

# **Acepta el reto, ¡Vacúnate!**

(Accept the challenge: get vaccinated!)

*Increasing pneumococcal and influenza vaccine coverage among the adult population in Puerto Rico*

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## **Overall Goals and Objectives**

The overall goal of our initiative is to modify and sustain health behavior through comprehensive, sustainable partnerships and interventions in order to increase immunization outreach, education and access in Puerto Rico (PR), leading to improved pneumococcal and influenza vaccine coverage rates among the 65+ population.

To accomplish these goals, the proposed initiatives will build upon existing successes of outreach programs already started by VOCES and through working with community organizations and health care systems/professionals on the Island. Together we will develop, implement and evaluate the efficacy of four different interventions, aiming to increase pneumococcal and influenza vaccines rates in the adult population of Puerto Rico.

Our key objectives are the following:

- Assess and strengthen Pneumococcal and Influenza standing order system in order to improve vaccination coverage
- Develop capacity among health care providers and non-physician clinicians to modify health behaviors and increase education
- Provide vaccinations in healthcare settings to increase access
- Develop a culturally appropriate adult vaccination campaign to increase education and outreach

A further long-term goal of our initiative would be to develop a culturally and linguistically validated evidence based manual. The objective would be that this toolkit would enable the structure and action of our plans to be portable to other method-based healthcare initiatives. We feel we are uniquely placed to offer dynamic new resources to an under-served section of the population; Spanish speakers. All of our documentation will be produced in Spanish as well as English and will be made available both within emerging Spanish speaking communities in the US but also throughout the Caribbean and other resource limited populations worldwide. VOCES is an energetic member of the Immunization Action Coalition whose members actively disseminate shared resources towards a common goal. A comprehensive, bi-lingual toolkit based on our intervention will provide unique and innovative resources to many. If this intervention is successful, this type of initiative could also be implemented within the 19 to 64 year old adult population.

An initial qualitative inquiry will identify important cultural and socio-demographic factors influencing vaccination. While literature documenting both personal and environmental factors influencing this behavior among Hispanics does exist, there is little information available for the Puerto Rican population. It is crucial to better understand these target behaviors within the context of the cultural, economic, and societal realities of the Island. We will help ensure that all activities carried out are relevant and well suited to community needs and capacity and that these efforts will be maintained over time. Lessons learned from the activities proposed also will contribute to the knowledge base literature in the area of community based practices, practice-based health promotion, and community dissemination and implementation. We will

establish and maintain long-term comprehensive and sustainable partnerships in which communities and implementers, working together, can draw on collective experience to address the burden of low rates of immunization in PR and beyond.

## **Technical Approach**

### **Current Assessment of need in target area**

Low local coverage rates establish a need for an intervention targeting the 65+ adult populations in Puerto Rico through a combination of evidence-based strategies. Data collected from the 2011 Behavioral Risk Factor Surveillance System (BRFSS) demonstrates that *Puerto Rico has the lowest pneumococcal and influenza coverage rates of all the states and territories among this age group*. Pneumococcal vaccine coverage among Puerto Ricans was 22.9% compared to 70% in the continental U.S., while influenza vaccine coverage in Puerto Rico was 28.6% compared to 61.3% nationwide.<sup>1 2</sup> Healthy People 2020 target rates for people aged 65+ for both vaccines are 90%.<sup>3</sup>

Puerto Rico is currently facing an influenza emergency. Between August 7 2014 and October 13 2014, there have been 14 confirmed influenza related deaths, 7 of which have occurred in the 65+ adult population.<sup>4</sup> Although this situation has created an unprecedented demand for influenza vaccination on the island and an increased general awareness among residents, it has not solved any of the ongoing issues regarding access and specific education.<sup>5</sup>

The primary target audience for these interventions will be people aged 65+ and health providers and organizations serving this population in Puerto Rico. The 65+ population will benefit from these programs as vaccine education will be improved, vaccination coverage increased, spread of disease prevented and overall healthcare costs reduced. Our secondary target audience, health care providers, will specifically benefit through increased knowledge of vaccinations and a decreased burden of treating sick patients. Studies indicate that when health care providers provide information on the influenza vaccine, are consulted about it and/or are actively involved in the vaccination decision among adult/elderly patients, each resulted in a significantly higher rate of immunization.<sup>6</sup>

Our third target audience for these interventions will be adult, family member caregivers who are increasingly making healthcare decisions for the 65+ population. Increasing knowledge of and access to vaccinations for both the 65+ population and their families will ensure that we reach the greatest number of health care decision makers as possible.

### **Intervention Design and Methods**

The Community Preventive Services Task Force finds a median vaccine coverage increase of 16% when implementing health care system-based interventions in combination with other

strategies.<sup>7</sup> We plan to conduct four interventions, utilizing three different strategies: interventions directed at health care providers or systems; interventions to increase demand for vaccinations; interventions to enhance access.

We will also plan to continue the use of community-based participatory (CBP) approaches among our strategies that build upon existing outreach networks to accomplish our specific aims. CBP involves more than the placement of an intervention within a community. Instead, it is an equitable partnership between the community and the implementers, wherein the community participates and helps guide the intervention. The community plays an active part in defining the problem, choosing intervention approaches, determining/approving the intervention final design, collecting, analyzing, and interpreting the data, and disseminating findings. This approach ensures that the needs, interests, and values of the community are reflected, and it improves the likelihood of dissemination and sustainability.<sup>89</sup> Our current initiative staff has CBP experience with Hispanic populations and will ensure that program activities are grounded in CBP methodology and practices. Our plan to utilize retired healthcare professionals as peer counselors will help ensure this synergy between the community and the intervention as our facilitators will come from and be invested in, the very communities we are attempting to serve.

### **Strategy: Interventions directed at vaccination providers or systems**

- Intervention #1: Assess and Strengthen the Existing Standing Orders System

Standing orders for vaccinations are recommended based on strong evidence of effectiveness in improving vaccination coverage in adults across a range of settings.<sup>10</sup> This intervention will assess and strengthen the current influenza and pneumococcal standing order system for patients aged 65+. In order to improve vaccination rates, the Joint Commission and the Centers for Medicaid and Medicare Services (CMS) mandated hospital reporting of both pneumococcal and influenza immunizations for all hospital admissions.<sup>11</sup> This requirement is neither standardized nor universally implemented in Puerto Rico.

In order to enhance compliance with standing orders in PR we will develop new collaborations with key partners during the first period of the initiative funding. VOCES already has established collaborations with the Department of Health as well as several hospitals and elder care facilities that will facilitate expansion in these areas.

We will conduct a baseline assessment of needs and resources at a selected sample of hospitals, to determine effectiveness and compliance with present standing orders, if existent. We will then work with staff to develop strategies to either implement or strengthen the current standing order system. Utilizing best practices developed during this intervention, and in collaboration with the Puerto Rican Department of Health and local medical associations, we plan to standardize standing orders for hospitals, expanding them to pharmacies and eldercare facilities, in order to facilitate greater vaccine access and administration for this age group.

To help hospital, pharmacy and eldercare staff implement the standing order system, we will use the Community Assessment Process (CAP) methodology. The CAP includes semi-structured interviews with key community members, informal ethnographic observation, and open-textured, conversational interviews with members of the target research group. A study of community capacity (In this case our communities are the selected facilities for the intervention), resources, and strengths are also critical parts of such an assessment and ensure that the facilities' unique characteristics and ability to plan its own interventions are considered, when developing their strategy to implement this initiative.

We will conduct 4 in-depth interviews with facility leaders to identify the characteristics of programs they feel would enhance compliance with standing orders on the Island and the perceived barriers for the implementation and success of these programs. We will also conduct in-depth interviews with five providers. The purpose of these interviews is to obtain information about provider perspectives on the target behaviors, their practices in terms of recommending vaccination and their willingness to use provider-based strategies for increasing vaccination (e.g. reminder systems). We also will visit various facilities in order to make observations regarding systems-level factors that might potentially facilitate or inhibit regular participation in vaccination standing orders implementation.

Participating facilities will be recruited from the 84 hospitals in PR via invitation to complete an assessment survey. An email invitation will be sent as well as a direct phone call to hospital management. Interested hospitals will complete an online survey or call a number where initiative staff will collect contact information and send the survey by email. On completion of the survey, participating hospitals will be called to arrange an appointment for the in-depth interviews.

We intend to initiate a full assessment process as well as offer ongoing technical support and advice. Our initial review structure will include monthly calls to review the success of the program and to make recommendations based on intervention wide learned experiences. We will also conduct regular 'round table' conference calls with multiple facilities to enable a sharing of experiences and solutions. Continuing rates of compliance will be examined every 6 months via sample chart review.

- Intervention #2: Develop capacity among health care providers and non-physician clinicians to implement and sustain culturally competent vaccination outreach and education interventions.

Our second strategy to affect change in the adult population of PR is to engage health care provider organizations to promote and deliver vaccination promotion interventions. We plan to provide education to providers so they can in turn communicate this information to their patients, strengthening their commitment to promoting vaccinations and to utilizing standing orders. Additional education will be provided through medical conferences, meetings and webinars, collaborating with the Puerto Rican Department of Health and local medical associations.

We believe that we will have the greatest impact by working with providers and existing provider organizations, rather than delivering interventions directly to the general population. Our interventions working with provider and/or health care organizations will center on training the health care providers to assess patient vaccination non-compliance; advise on vaccination protocols; educate patients, and recommend and refer to or perform vaccination.

We intend to adopt two different techniques during the implementation of our intervention. 1. Self-Initiated groups (SI), where participants will receive self-help written materials and referral to immunization services. 2. Community outreach Counselor Initiated Groups (COI), where participants (organizations and individuals) will receive counseling sessions aimed at establishing a system in their own organizations to connect them with the available immunization services.

We will convene and support a network of 30 hospitals out of the 80 on the Island and their providers (15 hospitals with COE intervention and 15 with the SI intervention). Additionally, we will engage our intervention with providers from nursing homes and pharmacies around the island. We want to mobilize them to engage in vaccination efforts, and we will assist half of them in adapting and implementing evidence-based approaches to fit the communities they serve and the other half will be using self-help materials to promote vaccination. We will continue this approach with activities that are based on principles of community-based participatory action.

The core activities (training and technical assistance for providers) are designed to increase network capacity to deliver effective, culturally appropriate, and evidence-based vaccination interventions and enhance access to services. Mobilizing and building capacity in existing organizations will increase the potential for sustained community action far beyond the timeframe of this initiative if granted.

### **Strategy: Interventions to enhance access to vaccination services**

- Intervention #3: Expanding Access in Healthcare Settings (Eldercare facilities)

This intervention will expand vaccine access by providing vaccination services in both public and private eldercare facilities. Currently, vaccines are not regularly offered in these facilities. This program will work with facility staff and patient families to increase knowledge about the benefits of increased vaccination of people aged 65+ and increase the demand for vaccinations in these settings. In partnership with public/private vaccine providers, we will administer vaccinations on site, thus alleviating the distance, time and costs for patients to receive these vital immunizations.

The first task will be to develop educational seminars for patients, families, medical and administrative staff in selected eldercare facilities. The purpose is to educate the participants about influenza and pneumonia. Through education, we will increase disease knowledge and positively impact patient decisions about whether to be vaccinated or not.

The design and method of this intervention will begin with identifying participating eldercare homes and conducting educational seminars as follows:

- Identify 30 Elderly Homes with a minimum of 25 patients
- 1st visit – Present and discuss the program with management.
- 2nd visit – Provide survey to participants to measure knowledge about diseases and vaccination. Assess results.
- 3rd visit – Provide educational platform and orientation to patients, families, medical and administrative staff. At the end of the educational presentation, the participants will receive a survey to evaluate knowledge of diseases and vaccination.

Upon the completion of the first part of this intervention, it will be determined if a 4<sup>th</sup> visit is needed to provide on-site vaccination services to eligible participants. In order to conduct the on-site vaccination clinic, we will contact and partner with previously selected healthcare providers. In this instance, we will also use an eldercare facility control group (15 homes) who will receive the education but not the on-site vaccination services.

The existence of our control groups will help us to determine if solely providing education motivates patients to seek vaccination services or if delivering on-site vaccination services increase vaccination rates. Pre and post educational seminar surveys will be used to measure knowledge about disease before and after the intervention.

### **Strategy: Interventions to increase community demand for vaccinations**

- Intervention #4: Patient Education for Adults 65+

We intend to develop an adult patient education and outreach program, using culturally appropriate messages and innovative strategies. Currently, most vaccination education programs on the island target children and adolescents. We will target patients at hospitals, pharmacies and eldercare facilities, utilizing retired healthcare professionals as peer counselors and developing interactive educational tools. On a larger scale, we will run a full media campaign in print, on radio and with billboards, supported by a full media tour of the island. While vaccine education information is abundant on-line, adults 65+ do not greatly utilize the internet; we will also establish a 1-800 number to refer patients and answer any vaccination-related questions.

According to the 2010 census, the population of adults aged 65+ in Puerto Rico represents 14.5% of the overall population (541,998 people).<sup>12</sup> Taking into consideration population density, we hope to initially impact 25% of the older adult population and expand the programs in 2015 to further areas.

In order to facilitate the completion of this intervention, we will perform a sample market research analysis within the 65+ population to study the following issues: key drivers that motivate this population to be interested in healthcare; vaccine-preventable disease

knowledge; general interest in health related issues; type of health care plan; healthcare facility preferences. Market research findings will help guide us in the development of our educational and media campaigns.

We also intend to develop educational tools and resources for family members of adults aged 65+ in eldercare facilities. Increasingly the children of adults 65+ are making health care decisions for their parents. Any intervention must include the inclusion of this population to help reach as wide a population as possible.

We will also develop a tactical program to target specific community groups who are an integral part of our target audience. From these groups we intend to recruit peer counselors who, after appropriate training and with the correct tools, are best placed to educate and advise their friends and colleagues. We will provide them with dedicated training and feedback as well as offering a full evaluation and feedback initiative. During our initial research and development phase of this intervention, we will identify and contact a whole host of likely partners and organizations. Examples of such groups on the island of Puerto Rico include 'Caminantes de Plaza las Americas', 'Club de Leones de PR', 'Club de Rotarios', 'AARP', 'Grupos de Caminantes de Comunicades Especiales'.

It is also our stated intention to provide the entire island with a Vaccine Education Information Phone line, available year round, which will offer information, advice and guidance to adults 65+ as well as their family members, providers and caregivers. We will hire and train a volunteer staff of retired health care professionals, managed by a part-time coordinator, to facilitate the daily operation of this helpline. We will use our media campaign to promote the helpline and will review both its effectiveness and volume on an ongoing basis.

We also plan to add more relevant information aimed at our target audience and their families to our existing VOCES website ([www.vocespr.org](http://www.vocespr.org)). Although as we previously acknowledged, internet use among people aged +65 plus may not be extensive, more and more adults are using the internet as a resource and we expect our website to continue to reflect the very latest information available including details on access to providers and general vaccine information.

### **Evaluation Design**

For interventions 1-3, a data collection team will collect and analyze vaccination rates pre- and post- implementation of the interventions at each program site. The pre-intervention results will serve as our baseline data. Depending on the site structure and resources, we will either use a manual or computerized review of records, assessing patient histories and/or billing information to determine vaccination status. The chart review sample size will be statistically determined by the client population of the site. We will conduct identical pre- and post-vaccination rate collection and analysis in a selection of facilities not involved in our intervention, which will serve as our control. Intervention 4 outcomes will be measured by pre- and post-intervention Knowledge, Attitudes and Practices (KAP) surveys. Long term impact will

be measured through local coverage studies, registry statistics and yearly BRFSS results. Based on The Community Preventive Services Task Force findings, we would expect to see an increase of at least 16% in vaccination rates among our target groups.<sup>13</sup>

In order to measure target audience engagement, we plan to create and utilize mixed method evaluation strategies (observational, qualitative and quantitative approaches) to assess the educational activities and measure the related outcomes.

Our Evaluation Team (ET) will provide leadership, education and capacity building, identifying key staff in each one of the program's interventions and leading the evaluation process.

Evaluation strategies will focus in the followings activities:

- Collaborate in the planning and implementation of the interventions.
- Develop evaluation plans for each program intervention including indicators for short-term, medium-term and long-term outcomes as well as measurements, source of data and process and outcome objectives.
- Develop evaluation instruments, templates and surveys in order to gather information during the organized activities of the programs.
- Create and implement tracking templates to document the productivity of each of the interventions.
- Provide consistent monitoring during each program intervention to ensure that they make identified and required adjustments as needed.
- Offer feedback of evaluation activities to the leaders/staff of the interventions
- Promote an evaluation culture among the leaders and staff to improve performance, taking into account evaluation inputs.
- Collaborate with the dissemination of evaluation results and findings.
- Assess cooperation and collaboration among program strategies and community partners.

It is our intention to conduct intervention wide train the trainer sessions which will not only enable the dissemination of knowledge but also allow us to assess and evaluate the performance of our staff. The initial goal of the training sessions is to familiarize the trainers with pneumococcal infections and the influenza virus. We will also introduce the associated vaccines, prevention strategies and resources in the toolkits, in an effort to enhance their ability to teach others in the community. Participants will consist of nurses, health care providers, members from faith-based communities, retired health care providers acting as peer counselors and members from community organizations.

The toolkit will include a community guide that instructs participants on the materials and a PowerPoint presentation given in both a flipchart and USB version. The kit will also include additional materials such as brochures, flyers, posters and assorted educational material and evaluation forms to give to community members attending the sessions. Toolkits will be distributed to help participants when they go out to educate community members.

Each Train-the-Trainer session and evaluation will consist of the following components:

- Participants will conduct a pre-test that assesses their knowledge on basic pneumococcal infection and the influenza virus, and their associated vaccines and prevention. Pre and Post tests will be conducted using an audience response system (clicker-in-a-response), which is anonymous and responses instantly will be projected onto a screen to be used for further discussion.
- A presentation on pneumococcal infection and influenza virus. This will be the same PowerPoint presentation that participants will be expected to use in educating community members.
- Hands-on Practice: Participants will have time to practice using the flip-chart form of the presentation with their peers. During this time, participants also have the opportunity to familiarize themselves with the tool kit. This part of the session will provide participants with an opportunity to also ask questions to professionals at the training session.
- Participants will take a post-test using the clickers to determine if participating in the session had resulted in increased knowledge about pneumococcal infection and the influenza virus. The post-test will be led by a professional expert (infectious disease specialists) to help in clarifying if any questions in the post-test were unclear.

Upon completion of the session participants will be asked to complete an evaluation of the Train the Trainers' session. Participation in the evaluation phase will be voluntary and anonymous. The evaluation form will consist of three main parts: reach, satisfaction, and general information about the participant. Within the reach part, participants will be asked about the number of people they estimate that they would impact. The satisfaction portion will consist of their opinion of the Train the Train session, knowledge obtained, material obtained, and how they believe that they would carry out the sessions. The last section consists of the participants' gender, age, motivation to participate, medical plan, and available equipment and facilities to hold an event.

After interventions have been evaluated an after action report will be created highlighting strengths and weaknesses of each of the interventions and will be made available to vaccination stakeholders on the island.

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<sup>1</sup> CDC. Behavioral Risk Factor Surveillance System. Adults aged 65+ who have had a flu shot within the past year (2011). Available at: <http://apps.nccd.cdc.gov/brfss/list.asp?cat=IM&yr=2011&qkey=8341&state=PR>. Accessed June 29, 2013.

<sup>2</sup> CDC. Behavioral Risk Factor Surveillance System. Adults aged 65+ who have ever had a pneumonia vaccination(2011). Available at: <http://apps.nccd.cdc.gov/brfss/list.asp?cat=IM&yr=2011&qkey=8351&state=PR>. Accessed June 29, 2013.

<sup>3</sup> US Department of Health and Human Services. Healthy People 2020 objectives. Available at: <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=23>. Accessed June 29, 2013.

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<sup>4</sup> Puerto Rican Department of Health. Estadísticas Más Recientes (INFLUENZA). Available at: <http://www.salud.gov.pr/influenza/Pages/estadisticasmasrecientes.aspx>. Accessed October 19, 2013.

<sup>5</sup> El Nuevo Dia – Puerto Rican daily newspaper – Articles relating to influence on the island 2013. Available at: <http://www.elnuevodia.com/buscador/influenza>. Accessed October 20, 2013.

<sup>6</sup> US National Library of Medicine, National Institutes of Health. The role of the patient care team in elderly people decision on influenza vaccination. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16009298>. Accessed October 16, 2013.

<sup>7</sup> Guide to Community Preventive Services. Universally recommended vaccinations: health care system-based interventions implemented in combination. Available at: [www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html](http://www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html). Accessed July 2, 2013.

<sup>8</sup> 74. Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*. 1998;19:173-202.

<sup>9</sup> 75. Minkler M, Wallerstein N. *Community Based Participatory Research for Health*. San Francisco: Jossey-Bass; 2003.

<sup>10</sup> Universally Recommended Vaccinations: Standing Orders. Available at: <http://www.thecommunityguide.org/vaccines/universally/standingorders.html>. Accessed July 2, 2013

<sup>11</sup> The Joint Commission. Immunizations. Available at: <http://www.jointcommission.org/immunization/>. Accessed July 2, 2013.

<sup>12</sup> Puerto Rico: 2010: Summary Population and Housing Characteristics. Available at: <http://www.census.gov/prod/cen2010/cph-1-53.pdf>. Accessed July 2, 2013.

<sup>13</sup> Guide to Community Preventive Services. Universally recommended vaccinations: health care system-based interventions implemented in combination. Available at: [www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html](http://www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html). Accessed July 2, 2013.

### **Detailed Workplan and Deliverables Schedule**

The project will begin in January 2014 with the hiring of a dedicated project manager to oversee the day to day running of our interventions. VOCES is already running an eldercare intervention

strategy as well as media and educational campaigns so the new Project Manager will not be joining an inexperienced organization. We are looking for a bi-lingual, proven leader with a post-graduate healthcare based education. As soon as we have our Project Manager in place we will begin the 4 month process of laying the groundwork for our interventions to begin. We will complete the evaluation reports for our 4 interventions to guide us through the whole 2 1/2 year process.

The interventions themselves will begin from June 2014 onwards. Those requiring research into suitable facilities and partners will start this process and those requiring the development of educational tools will begin that process. Intervention #1 will begin full implantation in January 2015 after a lengthy development and consultation process. Implementation #2 will commence in Aug 2014 and will continue rolling out over the coming months before a first review process in October 2014 and then continued implementation from December 2015. Intervention #3 will begin in August 2014 and will be divided into 5 equal segments rolling out at 4 monthly intervals with allowances for evaluation and revision along the way. Intervention #4 will commence with market research in August 2014 and the launch of our first media campaigns in September 2014.

All four of our interventions have adequate timelines for evaluation and review as detailed in the deliverables schedule. There will also be two comprehensive evaluation reviews of the complete project in December 2014 and September 2015. All four interventions also allow ample time at the end of the timeline for this project for complete and comprehensive evaluation. As stated, it is the goal of this project to produce a portable, culturally and linguistically validated evidence based manual at the completion of the project. However, as indicated with the deliverables schedule it is intended to continue with as many of our interventions as possible within the existing framework of the VOCES coalition.

### **Deliverables Schedule**

	<b>Deliverables</b>	<b>Intervention</b>	<b>Due By</b>
1	Job posting, interviews and hiring of Project Manager	All	Feb 15, 2014
2	Hiring of outreach and data collection staff	All	Mar,1 2014
4	Development of intervention specifics, protocols and reporting	All	Apr 1, 2014
5	Training outreach and peer staff and intervention introductions	All	Apr 1. 2014
3	Background research and assessment, qualitative survey on cultural factors influencing vaccination	All	May 1, 2014
6	Identification of intervention facilities, translation services	All	May 1,2014
7	Needs assessment and analysis, baseline studies	All	Jun 1, 2014
8	Interviews, phone calls, email invitations to intervention facilities	All	Jun 1, 2014
9	Baseline assessment of existing standing orders compliance	1	Jun 1, 2014
10	Identify hospitals, nursing homes and pharmacies for intervention	2	Jun 1, 2014
11	Develop intervention tools for Eldercare facilities	3	Jun 1, 2014

12	Complete evaluation plan for standing orders intervention	1	Jun 1, 2014
13	Complete evaluation plan for provider education intervention	2	Jun 1, 2014
14	Complete evaluation plan for eldercare facilities intervention	3	Jun 1, 2014
15	Complete evaluation plan for adult education intervention	4	Jun 1, 2014
16	Work with staff to develop and strengthen standing order system	1	Jul 1, 2014
17	Identify 30 Eldercare facilities for intervention	3	Jul 1, 2014
18	Hire and train information call center staff	4	Jul 1, 2014
19	Introduce self-help (SI) interventions to first group of facilities	2	Aug 1, 2014
20	Conduct COI counseling sessions to first group of facilities	2	Aug 1, 2014
21	Conduct 1 <sup>st</sup> visit to Eldercare facilities 1-6 and discuss with management	3	Aug 1, 2014
22	Conduct 2 <sup>nd</sup> visit to Eldercare facilities 1-6, conduct survey to measure knowledge and evaluate results	3	Sep 1, 2014
23	Perform sample market research analysis with adults aged 65+	4	Sept 1, 2014
24	Launch 1-800 information line for adult vaccine education	4	Sep 1, 2014
25	Conduct evaluation and post-intervention analysis for first set of interventions	2	Oct 1, 2014
26	Conduct 3 <sup>rd</sup> visit to Eldercare facilities 1-6 to provide educational presentation. Evaluate knowledge gained.	3	Oct 1, 2014
27	Hire and train peer counselors	4	Oct 1, 2014
28	Conduct 4 <sup>th</sup> visit to Eldercare facilities 1-6 as required to provide on-site vaccination services.	3	Nov 1, 2014
29	Design educational intervention campaign	4	Nov 1, 2014
30	Begin educational seminars with local target groups	4	Nov 1, 2014
31	Revise intervention materials	2	Dec 1, 2014
32	Revisit first 5 Eldercare facilities and conduct post intervention interviews and surveys to evaluate success and needs for revision	3	Dec 1, 2014
33	Complete first comprehensive evaluation of complete project	All	Dec 1, 2014
34	Implementation of Interventions	All	Jan 1, 2015
35	Implement and assess new standing order protocols	1	Jan 1, 2015
36	Conduct 1 <sup>st</sup> visit to Eldercare facilities 7-12 and discuss with management	3	Jan 1, 2015
37	Launch media campaign/tour for educational intervention	4	Jan 1, 2015
38	Conduct 2 <sup>nd</sup> visit to Eldercare facilities 7-12, conduct survey to measure knowledge and evaluate results	3	Feb 1, 2015
39	Evaluate and revise standing order protocols based on initial rollout	1	Mar 1, 2015
40	Collection of post-intervention data on standing orders	1	Mar 1, 2015
41	Conduct 3 <sup>rd</sup> visit to Eldercare facilities 7-12 to provide educational presentation. Evaluate knowledge gained.	3	Mar 1, 2015
42	Conduct 4 <sup>th</sup> visit to Eldercare facilities 7-12 as required to provide on-site vaccination services.	3	Apr 1, 2015

43	Review adult education intervention	4	Apr 1, 2015
44	Conduct 1 <sup>st</sup> visit to Eldercare facilities 13-18 and discuss with management	3	May 1, 2015
45	Conduct 2 <sup>nd</sup> visit to Eldercare facilities 13-18, conduct survey to measure knowledge and evaluate results	3	Jun 1, 2015
46	Conduct 3 <sup>rd</sup> visit to Eldercare facilities 13-18 to provide educational presentation. Evaluate knowledge gained.	3	Jul 1, 2015
47	Conduct 4 <sup>th</sup> visit to Eldercare facilities 13-18 as required to provide on-site vaccination services.	3	Aug 1, 2015
48	Conduct 1 <sup>st</sup> visit to Eldercare facilities 19-24 and discuss with management	3	Sep 1, 2015
49	Perform intervention evaluation across sample of eldercare facilities to assess success and obtain feedback	3	Sep 1, 2015
50	Complete second comprehensive evaluation of complete project	All	Sep 1, 2015
51	Conduct 2 <sup>nd</sup> visit to Eldercare facilities 19-24, conduct survey to measure knowledge and evaluate results	3	Oct 1, 2015
52	Conduct 3 <sup>rd</sup> visit to Eldercare facilities 19-24 to provide educational presentation. Evaluate knowledge gained.	3	Nov 1, 2015
53	Continue interventions for all groups with continuing rolling assessments	2	Dec 1, 2015
54	Conduct 4 <sup>th</sup> visit to Eldercare facilities 19-24 as required to provide on-site vaccination services.	3	Dec 1, 2015
55	Rolling education and evaluation of revised and expanded standing orders	1	Dec 31, 2015
56	Conduct 1 <sup>st</sup> visit to Eldercare facilities 25-30 and discuss with management	3	Jan 1, 2016
57	Conduct 2 <sup>nd</sup> visit to Eldercare facilities 25-30, conduct survey to measure knowledge and evaluate results	3	Feb 1, 2016
58	Conduct 3 <sup>rd</sup> visit to Eldercare facilities 25-30 to provide educational presentation. Evaluate knowledge gained.	3	Mar 1, 2016
59	Conduct 4 <sup>th</sup> visit to Eldercare facilities 25-30 as required to provide on-site vaccination services.	3	Apr 1, 2016
60	Complete full final evaluation of eldercare intervention plan	3	May 1, 2016
61	Complete full final evaluation of standing orders intervention plan	1	May 1, 2016
62	Complete full final evaluation of provider education intervention plan	2	May 1, 2016
63	Complete full final evaluation of adult education intervention plan	4	May 1, 2016
64	Complete final comprehensive evaluation of complete project	All	Jun 1, 2016
65	Compile and publish full intervention manual and evaluation	All	Jul 1, 2016
66	Continued expansion of interventions across the island	All	Jul 31, 2016

## Organizational Detail

- Leadership and Organizational Capability

VOCES: Coalición de Vacunación de Puerto Rico is a non-profit organization formed to help promote vaccinations and increase vaccination coverage rates in Puerto Rico. It is the first organization of its kind on the island. The vision of VOCES reads as follows: *VOCES is a collaborative, multi-sectorial, community-based effort, addressing the needs of all residents of Puerto Rico at every stage of life. Our vision is that all people residing in Puerto Rico are protected against vaccine-preventable diseases.*

The Coalition provides networking and partnership opportunities for all interested organizations and offers access to greater expertise by calling on a wide range of organizations and individuals. The Coalition has the ability to leverage resources and can advocate for change at the Commonwealth, regional and local levels.

VOCES enables the creation of true community partnerships whose collaboration calls upon not only the scientific understanding provided by academic partners, but also the tacit knowledge residing within communities. VOCES is dedicated to assisting local and statewide communities fight the spread of vaccine-preventable diseases and their effects by raising immunization levels across the lifespan. Governed by a Board of Directors, VOCES's efforts are guided by a set of Bylaws and a consistently evolving strategic plan.

VOCES currently operates a number of programs across Puerto Rico:

- 'Flu-Palooza' – A mass vaccination exercise which launches the influenza season on the island, working in conjunction with the Puerto Rico Department of Health and local sponsors. In 2012, roughly 6,000 people were vaccinated in a single day. 2013's event was held on October 5, 2013 and over 11,000 people were vaccinated.
- 'Carnaval de Vacunación' ('Vaccination Carnival') – A school-based adolescent vaccination program designed to educate, promote and provide vaccinations to local youth. In an ongoing effort, VOCES plans to visit 40 schools across Puerto Rico.
- '¿Tienes tus 5 vacunas al día?' ('Do you have your 5 vaccines?') – A pilot program which provides access to vaccines for the at-risk, older adult population in selected nursing homes. Following the same concept as our 3<sup>rd</sup> intervention, VOCES visits elder care facilities to provide education and information as well as a follow-up vaccination program.
- 'IMCO 2013' – In May 2013, VOCES held its inaugural immunization conference attended by over 350 healthcare professionals, state officials, insurance companies, pharmaceuticals and media. Over two days there were lectures, seminars and break-out workshops intended to educate all vaccination stakeholders in Puerto Rico.

VOCES is led by a Board of Directors consisting of professional healthcare experts representing a diverse mix of interested parties: medical associations, local government, private business, healthcare providers and educators. There is a vibrant membership of over 150 individuals,

institutions and corporations. The diversity and depth of VOCES' board and general members will be vital to the collaboration envisioned for the successful implementation of the proposed interventions. For more information you can access our website at: [www.vocespr.org](http://www.vocespr.org)

VOCES is currently in the process of applying for 501(c)3 federal tax-exempt status.

- **Staff Capacity**

The leadership of the proposed intervention will include a dedicated Program Director who will be hired specifically to implement the program and run day-to-day operations. The Program Director provides leadership and program management across our entire project and throughout the period of our interventions. The Project Director is responsible for all aspects of the implementation of the project, is experienced in the application of project management processes and is responsible for the planning, coordination and delivery of project deliverables on schedule. The position is responsible for ensuring that projects are completed to meet the scope, schedule, and budget expectations of the project sponsors. Initiates, implements and evaluates all project community programs and partnerships. Our Project Director leads the research into demographics, community health trends and behaviors locally and nationally to support the interventions from inception to completion. We are seeking a post-graduate, bilingual manager with at least 10 years in a leadership role. The Project Director will be hired solely to manage this project and will dedicate 100% of their time to the successful completion of the project.

The Project Manager will be supported by our Project Coordinator, Gretchen Vélez Urgell who will control administrative and financial tasks. Gretchen is a Management & Marketing Consultant specializing in vaccination systems in the public and private sector. She has a undergraduate Degree in Science from the University of Puerto Rico and a Masters Degree in Management from the University of Phoenix. Her last 17 years of work experience has been in the Pharmaceutical Industry. She has more than three years of experience in the vaccine market of Puerto Rico and the Caribbean due to her role as Vaccines Business Director with Merck. She has deep and broad knowledge about vaccination systems within the public and private sector particularly in market access, financial and physical Infrastructure. The Project Manager will also be spending 100% of their time working on this project.

The Evaluation Team (ET) designated to support this proposal will be led by Mirza Rivera-Lugo, Senior Evaluator at CIES. The Centre for Evaluation and Sociomedical Research was founded in 1982 as part of the Graduate School of Public Health at the Medical Sciences Campus, University of Puerto Rico. CIES is affiliated with the only graduate degree in Public Health Evaluation in Puerto Rico and one of only a few in the United States. CIES is the largest multidisciplinary research center in the UPR system, with 17 faculties, involved in federally- or foundation-funded community-based research in a diversity of research focus areas. Mirza

Rivera-Lugo will spend around 20% of her time working with our designed project. The evaluation staff will be enhanced by the participation of Dr. Heriberto Marín Centeno.

The proposed interventions will also require the hiring of two part-time Data Collection Specialists who will assist in carry out baseline surveys, researching hospitals, pharmacies and elder care homes, needs assessments. They will also perform general administrative duties and conduct phone interviews and questionnaires.

We also plan to hire a part-time Vaccination Education Information Line Coordinator who will be responsible for developing the tools and educational materials for our 'hotline'. They will also be responsible for the recruitment, training and scheduling of volunteers from the retired healthcare industry to operate this facility.

The current Board of Directors and specifically the Chairperson, Lilliam Rodriguez, will oversee and administer the proposed project for VOCES. Lilliam founded VOCES in 2012 and has years of experience in both event planning and with promoting charitable causes across the island. She has worked with and for a variety of organizations including over 10 years' experience with various pharmaceutical companies. She is a current consultant for both the Woman's Health and Society initiative and the Pediatric Society of Puerto Rico. Lilliam has a BA in Marketing from the Universidad Interamericana de Puerto Rico. She will be working closely with the project management team to ensure a smooth implementation of this project as it relates to existing VOCES operations. She will dedicate no more than 10% of her time towards coordination with the Project team.

## **Detailed Budget – Narrative and Template**

### **Narrative**

As already outlined, this project will require the hiring of a Project Director to oversee the implementation, evaluation and reporting of all four interventions as well as managing other program staff. The type of baseline surveys, pre and post-test evaluations and research management experience required to run this project calls for an experienced and capable leader. With the educational facilities available in Puerto Rico, coupled with the current labor market, we feel we will have great success in fulfilling this post. Our proposed Project Manager has experience and knowledge of existing VOCES projects. The Project Director and Project manager will be hands-on designers, developers, evaluators and managers across the whole project. They will conduct interviews and present educational material where appropriate. They will design and manage our evaluation tools and will conduct the continual assessments our project calls for.

They will utilize the resources of two part-time data collectors for research and administrative purposes. They will also manage our call center coordinator and be responsible for the successful operation of this useful resource.

Across all four of our interventions we will utilize printed materials as an educational tool as well as resource in training sessions and seminars. Our budget request in this area is extensive and so is our goal. With our standing orders intervention there are potentially 80 hospitals that will require materials and trainings. Our second intervention will require extensive printed material across a range of institutions. We look to engage 30 elder care homes in our third intervention. Our 4<sup>th</sup> intervention will be the most demanding as we seek to educate the wider population on risks and vaccine solutions.

Our 4<sup>th</sup> intervention will also call on a comprehensive media campaign to spread knowledge and the results of our investigations and evaluations. Newspaper, radio and billboard campaigns will focus our target audience on specific educational statistics as well as providing information about access to vaccinations. These types of promotions are not cheap but when fully researched, targeted and successfully engaged, they can have a positive outcome, especially within an under-vaccinated/educated community such as people aged 65+ in Puerto Rico.

We anticipate a considerable cost for translation services over the lifetime of this project but feel this expense is not only justified but essential. Our intention is to produce a bilingual manual and the completion of this project which covers all aspects of our interventions from design, research and application through to evaluation. It is essential for the portable nature of these interventions that we produce all of our documentation not only in English but in Spanish.

Template – Please see attached budget template

## **Appendix**

### **Staff Biosketches**

**Mirza Rivera-Lugo, MS, MT:** is Adjunct Professor and Senior Evaluator of the Center of Evaluation and Sociomedical Research at UPR Graduate School of Public Health. She has experience in evaluating, managing and supervising research projects from conception to completion. She has conducted several evaluation studies for government, educational institutions, and community-based organization in Puerto Rico. Currently, Mrs. Rivera is leading all the evaluation efforts in the Puerto Rico Comprehensive Cancer Control Programs and its coalitions. Also, she is co-leading the evaluation team of a NIH-U54 funded project: *UPR/MD Anderson Cancer Center Partnership for Excellence in Cancer Research*. Her research interests and expertise are in qualitative and quantitative research methods, program development and evaluation, capacity building, technical assistance, prevention and public health preparedness programs, tobacco and cancer control interventions, among others. In summary, she has a demonstrated a record of successful and productive research projects in an area of high relevance for prevention and early detection program with cancer control.

- Master of Science in Research Evaluation for Health Systems, University of Puerto Rico, Graduate School of Public Health, Medical Sciences Campus, San Juan, PR (2003)
  - 2005 to present **Adjunct Professor,**  
Center for Evaluation and Sociomedical Research, School of Public Health, University of Puerto Rico
  - 2011 to present **Leader of the Evaluation efforts**  
PR Comprehensive Cancer Control Center-UPR
  - 2012 to present **Co-leader of the U54 UPR/MDA Cancer Center Partnership for Excellence in Cancer Research**  
PR Comprehensive Cancer Control Center-UPR
  - 2006 to 2013 **External Evaluator for MARC U\*STAR**  
Department of Biology, Humacao Campus of the University of Puerto Rico

**Collaboration with projects at PR Comprehensive Cancer Center, UPR:**

1. Puerto Rico Community Cancer Control Outreach Program, University of Puerto Rico/MD Anderson Cancer Center: Partnership for Excellence in Cancer Research (U54 Partnership), University of Puerto Rico Comprehensive Cancer Center
  - a. Leading the evaluation team
  - b. Outreach component and evaluator
2. Puerto Rico Comprehensive Cancer Control Plan, Dr. Guillermo Tortolero, PI. University of Puerto Rico Comprehensive Cancer Center
  - a. Leading the Evaluation Group of PR Comprehensive Cancer Control Program and Coalition
  - b. Puerto Rico Colorectal Cancer Puerto Rico Colorectal Cancer Coalition Group, Comprehensive Cancer Center-UPR, President and Principal Investigator: Marcia Cruz-Correa, MD, PhD.
    - i. Participate as member and currently in the position of Secretary/Evaluator of the Colorectal Cancer Control Group
3. Office of Prevention and Mental Health Promotion of Mental Health and Anti-Addiction Services Administration, San Juan, Puerto Rico. Puerto Rico Synar Study.
  - a. Participate as member of the Synar Interagency Group

**Selection of Ongoing Research Support:**

1. **Evaluation of NIH funded Training Programs:**
  - a. Program Evaluator of the U 54 Outreach Component of UPR/MDACC for Excellence in Cancer Research and the Cancer Prevention and Control Research Network
2. **Evaluations for Puerto Rico Health Department:**
  - a. Synar- Tobacco Study in Puerto Rico
  - b. Desarrollo Organizacional de la Administración Auxiliar de Prevención- Administración de Servicios de Salud Mental y Contra la Adicción
  - c. Oficina de Preparación y Coordinación de Respuesta en Salud Publica

### 3. Other Evaluations:

- a. Program Evaluator of the Comprehensive Cancer Control Plan of Puerto Rico, UPR funded by the CDC
- b. Program Evaluator of the Colorectal Cancer Coalition of Puerto Rico, Comprehensive Cancer Center-UPR

### Peer-Reviewed Publications:

- Calo WA, Rivera M, Diaz E, Correa-Fernandez V, Mazas C, Pattatucci A, Wetter DW, Fernandez ME. Assessing Awareness and Use of Evidence-based Programs for Cancer Control in Puerto Rico. J Cancer Educ 2012 April; DOI 10.1007/s13187-012-0348-x
- Ramos Idalia, Rivera Ramón, Pinto Nicholas, Sotero José, Zymbovskaya Natalya, Vega Esther, Negrón, **Rivera Mirza** and Colón Gladys. The Humacao Strage Matter Exhibition: PREM brings Materials Science and Nanotechnology to Puerto Rico Communities. Matter. Sers. Soc. Proc. Vol. 1105© 2008 Mterials Reseach Society 1105-0003-01
- **Rivera-Lugo M**, Parrilla-Rodríguez AM, Dávila-Torres RR, Albízu-García C, Ríos-Motta E. Full Breastfeeding During The Postpartum Hospitalization And Mothers' Report Regarding Baby Friendly Practices. Breastfeeding Medicine 2007;2:19-26.
- O'Neill E, Martínez I, Villinger F, **Rivera M**, Gascot S, Colón C, Arana T, Sidhu M, Stout R, Montefiori C, Martínez M, Ansari A, Israel Z, and Kraiselburd E. Protection bi SIV VLP DNA prime/ protein boost following mucosal SIV challenge is markedly enhanced by IL-12/GM-CSF co-administration. J Med Primatol. 2002 Aug; 31(4-5):217-27.
- Kraiselburd KN, Salaman A, Beltran M, **Rivera M**, Oliver J, Kessler M, Knezevich M, Rodríguez A, Bilska M, Montefiori D, Torres-Bauza LJ and Martínez I. Vaccine evaluation studies of replication- defective SIVsmB7. Cell Mol Bio. 1997 Nov; 43(7):915-24.

Kraiselburd E, Oquendo J, **Rivera M**, Rodríguez A, William D, García Castro JM and Rivera R. Isolation for Human Immunodeficiency Virus (HIV) from patient with ARC and/or PGL. Ninth Annual Research Forum UPR-Medical Sciences Campus. 1987 (Sept. 28- Oct. 2).

**GRETCHEN M VELEZ URGELL** is an experienced Executive Director within the pharmaceutical industry with strong performance exceeding operating sales plan and profits. Experience in the Caribbean. Work effectively with organization leaders to align with and support key business initiatives. Highly motivated leader who builds high performance teams.

SKILLS HIGHLIGHTS: Operation Management; customer-oriented; marketing; strategic planning; team leadership; commercial strategy; account management.

### PROFESSIONAL EXPERIENCE

MERCK - Executive Business Unit Director

Accountable for a P&L of \$40M, lead a management and sales force team of 12 people and achieved strategic results for the Vaccines franchise in Puerto Rico.

Duplicated the Vaccines Business in two years through expansion of the private and public sectors.

Generated new business through new commercial strategies.

Achieved market leadership in Gardasil, Pneumovax-23 and Rotateq.

Executed integrated consumer and disease campaigns across multiple media channels.

Managed the Women's Health portfolio including contraceptives and fertility products.

SCHERING PLOUGH DEL CARIBE, INC. - Business Unit Director

Accountable for the P&L of an operation of \$50M in revenues.

Managed team of 40 professionals.

Developed and directed strategy for the Allergy, Anti-infectives and Cardiovascular franchises.

Achieved market leadership with Clarinex, Avelox and Integrilin.

Collaborated with the integration of Bayer product portfolio achieving implementation in less than two months.

Headed the joint-venture between Merck and Schering Plough.

BBA: BACHELOR OF SCIENCE

University Of Puerto Rico, Cayey, PR

**A. Title: *Acepta el reto, ¡Vacúnate!*** (Accept the challenge: get vaccinated!): *Increasing pneumococcal and influenza vaccine coverage among the adult population in Puerto Rico*

**B. Goal:** The goal of our intervention is to develop and strengthen existing practices in Puerto Rico through learners-, systems- and community-based strategies, in order to improve vaccination knowledge and coverage rates among adults 65 and older.

**C. Objectives:** Our objectives are to educate patients and providers on the importance of vaccinations among the 65+ population, increasing the demand for vaccines, and to strengthen and improve existing health systems, increasing access to vaccinations, leading to our goal of improved vaccination knowledge and coverage rates among the 65+ population.

**D. Assessment of Need for the Intervention:** Low local coverage rates establish a need for an intervention targeting the 65+ adult populations in Puerto Rico through a combination of evidence-based strategies. Data collected from the 2011 Behavioral Risk Factor Surveillance System (BRFSS) demonstrates that *Puerto Rico has the lowest pneumococcal and influenza coverage rates of all the states and territories among this age group.* Pneumococcal vaccine coverage among Puerto Ricans was 22.9% compared to 70% in the continental U.S., while influenza vaccine coverage in Puerto Rico was 28.6% compared to 61.3% nationwide.<sup>1 2</sup> Healthy People 2020 target rates for people aged 65+ for both vaccines are 90%.<sup>3</sup>

The primary target audience for these interventions will be people aged 65+ and providers serving this population in Puerto Rico. The 65+ population will benefit from these programs as vaccine education will be improved, vaccination coverage increased, spread of disease prevented and overall healthcare costs reduced. Providers will specifically benefit through increased knowledge of vaccinations and a decreased burden of treating sick patients.

**E. Intervention Design and Methods:** The Community Preventive Services Task Force finds a median vaccine coverage increase of 16% when implementing a combination of interventions that include selected interventions from two or three categories of interventions.<sup>4</sup> We plan to conduct four interventions, utilizing three different strategies.

**Strategy: Interventions directed at vaccination providers or systems**

- Intervention #1: Standing Orders

Standing orders for vaccinations are recommended based on strong evidence of effectiveness in improving vaccination coverage in adults across a range of settings.<sup>5</sup> This intervention will assess and strengthen the current influenza and pneumococcal standing order system for patients aged 65+. In order to improve vaccination rates, the Joint Commission and the Centers for Medicaid and Medicare Services (CMS) mandated hospital reporting of both pneumococcal and influenza immunizations for all hospital admissions.<sup>6</sup> This requirement is neither standardized nor universally implemented in Puerto Rico. We will conduct a baseline assessment at selected hospitals, to determine effectiveness and compliance with present standing orders, if existent. We will then work with staff to develop strategies to either implement or strengthen the current standing order system.

Utilizing best practices developed during this intervention, and in collaboration with the Puerto Rican Department of Health and local medical associations, we plan to standardize standing orders for hospitals, expanding them to pharmacies and eldercare facilities, in order to facilitate greater vaccine access and administration for this age group.

- **Intervention #2: Provider Education**

Alongside the standing order intervention, we will begin promoting adult vaccines among the medical community. We plan to provide direct education to providers so they can in turn communicate this information to their patients, strengthening their commitment to promoting vaccinations and to utilizing standing orders. We will educate healthcare professionals at hospitals, pharmacies and eldercare facilities. Additional education will be provided through medical conferences, meetings and webinars, collaborating with the Puerto Rican Department of Health and local medical associations.

**Strategy: Interventions to enhance access to vaccination services**

- **Intervention #3: Expanding Access in Healthcare Settings (Eldercare facilities)**

This intervention will expand vaccine access by providing vaccination services in both public and private eldercare facilities. Currently, vaccines are not regularly offered in these facilities. This program will work with facility staff and patient families to increase knowledge about the benefits of increased vaccination of people aged 65+ and increase the demand for vaccinations in these settings. In partnership with public/private vaccine providers, we will administer vaccinations on site, thus alleviating the distance, time and costs for patients to receive these vital immunizations.

**Strategy: Interventions to increase community demand for vaccinations**

- **Intervention #4: Patient Education for Adults 65+**

We intend to develop an adult patient education and outreach program, using culturally appropriate messages and innovative strategies. Currently, most vaccination education programs on the island target children and adolescents. We will target patients at hospitals, pharmacies and eldercare facilities, utilizing retired healthcare professionals as peer counselors and developing interactive educational tools. On a larger scale, in the selected intervention regions, we will run a full media campaign in print, on radio and with billboards. While vaccine education information is abundant on-line, adults 65+ do not greatly utilize the internet; we will also establish a 1-800 number to refer patients and answer any vaccination-related questions.

According to the 2010 census, the population of adults aged 65+ in Puerto Rico represents 14.5% of the overall population (541,998 people).<sup>7</sup> There are eight (8) health regions on the island and we plan to roll out our interventions in two (2) regions through 2014. Taking into consideration population density, we hope to initially impact 25% of the older adult population and expand the programs in 2015 to further regions.

**F. Innovation**

The interventions proposed will utilize best practices while using innovation to adapt strategies to the population of Puerto Rico. This project is pioneering; historically, most vaccination

interventions in Puerto Rico have been aimed solely at the 0-18 population. While standing orders in hospitals have been utilized greatly, the expansion of these to pharmacies and eldercare facilities will be innovative. Additionally, the use of a local call line for vaccine education will be original.

Our intervention to expand access in eldercare facilities will be building on an existing pilot program which will be implemented in September 2013. VOCES is developing a 'Do you have your 5 vaccines?' vaccination program, expanding access to vaccinations in selected nursing homes around Puerto Rico. This pilot program will target 20 such homes; we will expand the intervention to all nursing homes and public eldercare facilities in the two initial health regions through 2014, with expected rollout in 2015 and beyond to additional eldercare facilities.

### **G. Design of Outcomes Evaluation**

For interventions 1-3, a data collection team will collect and analyze vaccination rates pre- and post- implementation of the interventions at each intervention site. The pre-intervention results will serve as our baseline data. Depending on the site structure and resources, we will either use a manual or computerized review of records, assessing patient histories and/or billing information. The chart review sample size will be determined by the client population of the site. We will conduct identical pre- and post-vaccination rate collection and analysis in one of the health regions not involved in our intervention, which will serve as our control. Intervention #4 outcomes will be measured by pre- and post-intervention Knowledge, Attitudes and Practices (KAP) surveys. Long term impact will be measured through local coverage studies, registry statistics and yearly BRFSS results. Based on The Community Preventive Services Task Force findings, we would expect to see an increase of at least 16% in vaccination rates among our target groups.<sup>8</sup>

In order to measure target audience engagement, we plan to create and utilize mixed method evaluation strategies such as client satisfaction surveys and focus group sessions, triangulating data to adequately measure audience satisfaction. It would be the intention of this project to complete an extensive peer-reviewed report on all aspects of the development, implementation and analysis of the results collected.

### **H. Project Timeline**

Jan 2014 – Mar 2014: Hiring of management, outreach, data collection staff; background research and assessments; development of intervention and evaluation plans; staff training  
Apr 2014 – Jun 2014: Needs assessments; baseline studies; collection and analysis of data  
Jul 2013 – Jan 2015: Implementation of interventions  
Feb 2015 – Apr 2015: Continued implementation of interventions; collection of post-intervention data and analysis of results; assessment and review of program to date.  
May – Dec 2015: Expanded roll-out of interventions.  
Jan 2016 – Jul 2014: Continued implementations, evaluations and reviews.

### **I. Requested Budget**

\$1,000.000

## **Organizational Detail**

VOCES: Coalición de Vacunación de Puerto Rico is a non-profit organization formed to help promote vaccinations and increase vaccination coverage rates in Puerto Rico. It is the first organization of its kind on the island. The vision of VOCES reads as follows: *VOCES is a collaborative, multi-sectorial, community-based effort, addressing the needs of all residents of Puerto Rico at every stage of life. Our vision is that all people residing in Puerto Rico are protected against vaccine-preventable diseases.*

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- ‘Carnaval de Vacunación’ (‘Vaccination Carnival’) – A school-based adolescent vaccination program designed to educate, promote and provide vaccinations to local youth.
- ‘¿Tienes tus 5 vacunas al día?’ (‘Do you have your 5 vaccines?’) – A pilot program which provides access to vaccines for the at-risk, older adult population in selected nursing homes.
- ‘IMCO 2013’ – In May 2013, VOCES held its inaugural immunization conference attended by over 350 healthcare professionals, state officials, insurance companies, pharmaceuticals and media. Over two days there were lectures, seminars and break-out workshops intended to educate all vaccination stakeholders in Puerto Rico.

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The leadership of the proposed intervention will include a dedicated Program Director who will be hired specifically to implement the program and run day-to-day operations. He/she will be supported by a Project Coordinator who will control administrative and financial tasks. The proposed interventions will also require the hiring of data collection and outreach teams as well as dedicated volunteers.

The current Board of Directors and specifically the Chairperson, Lilliam Rodriguez, will oversee and administer the proposed project for VOCES. The current Project Development Manager, Greg Macklin, who has over 15 years’ experience in operations and project management, will be the contact person for this application and the ongoing development of this proposal.

VOCES is currently in the process of applying for 501(c)3 federal tax-exempt status.

## References

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- <sup>1</sup> CDC. Behavioral Risk Factor Surveillance System. Adults aged 65+ who have had a flu shot within the past year (2011). Available at: <http://apps.nccd.cdc.gov/brfss/list.asp?cat=IM&yr=2011&qkey=8341&state=PR>. Accessed June 29, 2013.
- <sup>2</sup> CDC. Behavioral Risk Factor Surveillance System. Adults aged 65+ who have ever had a pneumonia vaccination(2011). Available at: <http://apps.nccd.cdc.gov/brfss/list.asp?cat=IM&yr=2011&qkey=8351&state=PR>. Accessed June 29, 2013.
- <sup>3</sup> US Department of Health and Human Services. Healthy People 2020 objectives. Available at: <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=23>. Accessed June 29, 2013.
- <sup>4</sup> Guide to Community Preventive Services. Universally recommended vaccinations: health care system-based interventions implemented in combination. Available at: [www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html](http://www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html). Accessed July 2, 2013.
- <sup>5</sup> Universally Recommended Vaccinations: Standing Orders. Available at: <http://www.thecommunityguide.org/vaccines/universally/standingorders.html>. Accessed July 2, 2013.
- <sup>6</sup> The Joint Commission. Immunizations. Available at: <http://www.jointcommission.org/immunization/>. Accessed July 2, 2013.
- <sup>7</sup> Puerto Rico: 2010: Summary Population and Housing Characteristics. Available at: <http://www.census.gov/prod/cen2010/cph-1-53.pdf>. Accessed July 2, 2013.
- <sup>8</sup> Guide to Community Preventive Services. Universally recommended vaccinations: health care system-based interventions implemented in combination. Available at: [www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html](http://www.thecommunityguide.org/vaccines/universally/healthsysteminterventions.html). Accessed July 2, 2013.