine Week Campaign 2015, an immunization informing campaign</b>				
<b>Objective(s)</b>	<b>Activities</b>	<b>Start/End Date</b>	<b>Who is Responsible</b>	<b>Tracking Measures</b>
Learn principles of social marketing campaigns.	Participate in planning, design, implementation and evaluation of statewide campaign.	August 20, 2014 – November 26, 2014	Vaisali Patel and Jane Pezua	Jane and Vaisali will work together to create the campaign materials for Preteen Vaccine Week 2015; focusing on the HPV vaccine.
Assist in the execution of statewide planning calls.	Participate in planning stages and execution of statewide conference calls.	August 20, 2014 – November 26, 2014	Vasali Patel and Jane Pezua	Jane will include Vaisali in the conference calls.
Prepare promotional materials to accompany campaign.	Track and evaluate through materials created: Online/print materials, E-blasts, template materials, new media.	August 26, 2014 – November 26, 2014	Vaisali Patel and Jane Pezua	Vaisali will help Jane create educational material for Preteen Vaccine Week 2015. Jane and Vaisali will evaluate new materials and revise as necessary.

<b>Goal 3: Goal: Conduct Impact Evaluation of Education Material</b>				
<b>Objective(s)</b>	<b>Activities</b>	<b>Start/End Date</b>	<b>Who is Responsible</b>	<b>Tracking Measures</b>
Learn how the Immunization Branch responds to vaccine preventable disease-epidemics (pertussis) and outbreaks.	Review data, publications, and materials relevant to Immunization Branch's tracking of and response to pertussis epidemic 2014.	September 2, 2014 – November 26, 2014	Vaisali Patel and Jane Pezua	Jane will provide Vaisali with data and materials to review on the pertussis epidemic in 2014.
Coordinate with other interns and IZ Branch Staff on a project testing the impact of a recently develop I&E material.	Design evaluation model and methodology. Recruit and train participants at health clinics.	September 2, 2014 – November 26, 2014	Vasali Patel and Jane Pezua	Vaisali will work with Jane to design evaluation model and help recruit and train participants in health clinics in Los Angeles county.

<b>Goal 4: Goal: Participate in maintenance of a TBD immunization informing campaign</b>				
<b>Objective(s)</b>	<b>Activities</b>	<b>Start/End Date</b>	<b>Who is Responsible</b>	<b>Tracking Measures</b>
Assist in the design and promotion of materials promoting immunization.	Create educational material such as banners and posters related to the promotion of immunization.	September 2, 2014 – October 3, 2014	Rebeca Boyte, MAS (Health Education Supervisor) and Vaisali Patel	Vaisali will work with Rebeca to revise and update educational material for the assigned campaign.