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Educational Intervention for Engaging Adolescents and Their Parents in HPV Vaccination

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
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MSN, Walden University, 2015

ADN, Sacred Heart University, 2012

Project Submitted in Partial Fulfillment

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Doctor of Nursing Practice

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Abstract

In the United States, 79 million people are currently infected with Human Papilloma Virus (HPV) and it is estimated that an additional 14 to 20 million people will be infected with HPV every year. Infection with HPV increased to 52.7 % of preventable infections within the United States in 2012, and 39.6% of the infected population are adolescents engaged in sexual activities. The practice-focused question that this project addressed was: To what extent can an educational program influence the HPV vaccination rate in a small family practice clinic located in Texas? The main purpose of this project was to increase education within the clinic community using a quality improvement approach and guided by Healthy People Goals 2020. Barriers to HPV vaccination were validated through focus group discussion held with clinic staff. Parental resistance was due to a misconception that the vaccine would lead to sexual promiscuity in the adolescent population, and that a single dose is adequate protection. A bilingual educational session was held with 15 clinic staff members with the purpose of enhancing knowledge, influencing parental attitudes and beliefs, providing patient educational tools, and thereby increasing vaccination acceptance by 37.8% within an underserved and vulnerable population. The results of the focus group and educational sessions were presented to an expert panel made up of five community leaders and the senior clinic leader who approved the approach and suggested additional ways to promote HPV vaccination. Clinic leadership agreed to adjust policy mandating use of the educational materials with clinic patients. Positive social change will result from the integration of this educational approach into clinic practice by increasing vaccination acceptance.

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Dedication

The present DNP QI project is dedicated to my parents Mr. Armando Mena and Mrs. Acela Cantero for the education, values and unconditional love given. I would like to also dedicate to Walden University and their team, practicum site team, community leaders and adolescents and parents willing to participate in such project.

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My deepest appreciation and gratitude goes to God and my ancestors who guided my foot steps on each project. I would like to appreciate my parents, dear brothers Tania and Renier, cousins and my friends and neighbors for their unconditional support. The faculty members of Walden University such as Dr. Janice M. Long, Dr. Linda Steele, and Mr. Joshua Gutierrez for believing in me and struggle me to success since my very first beginning at Walden University on March 3rd, 2013. A deep and respectful appreciation to Dr. Barbara Niedz and Dr. Harvey for their challenging work, commitment, and comprehension on this DNP QI project. My profound gratitude and sincerely appreciation to Dr. Stella Eke for being an unconditional clinical preceptor during my MSN and DNP program.

To all my professors and fellow classmates, wish you the best in your future endeavors, and it was an honor for me being part of this journey, but more than a journey a new beginning for my professional career and further nationwide and global impact for the new nurses' and providers' generation

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Section 1: Nature of the Project

Introduction

Multiple factors may interfere in the well-being and adequate development of children and adolescents. One of the most common factors is known as sexually transmitted infection (STI) due to unprotected sexual relations. Human Papilloma Virus (HPV) causes the most frequent STIs that have been reported among adolescents and young adults from the United States (Centers for Disease Control and Prevention [CDC], 2013a). In the United States, 79 million people are currently infected with HPV and it is estimated that an additional 14-20 million people will be infected with HPV every year (Bethesda, 2014).

According to the CDC (2013b), HPV Types 16 and 18 are responsible for 79% of anogenital carcinomas, 66% of cervical carcinomas, and 62% of oropharyngeal cancer. The American Cancer Society (2015) estimated that around 12,900 new cases of cervical cancer and over 4,100 deaths will occur in the United States in 2015; Bethesda (2014) urged President Obama to coordinate with National Health Minister and create new strategies to increase HPV vaccination intake as a crucial tool to prevent HPV infection.

The CDC (2013c) reported that 35% of adolescent girls and 14 % of teenage boys completed all three doses in 2010. These statistics constitute one of the lowest rates of HPV vaccination in the previous 5 years as per (CDC, 2013d). The CDC (2013d) is engaged along with Healthy People 2020 to provide immunization for preventable diseases. The costs associated with HPV treatment are estimated to be as high as $18.2 billion for 2017 (Bethesda, 2014). Powell et al. (2012) pointed out that HPV constitutes

the most frequent STI diagnosed, is expensive to treat, and is difficult to manage in new patients who acquired t. Reliable strategies to improve the HPV vaccination rates are needed in primary care settings.

Problem Statement

The problem addressed in this project is that there is a very low HPV immunization rate among vulnerable female and male adolescents aged 9-17 years old who qualify for HPV vaccination, and who seek treatment at the Family Health clinic. The HPV vaccination prevents further HPV infection and its consequences. The chosen metropolitan clinic in Houston serves a population of 21,209 patients, and 22.6 % of these adolescents are high risk of being infected by HPV. Most of the population are Hispanic, African American, and Middle Eastern with a low-income status, and Medicaid as main health insurance coverage.

The HPV vaccination rate in this clinic was 9.4 % in 2015, then dropped to 6.7 % in 2016, which is considerably lower than the recommended Healthy People 2020 goal of 80%. Pitts and Adams (2013) reported that HPV vaccination rates are dropping to the lowest point since 2010. Hopkins and Wood (2013) explained that HPV infection has reached up to 52.7 % of preventable infections within the United States in 2012. Bartlett and Peterson (2012) determined that 39.6% of the infected population are adolescents engaged in unprotected sexual activities.

HPV vaccination is an FDA-approved vaccine that protects against HPV upon completing three-dose series (Hopkins & Woods, 2013). Multiple factors may interfere with HPV the vaccination process. Bartlett and Peterson (2013) described a strong link

between parental resistance and incomplete vaccination among adolescents studied. Parental hesitancy, language barriers, lack of healthcare coverage, undocumented families fearful to be deported, a deficit of knowledge on treatment, and poor risk perception of HPV infection are common challenges to overcome within the targeted population. Another issue that interferes with HPV vaccination adherence is the lack of knowledge among healthcare providers and nurses regarding HPV prevention (Reiter et al., 2011). Perkins and Clark (2013) pointed out that proper education and good communication between providers, parents and patients may change one's perception regarding HPV vaccination. The lack of knowledge about HPV immunization in providers may interfere with accurate documentation in chart records, which creates a gap in immunization registries, another practice gap. ImmTrac is the name of the proprietary immunization registry used in Texas and sponsored by the Texas Department of Health. The engagement of professionals in the HPV vaccination educational project and its documentation throughout ImmTrac will have significance for the practice of nursing, and provide a higher quality of service given to the patients targeted by this project.

Purpose Statement

The purpose of this project is to increase acceptance of HPV vaccination within the targeted clinic population while improving practice regarding HPV vaccination at the project site. This will enhance the effectiveness and strength of protocols, health promotion activities, and disease prevention tools as part of primary care goals. Per the Department of Health and Human Services, (DHSS) (2013), one of the goals of Healthy

People 2020 is to increase vaccination coverage up to 80% and to provide adequate and current information on the benefits of vaccination. The present project was developed following a Quality Improvement (QI) model, as this is consistent with the needs of the clinic and included in the clinic's QI plan.

Validating barriers to HPV vaccination with clinic staff is a critical component of the project, as well as providing an educational solution with the intent of improving HPV vaccination rates among the clinic's teenage population. An expert panel comprised of community leaders and clinic executive leadership was also employed to further the project goals. The CDC (2013) encouraged nurses and healthcare providers to promote HPV vaccination vaccine and to educate the community on its benefits to prevent HPV infection and further consequences. Bartlett and Peterson (2012) described a significant increase in HPV vaccine rates after intervention in which providers recommended HPV vaccination before beginning of sexual intercourse.

The DHSS (2013) reported that it is the responsibility of healthcare providers to monitor HPV vaccination and track HPV three dosage rate accurately. The metropolitan southwest clinic in Houston, which is the focus of this DNP QI project, seeks to properly track adolescents who complete three-dosage series and assure an accurate report in Texas Immunization Registry (ImmTrac). Perkins and Clark (2013) asserted that providers did not accurately report 36.6% of patients' HPV vaccinations within ImmTrac which creates a gap that leads to inaccurate reports and economic loss within the healthcare industry. One factor contributing to an inaccurate Immtrac report is related to lack of knowledge of HPV vaccination and poor communication between providers and

nurses (DHSS, 2013). This QI project aims to validate barriers to HPV vaccination, increase awareness of the consequences of a low rate of HPV vaccination, and implement strategies to improve education in both the Spanish and English-speaking population.

The primary objective of this project is to increase HPV vaccination rates in adolescents by educating parents on the benefits of obtaining vaccine against HPV in their daughters and sons. The main goals of this project are aimed at enhancing the acceptance of the HPV vaccination within the selected community, thereby increasing HPV vaccination and three-dose regimen.

Nature of the Doctoral Project

The nature of this doctoral project is centered on changing the attitudes toward vaccination and gaining more acceptance among parents and adolescents. The CDC (2013e) reported a marked 15% decrease of HPV vaccination during 2012. This is concerning given the fact that about 25% of adolescents engage in sexual relationships in the United States (Bartlett & Peterson, 2013). Healthcare providers usually recommend that the three-series HPV vaccination should be completed before becoming sexually active (Leask et al., 2012).

The present pattern of low HPV vaccination rates leads to multiple problems, such as reduced HPV coverage among adolescents (Bartlett & Peterson, 2012), loss of millions of dollars by funding a vaccine with a little acceptance (Pitts & Adams, 2013), and higher risk of being infected by HPV, leading to the development of further anogenital and/or oropharyngeal cancers (Hopkins & Wood, 2013). The DHSS (2013) asserted that the financial cost of providing HPV vaccine would be around $16.4 billion.

Because most adolescents in the project population belong to a low-income community and are enrolled in Medicaid, uninsured or underinsured children and adolescents are covered by the federal Vaccines for Children (VFC) program without any cost to their parents.

The DNP QI project consists of the following four elements: (a) a focus group discussion among staff members, to identify knowledge deficits and their perceptions of parentally held-myths and misconceptions about HPV vaccination, (b) development of patient education materials produced in English and Spanish, which will assist health care providers in their support of parents, (c) an educational session that will heighten awareness and dispel myths surrounding the HPV vaccination and (d) a presentation of the project and project materials to the clinic and community leaders at the Houston site to secure their approval for full implementation of the project and disseminate the education to the broader community. It is also the goal of this DNP QI project to positively influence the HPV vaccination rate at the project site. However, this outcome may occur outside of the scope of the DNP project timeline. Regardless, the project will include formative and summative evaluation strategies on the five components listed above.

Significance of the DNP Project

This DNP project provided educational tools and materials to enhance the knowledge of HPV prevention among adolescents and young adults after an analysis of barriers which interfere with HPV vaccination. The project aligns with ANCC DNP's Essential VII, which focuses on clinical prevention and population health to improve the

nation's health. This DNP project aligns with pediatric guidelines and Texas Department of State Heath Service throughout Immunization Unit by providing material to parents and families which supported the well-being and healthy growth of children and adolescents. Other sources of evidence were sought from CINAHL, the Walden University Library, OVID, and PubMed databases (Appendix A).

By involving clinic staff members and key community leaders, the project provided an additional solution to promote greater HPV vaccination and prevent the sequelae associated with HPV infection. Texas is a state with one of the highest rates of cervical cancer mortality in the country, but with the lowest rate of HPV vaccination. According to Pitts and Adams (2013), the vaccines for children are federally funded through programs that support eligible children (Medicaid, the uninsured, Native American or Alaskan Native, and refugee). However, there is a gap with HPV vaccination administration since it is not mandated by U.S immunization program. The CDC (2013) pointed out state legislatures throughout the U.S. have considered if adolescents are required to receive the HPV vaccination for school entry. Former Texas Governor Perry proposed a state law to administer the HPV vaccine for adolescents upon entry into middle school as well, yet the state legislature did not pass the bill. The project objective is to provide the best information about HPV vaccination by providers and nurses, to decrease language barriers and to reduce myths about HPV, and miscommunication between parents and teens. Graham and Mishra (2011) explained that in most low-income countries, the inclusion of the HPV vaccine into national vaccination programs had not been easily implemented due financial constraints, lack of

infrastructure, health priorities, and providers' minimal interest in participating in such program. In the absence of a legal mandate, physician and health care provider recommendations for HPV vaccination may influence parents' and adolescents' decisions regarding vaccination (Graham & Mishra, 2011) resulting in significant social change for the clinic community. Another significance will be updating HPV vaccination policy proposal, therefore enhancing education level and immunization acceptance.

Summary

The DHSS (2013) described the average cost of the HPV vaccine as $130 to $152 per dose and missing one of the three require dosages will create a loss of $260- $344 million dollars annually. The project was implemented at a Family and Pediatric Clinic from Southwest area of Houston, TX, an organization that serves a population of 2,209 patients, with a 22.6 % of these patients, adolescents and young adults. Most of the population are Hispanics, African Americans, and Arabic with a low socio-economic status. The project population included adolescents (male and female) between 9-18 years old who have not received the HPV vaccination or who have not completed the three dosages as required. There is only a 6.2 % of total adolescents that completed the three dosages as ordered at the Metropolitan clinic in the southwest of Houston, Texas.

The relevance of this DNP QI study is that the project engaged the stakeholders, including national organizations such as AANP, community leaders, healthcare workers, and parents. By involving community leaders, it created an opportunity to propose new strategies in finding ways to promote the HPV vaccinations in the project's population. Through the work of a project team involving these key stakeholders, an educational

solution was developed and implemented, including an educational intervention aimed at decreasing parental hesitancy and miscommunication, while at the same time encouraging providers and nurses to track and report patients' within ImmTrac system correctly.

Section 2: Background and Context

Introduction

While there are 79 million people currently infected with HPV, more than 14 million people are expected to be infected with HPV every year in the United States (Bethesda, 2014). The purpose of this study was to increase education within a Houston community selected based on the need for quality improvement related to the Healthy People Goals 2020. This section includes a review of key concepts, models and theories utilized in this project and the project's relevance to nursing practice, as well as information regarding the local venue and context for the project.

Concepts, Models and Theories

HPV Infection and Vaccination

HPV is a virus with more than 150 subtypes identified, including nearly 40 that may directly infect the genitals. There are a few high-risk types such as Types 16 and 18, which may produce cervical cell abnormalities, and these types are precursors to oral and genital carcinomas (CDC, 2013). The CDC (2013) explained that a vaccine is a biological preparation designed to improve the immune system for an illness. DHSS (2013) explained that a vaccine typically contains an agent that may resemble a disease and stimulates the body's immune system to recognize the agent and destroy it, but creates a memory to attack and fight microorganism to prevent any further illness. There are two primary HPV vaccines, the bivalent HPV vaccine (HPV2) and quadrivalent HPV vaccine (HPV4), both licensed for use in the United States. These vaccines are

administered in three dosages to protect against HPV Types 16 and 18, which are responsible for producing nearly 70% of cervical carcinomas (CDC, 2013).

The National Childhood Vaccine Act signed into law in 1986, requires that any minor needs guardian or legal representative consent to receive the vaccination. The legal representative will be defined as a parent or an individual who qualifies as a legal guardian under state law (Department of Health & Human Services, 2013).

Visual presentations or oral explanations in English and Spanish to assure proper knowledge of HPV immunization benefits are the types of HPV vaccination education that can influence a change in behavior. Parental education in this DNP project includes pre-post intervention questionnaire on HPV prevention in the hope to promote HPV vaccination compliance in adolescents.

Definitions of Terms

Prevalence: The number of real subjects with a determined disease or health condition within a population at the specific time (Kettner, Moroney, & Martin, 2017, p. 62).

ImmTract: Software that constitutes the main Texas Immunization Registry, offered by the Texas Department of State Health Services (DSHS) at no cost. ImmTrac consolidates and stores immunization records from multiple sources electronically within the centralized system (Department of Health & Human Services,2013).

Low income community: It is defined by estimated earnings of $18,660 for a family of four (two adults, two children), which it is based on three times the estimate of a low-income family's food budget, assuming that the other two-thirds can be spent on

clothing, houses, clothing, and other primary needs. (Department of Health & Human Services, 2013).

Preventive medicine: A medical science derived from a combination of biostatistics, epidemiology, health services management, control and prevention of environmental, and clinical medicine activities such as healthcare promotion supported by the assessment of cultural, social and behavioral influences on health (American Board of Preventive Medicine, 2016).

Barriers to HPV Vaccination (Parents and Providers)

According to Bethesda (2014), the main barrier that influences HPV vaccination is the lack of knowledge and misconceptions among parents about the timing of the vaccine and sexual behavior among adolescents. Pitts and Adams (2013) pointed out that low perceived risk of HPV infection, lack of provider recommendations, and concerns on vaccination cost were also identified as potential HPV vaccination barriers. Pitts and Adams showed throughout a descriptive study among two different groups (n= 60 and 184, respectively) that health care professionals either offered little information about the vaccine, or failed to recommend it. Finally, within low socioeconomic status communities, uninsured, ethnic minority, and immigrant women (N = 490) it was found that the main barriers were related to finding a clinic that offered the vaccine or lack of insurance coverage (Holman et al., 2014).

According to McCabe (2014) a random sample study of 2766 parents of 9–10-year-old children were identified by Medicaid and Children's Health Insurance Program (CHIP) insurance database and parents were invited to participate in a pilot study by

answering a questionnaire. McCabe implemented a mixed statistical method, and used chi-square and independent-sample *t*-tests to identify barriers for HPV vaccination. There was a 69 % demonstrated lack of knowledge regarding HPV benefits, but 72 % showed poor perception of HPV risk among their sons and daughters.

Interventions That are Effective

The effectiveness of interventions was supported by increasing HPV vaccine rate among adolescents, and parental acceptance to initiate and complete three dosages. Empowering community leaders and teachers to be vaccine champions within a community with the goal of disseminating information about HPV vaccine benefits is also beneficial. (Holman et al., 2014). Per Malo et al. (2013), a group of parents surveyed (*N*=273) reported a belief that only sexually active adolescents are required to have the vaccine; therefore, 78% will decline HPV vaccination if they are not adequately instructed on such treatment. Smulian, Mitchell, and Stokley (2016) asserted that another effective intervention may be implementing a reminder and recall method that will notify parents when child is due to start the HPV vaccine series or complete the second or third dose per U.S immunization protocol. Dorell, Yankey, and Strasser (2011) conducted multiple surveys of Hispanic adolescents (*n* =77) and parents of adolescents (*n*=202) and focus groups with parents of 11- to 18-year-olds. The surveys were conducted to evaluate knowledge, and attitudes related to HPV vaccination acceptance. The results encouraged the authors to develop a bilingual written brochure for community members. It was reported that 92% of healthcare providers are seen by the public as a trusted source of

health information, and that on their advice they may vaccinate their daughters and sons if it is recommended.

Ylitalo, Lee, and Mehta (2013) utilized the focus groups as an approach method and intervention to enhance HPV vaccination acceptance. The focus group helped to determine the level of vaccination information that is accessible in their respective languages. Polit (2010) indicated that providing adequate, clear, and accessible information to parents can reduce concerns and misperceptions about vaccines.

Models and Theories

Leininger's transcultural care theory was chosen to provide a strong and appropriate foundation for addressing the identified project problem (Bodenheimer & Grumbach (2016). Bodenheimer and Grumbach (2016) described that this theory was used to develop educational tools throughout educative interventions within a multicultural and diverse community and aims to enhance knowledge regarding HPV vaccination immunization to prevent miscommunication between providers and parents and adolescents. Hopkins and Wood (2013) asserted that the most common factors that affect vaccination engagement and healthcare promotion activities are language barriers and poor education. The importance of using this theory is supported by the fact that it will assist providers and healthcare staffs in identifying the varying beliefs and thoughts from multicultural populations (Kettner, Moroney, & Martin, 2017).

The health promotion nursing model, as described by Pender (1982) was used to strengthen further intervention within the targeted population. This model is an appropriate choice to enhance HPV vaccination intake and benefits of immunization

within the described population. Im and Ju Chang (2012) explained that the health promotion model is a design model to assure a higher quality of health promotion in primary care settings. This model also focused on the interaction between patients and the environment, which helps providers and nurses determine lifestyle and healthcare perceptions. The health promotion model fits this DNP QI project since the main goal will be change of attitude and risk perception regarding HPV immunization.

Local Background and Context

There is marked decreased rate of HPV vaccination when comparing 2015 to 2016, as shown in Table 1. Another issue is that females are the ones who mostly receive the vaccine. A larger majority of women (72.7%) received HPV vaccination vaccine at a metropolitan Family Clinic during 2016; meanwhile, just 27.2% of males were brought to the office and accepted immunization treatment. In the observation of the DNP project leader, most of the parents refused to vaccinate their sons because they believed that males are not at risk of acquiring HPV infection. Another fact is that most parents received information from the school and Internet; yet, there was not enough understanding of the HPV prevention, and most of them believed that sexually active adolescents were not at risk. According to the CDC (2013e), HPV vaccination vaccine should be administrated before sexual debut to increase effectiveness and protection. Information for Table 1 came from ImmTrac and patient medical records, December 2016.

Table 1

HPV Series Completion Among Adolescents 9-17 Years of Age

	January, 2015-December, 2015			January, 2016-December, 2016		
Place	Total of Records	Completed Three Doses	Rate	Total of Records	Completed Three Doses	Rate
Metro City	826,674	77, 432	9.4%	798,845	54,597	6.7%
Childrens' (Hospital)	53,989	4,247	7.9%	50, 612	2,803	5.5%
Family (Clinic)	176	23	13.1%	121	11	9.1%

Gender and demographics are other facets in determining the vaccination rate. Tables 2 and 3 show data for vaccinations by gender and by demographic accordingly.

Table 2

HPV Dose Series Vaccination Among Adolescents Per Gender at Family Clinic

	January, 2015-December, 2015		January, 2016-December, 2016	
	Total Number of Adolescents	Rate	Total Number of Adolescents	Rate
Male	68	38.7%	33	27.3%
Female	106	61.3%	88	72.7%
Total	176	100%	121	100%

Table 3

HPV Dose Series Vaccinations Among Adolescents Per Demographic

	January, 2015-December, 2015		January, 206-December, 2016	
	Total of Adolescents	Rate	Total of Adolescents	Rate
African American	85	48.3%	62	51.2%
Caucasian	39	22.1%	28	23.1%
Hispanic/Latino	28	15.9%	14	11.6%
Asian	24	13.7%	17	14.1%
Total	176	100%	121	100%

The Hispanic population exhibited the lowest prevalence of HPV vaccination administration. Most of Hispanics and Latino parents showed a low HPV vaccine knowledge due to the poor education secondary language barrier as one of the fundamental causes of vaccine acceptance (Pitts& Adams, 2013). Adequate recommendations in Spanish may enhance Hispanic parents' perceptions about the importance of HPV vaccination vaccine to prevent HPV infection (Kepka, Ulrich, & Coronado, 2012). Another factor that places Hispanics as a higher vulnerable population is the illegal immigration and lack of healthcare coverage, which made them return to their native country and miss subsequent HPV vaccination doses.

Role of the DNP Student

I will serve as project leader, to conduct the focus groups with staff and with community leaders, develop the patient education materials in English and Spanish, implement the educational solution with staff members and seek approvals for the project from the senior administrative team at the clinic through the QI program at the site. As this project is part of an overreaching QI initiative, the impact on the actual HPV vaccination rate may not be apparent for several months after the conclusion of the focus groups and educational plan. This notwithstanding, as project leader, a formative and summative evaluation plan will be developed and carried out.

The positive change of this proposed research problem will be reevaluating and assessing protocols and tools that are not useful incentives to patients encouraging them to complete HPV vaccination immunization. Another positive change is decreasing HPV infection prevalence among adolescents and the anogenital and pharyngeal cancer risk. These changes will be supported by enhancing education and increasing community engagement for completing the three-dose series as per immunization guidelines. Most of the literature reviewed pointed out the benefits of mass HPV immunization or community health fairs that focus on the importance of HPV vaccination in HPV prevention as part of this positive social change and community impact.

Section 3: Collection and Analysis of Evidence

Introduction

This DNP QI Project was developed with the main purpose of changing attitudes and enhancing HPV vaccine acceptance, thereby increasing the HPV vaccination rate. Researchers have pointed out the importance of administering the HPV vaccination between the ages of 9-17 years old (ACOG, 2012). According to Pitts and Adams (2013), the HPV vaccination should be administered before the beginning of sexual relationships in order to achieve higher effectiveness. The American College of Obstetricians and Gynecologists (2012) reported that 14% of patients completed the three-dose series in 2010. Hopkins and Wood (2013) reported that 355,000 new cases of anogenital warts were produced by HPV infection.

The selected issue has multiple facets, such as reduced HPV coverage among adolescents (Bartlett & Peterson, 2012), the loss of millions of dollars by funding a vaccine with little acceptance (Pitts & Adams, 2013), and higher risk of being infected by HPV, along with the development of further anogenital and/or oropharyngeal cancers (Hopkins & Wood, 2013). I identified vaccine knowledge deficit and poor risk perception within the targeted population as significant gaps that need to be addressed. Most parents believe that their daughters and sons do not need to complete three-dose series and that, missing a dose will not compromise immunization status (McCabe,2014).

Practice-Focused Question

This DNP QI project proposal took place in an outpatient family practice clinic, localized within the urban area of a Texas metropolitan area. Outcomes were measured

based on project questions formatively through initiating stakeholder meetings, gathering and ranking evidence, and revising HPV vaccination policies. Outcomes were measured summatively, through stakeholder satisfaction with DNP project leadership survey and a finalized HPV vaccination policy, finalized healthcare professional HPV education module, finalized patient HPV education brochure and a pre-post implementation outcome measurement strategy (including HPV three-dose vaccination completion rate). Responding to this issue, the scholarly project question was: Can educational tools designed in English and Spanish increase HPV immunization rate among adolescents, and engage them to complete the three-dosage requirement for the HPV vaccination?

The PICOT question format was used to address the selected problem and outcomes desired

P: The population targeted is female and male adolescents (9-17 years old) and their parents.

I: The proposed plan of action and intervention was an educational package (Spanish-English) regarding HPV disease prevention and HPV vaccine's benefits throughout an updated immunization policy proposal.

C: Educational sessions were conducted with focus groups and leadership expert panel

O: The desired outcome will be increasing HPV vaccination acceptance by enhancing knowledge among parents and caregivers.

T: The time interval to develop the DNP project was 3 to 6 months (divided in two-quarters)

Sources of Evidence

Literature Review

An important source of evidence supporting this project is a thorough and comprehensive review of the literature, presented in this proposal in section 2 and throughout the document. To secure adequate depth in this review, valid databases were searched by using key terms such as *HPV vaccination vaccine, immunization issues, vaccination in adolescents, parental consent problems, Human Papillomavirus (HPV),* and *ethical and legal topics of an HPV vaccine.* There was a total of 679 articles fewer than 5 years old relating to the selected topic. Each article that met the criteria with robust evidence based-practice discussion and strong statistic results and high relevance was included in the literature review and presented in Section 2. I identified 382 qualitative studies, 237 quantitative studies, and 60 mixed studies methods. Most of the studies showed inclusion criteria a consent to participate, parents, and adolescents willing to cooperate with studies and completion of the three HPV dosages. The studies chosen represented a higher and valid sources due statistic methods, solid results and accuracy of discussion and strategies provided. Other sources of evidence were sought from Cumulative Index to Nursing and Allied Health Literature (CINAHL), Walden University library center, OVID, and PubMed databases.

Additional Evidence Supporting the Project

Focus groups were held with staff members and community leaders and shed additional light on the barriers that prevent effective HPV vaccination. The qualitative data from these proposed focus groups were summarized and presented to the senior

leaders at the site, validating the need for an educational solution. The primary aim of this DNP project was to provide educational tools and materials to enhance knowledge of HPV prevention among adolescents and young adults. Assessment-intervention based on the Advisory Committee on Immunization Practices (ACIP) guidelines will focus goals and outcomes by comparing HPV vaccination vaccine rate pre-and post-intervention after the DNP project is completed. This project aligns with ANCC DNP's Essential VII, which is focused on clinical prevention and population health to improve nation's health. This DNP project aligns with pediatric guidelines and Texas Department of State Heath Service (Immunization Unit) by providing material to parents and families that will support the best well-being and growth of children and adolescents.

Participants

I selected and designed an expert panel composed of community leaders and the staff members who consented and agreed to participate in the present project (Appendix-B). The participants were instructed on HPV vaccination importance regarding of increase risk perceptions, to enhance HPV acceptance within communities. I implemented bilingual educative activities and interventions after Institutional Review Board (IRB) approval was secured. A collaborative leadership approach was used by following ethical standards within practicum site. According to ANCC (2013) Practitioners and organizational leaders reported that collaboration is a great strategy for improving problem-solving and achieving expected goals.

Procedures

I provided a consent form to all staff members (Appendix-B) and community leaders participating in the project. Once they agreed, I created focus groups and HPV immunization educational sessions. Data were collected onsite and kept confidentially. The bilingual interventions were implemented with staff members at the clinic. The first procedure includes significant findings from a focus group held with clinic staff members regarding their perceptions of barriers to HPV vaccination. The second procedure focused on providing information about the importance of HPV vaccine and its completion as per immunization schedule (CDC, 2013) in three educational sessions provided to staff members. Finally, a third procedure involved presenting results of the focus group and educational sessions to clinic leadership and community leaders with the intention of expanding HPV information into the community and institutionalizing the education in the clinic via a revised policy. The feedback and interaction between a focus group and I supported the project and helped to determine the most useful strategies to enhance HPV acceptance and therefore increase immunization rate within targeted population.

Protections

I protected human subjects by securing IRB permissions obtained from Committee and Ethics Commission as per Walden University DNP QI Capstone Rubric. Results of the focus group discussion with staff members and community leaders were safely kept confidential and anonymous as per ethical guidelines. The ethical consideration from present DNP QI project was achieved by timely submission of required paperwork to the IRB from Walden University before developing and

implementing an educational tool and strategy to enhance HPV vaccination acceptance within community targeted.

Analysis and Synthesis

Data from a focus group comprised of clinic staff members whose aim is to enhance HPV vaccination acceptance were summarized. The data obtained were collected through expressed thoughts, and comments from discussions between staff members who participated in the focus groups. I summarized this information as valuable evidence in support of the barriers identified through the literature. Bodenheimer and Grumbach (2016) asserted that successful outcomes must be obtained from stakeholders, policymakers, and community engagement to make a desired change. Additional approaches to the subject of HPV included a literature review, national guidelines reviews, current vaccine policy and protocol reviews, and gathering of input and stakeholder satisfaction with DNP project focused on HPV immunization strategies to enhance knowledge in patients and parents.

Most of the adolescents included in the project population were from a low-income community, with Medicaid as the leading healthcare coverage funded by the federal Vaccines for Children (VFC) program without any cost to their parents. This federal program aligns with the Healthy People 2020 goals for reaching an 80% of vaccination coverage despite socioeconomic level. The DHSS (2013) reported that it is important to decrease miscommunication and reinforce education in a multicultural society to increase HPV vaccination compliance. Kettner, Moroney, and Martin (2017) asserted that educative forces promoted by organizations are great tools for positive

input, and that miscommunication is a powerful obstacle to HPV vaccination acceptance. An adequate educational intervention may increase knowledge on any given issue and promote better engagement of population studied to solve it (Laurate Education, 2011). Once the information was collected from staff members' focus group, I analyzed it and compared it to the literature review, incorporating this insight into the educational program and patient education materials developed for the clinic. This information allowed senior leaders of the clinic and front-line staff alike to direct their strategies to improve educational goals and enhance educational level, and therefore increase HPV acceptance and vaccination rate. According to Pitts and Adams, (2013) successful educational strategies would enhance chance of attitudes and risk perceptions within communities.

Finally, the results of the focus group, the educational sessions and materials were presented to an expert panel made of community leaders and clinic leadership. The expected outcomes of this final phase of the project included the following: (a) a finalized policy for the clinic formalizing the educational approach and (b) a brainstorming discussion with community leaders as to how they can support an educational process in the community to further project goals and increase acceptance to HPV vaccination.

Summary

Multiple factors may decrease HPV vaccination intake within the targeted population at Southwest area of Houston. Parental hesitancy, language barriers, a lack of healthcare coverage, and poor risk perception of HPV infection are the most common challenges to overcome when trying to facilitate completion of the HPV vaccine as

recommended. Data collection for the DNP project was performed by compiling focus group feedback and responses from the staff members on the usefulness of the educational package. The project provided educational tools and materials that will enhance knowledge of HPV prevention among adolescents and young adults. The next two sections include descriptions of the completed project with the primary purpose of discussing findings and providing recommendations that may engage stakeholders, representatives, and legislators to solve this issue that affects a vulnerable population.

Section 4: Findings and Recommendations

Introduction

The purpose of this QI scholarly project was to develop an educational intervention for adolescents and parents regarding the importance of HPV vaccination. The educational intervention was supported by a focus group process to discern prominent barriers to HPV vaccination in the clinic patient population. Finally, results of the focus group and educational sessions were presented to an expert panel consisting of community leaders and clinic senior leader for validation of the need to continue the project into the future.

Educational Intervention and Focus Group Results

I designed an educational intervention in Spanish and English for implementation among adolescents and their parents, which was based on the literature review summarized in Section 2 and on the results of the focus group held with clinic staff members, to identify nature of parental resistance and to incorporate this insight into the educational approach. This intervention is designed to increase awareness of HPV vaccination at the clinic site, obtain an informed consent regarding the acceptance or declination of the three dosages of HPV vaccine, engage to complete the three series as recommended by CDC and further discussion of HPV importance with providers and nurses. Mayne et al. (2012) described the importance of providing accurate information regarding HPV vaccination, assure population will understand and reinforce information given. Using patient education materials provided by the CDC (2017), I developed a fact sheet written at a sixth-grade reading level, accompanied by a powerpoint that helped

clinic staff members to understand the important concepts needed in order to influence parental hesitancy and misconception regarding HPV vaccination (see Appendices C and D). The purpose and the principal objective of this proposed QI project were to develop an educational intervention to increase the HPV vaccination rate at an urban clinic in Texas. The resources utilized included a fact sheet, a visual tool (provided both in Spanish and in English) and a Powerpoint slide deck (see Appendix C, D, and E) related to HPV vaccination.

Key findings and results of the focus group revealed two important misconceptions held by parents of adolescents served in the clinic. The first was the notion held by parents that one dose of vaccine was adequate to prevent their adolescents from contracting the HPV virus. The second was more difficult to address, was a complex set of concerns about the vaccine leading to the initiation of sexual activity and (potential) promiscuity subsequently. Additional insight emerged as it was noted that most parents do not consent for HPV vaccination due to a lack of knowledge about HPV infection and poor risk perception of its consequences. The most common barrier is parental hesitancy. Parental uncertainty may produce multiple results such as a poor HPV coverage among teenagers (Bartlett & Peterson, 2012), loss of millions of dollars by funding a vaccine with a little acceptance (Pitts & Adams, 2013), a higher risk of being infected by HPV, and increased vulnerability of suffering anogenital and/or oropharyngeal cancers (Hopkins & Wood, 2013).

During the discussion with the focus group, staff members reported that parents have an attitude against HPV vaccine which were complicated by language barriers,

miscommunication, and incorrect beliefs regarding vaccination. Tam et al. (2011) asserted that poor communication between providers and nurses with adolescents and their parents is the leading cause of low HPV vaccination intake. Rosenthal (2010) described the importance of providers and nurses to recommend the HPV vaccination and accurately explained the benefits as a healthcare promotion activity that will avoid HPV infection and the consequences. A lack of Spanish educational materials and language barriers were found to influence the HPV vaccination engagement among teenagers and parents.

Additional crucial elements that formed the basis of instruction also included vaccination availability, side effects, coverage, reimbursement and dosage required to obtain a complete immunization against HPV. An alarm protocol was created so staff may inform parents and adolescents about vaccination due dates and discuss additional concerns as well. ImmTrac is software capable of tracking immunization dosage, and other side effects or notes reported by the provider. ImmTrac consolidates and stores immunization records from multiple sources electronically within the centralized system (Department of Health & Human Services, 2013). The use of these alerts built into the ImmTrac software was presented as part of the educational model with the staff. When this is combined with the patient focused educational tools, taken together these are powerful adjuncts that the clinic staff can use with parents to reinforce knowledge of HPV vaccination's benefits. Pitt and Adams (2013) proposed educational strategies and tools accompanied by graphics that allows patients to understand and enhance information given.

Southwest Metropolitan clinic staff members (*n*=15) who attended the educational program and participated in the focus group included four medical assistants, three registered nurses, five nurse practitioners, one DNP, and two physicians (Family Practice MDs). The educational intervention was conducted in 30-45 minute sessions. A PowerPoint slide deck, a bilingual fact sheet (in Spanish and English), and visual tools (see Appendices C, D and E) were used to enhance HPV education level within staff members at the clinic, and through them, the population targeted. The educational intervention and tools provided should increase acceptance of HPV vaccine, engage parents and teenagers to complete the three doses as recommended, and improve education regarding this vaccination with the primary purpose to enhance the HPV vaccine rate within targeted population.

Clinic Senior Leader and Community Leaders

The final phase of the DNP project was held in a meeting with the leadership expert panel made up of a senior clinic leader and five community leaders: from YMCA (Refugee Organization), United Healthcare, Molina Insurance company, Texas Children Hospital and Houston Foodbank. The purpose of this meeting was to present the expert panel with the results of the focus group and the educational sessions with clinic staff and to brainstorm ways to further disseminate the educational materials and program throughout the community. During this phase, the expert panel were asked to sign consent for their participation in the project (Appendix B) and the objectives and goals of the project were reviewed.

The leadership expert panel reported that most affected ethnic group is the Hispanic, mostly because language barriers and many families are forced to return to their native countries; therefore, it is difficult for them to complete the three-dose series as required. Finally, these experts agreed that common reasons for HPV lack of acceptance included poor risk perception about HPV consequences and erroneous advertisement in certain websites which prevents parents' consent to HPV vaccination for their children. These experts also noted that because it is not a mandatory vaccine, many parents are not encouraged to consent to HPV immunization for their sons and daughters.

The expert panel concurred with the focus group and clinic staff members that most parents do not consent for HPV vaccination due to a lack of knowledge about HPV infection and poor risk perception of its consequences. The most common barrier is parental hesitancy. Parental uncertainty may produce results such as a poor HPV coverage among adolescents (Bartlett & Peterson, 2012), loss of millions of dollars by funding a vaccine with a little acceptance (Pitts & Adams, 2013), a higher risk of being infected by HPV, and increased vulnerability of suffering anogenital and/or oropharyngeal cancers (Hopkins & Wood, 2013).

After discussing the main barriers that interfere with accepting HPV vaccination within the clinic population, the expert panel was presented with tools to implement in the community. These included advantages of HPV vaccination due its further benefits to prevent oral and rectal cancer, and included teaching regarding appropriate use of condom to prevent additional STDs such as HIV, herpes genital, gonorrhea, syphilis, and chlamydia. During this session, the same materials as used in the clinic were presented:

bilingual fact sheet, visual tool and Powerpoint slide deck that will enhance knowledge and awareness of HPV vaccine benefits, but also provide accurate information about healthcare coverage, vaccine availability and additional centers that may provide this immunization free of cost. The primary goal of this session was to provide tools to overcome described barriers and educate the population in Spanish and English regarding HPV infection consequences.

Members of the expert panel discussed presented tools and strategies aimed at increasing HPV vaccination acceptance within the community. All participants reported that most Hispanic populations were interested in learning more about HPV vaccination in their native language (Spanish), and were encouraged to visit a provider to obtain more information about HPV coverage, and its benefits for adolescents. Another strategy discussed was implementing wellness health fair at schools and colleges which would be a perfect fit to promote HPV vaccination and spread its benefits among teenagers.

As an extension of the expert panel session, I also met with Texas Immunization Department and Texas Childrens Hospital nursing directors to discuss outcomes on HPV vaccination in Texas and nationwide. All agreed about the importance of providing a higher level of disease prevention and HPV vaccination promotion in different languages other than English as particular groups of the population will better understand vaccination benefits and its importance in children and adolescents. These experts also agreed that the materials developed in this DNP project (HPV vaccination fact sheet in English and Spanish and the Powerpoint slide deck) have great potential for broader application beyond the clinic site.

The expert panel advocated for participation in a wellness clinic fair at two apartment complexes in the Southwest Houston metropolitan area and sponsored by Texas Children Hospital, United Healthcare, and Houston Foodbank. A detailed explanation of the bilingual fact sheets regarding HPV vaccination intended for adolescents who will return to high school after summer vacations was provided. During these health clinics, which were staffed by clinic personnel, it was demonstrated that most parents would bring adolescents to the clinic and give consent for HPV vaccination after a clear understanding of its benefits. During the last week of project, clinic staff reported a total of 14 parents who brought their adolescents to the clinic for physical exam and HPV administration (initial and subsequent dosage). This represents an increase of 37.8 % of parents providing consent to their adolescents compared to a similar period in 2016. Though these results are preliminary as they represent a small sample and brief period of time, they are indeed positive outcomes.

Finally, the Southwest Metropolitan Clinic's director and administrator decided to implement the proposed bilingual fact sheet and Powerpoint slides (the tools developed for the project) for use with parents and adolescents, and protocol alert system (for staff members to use with ImmTrac), as part of an internal clinic policy, (Appendix E) meant to keep increasing HPV vaccination rate and parental acceptance. Finally, these tools help to ensure accurate documentation of HPV immunization and properly tracking to the adolescents that are due for first or subsequent HPV dosage.

Recommendations

Upon DNP QI Project implementation and following its' finding and results during intervention, I recommend expanding educational strategies to other clinics; regional, state, and nationwide organizations to increase awareness of such healthcare gap, to engage multiple stakeholders, policymakers, federal, and profit organizations in the hopes of achieving similar results. I also recommend increasing school vaccinations and wellness health fairs within the communities to provide more education regarding HPV vaccine, to potentially improve vaccination rate regionally and nationally.

Strengths and Limitations of the Project

One of the strengths of this DNP QI project is the development of a collaborative team, providing Spanish and English education related HPV vaccination within a multicultural population. The success of such implementation is supported by a more educative and effective communication between providers and parents and their adolescents. Seto, Marra, Raymakers, and Marra (2012) determined a 32% of increased vaccination rate among Hispanics after native language intervention was provided. Stokley (2013) developed educational strategies accompanied by graphic tools which allowed the population to gain a better understanding of information given. Another strength is the use of alerts developed for software such as ImmTrac, which will improve tracking patients who received the HPV vaccination, adolescents' due for the second or third dosage, and monitoring side effects of such immunization all over Texas. Another strength of the project relates to policymakers' involvement, which may be influenced by this DNP QI project. I have been working closely with AANP TX State Representatives

as an active NP member leader from my community aimed at increasing awareness of HPV vaccination.

The main limitation for this DNP QI project is that providers administer the HPV vaccination as part of a wellness visit, and therefore some educational instructions may be missing during the consultation and further follow up of teenagers due a busy workflow and lack of time. According to Tam et al. (2012), educative tools required an organized and strong collaborative team capable to fit patient's schedule into required time frame that allows providers and nurses to reinforce education given. McCase (2014) indicated that school vaccination programs are the best tools to increase immunization rate within a population targeted. Despite these limitations, the tools developed for this DNP project represent an important step in creating higher rates of HPV vaccination among this vulnerable population: this is a significantly positive social change.

Section 5: Dissemination Plan

Online resources and further publication of existing educational tools developed for this DNP project will be the most successful form of dissemination. The publication throughout reputable websites would increase awareness of current health issue (lack of HPV vaccination acceptance). The Journal of Public Health and CDC quarterly report are excellent sites to publish the results of this DNP QI project and its' outcomes. By publishing this manuscript, I will provide additional tools and resources to engage policymakers, stakeholders, and legislators on this disease prevention issue that identifies adolescents as a vulnerable population. Per Stokley (2013), this phase of DNP project will acknowledge further policies and guidelines related to disease prevention and healthcare promotion activities aimed at providing a higher quality of care within population targeted.

Spanish and English graphic booklets and posters constitute additional tools that emerge from this DNP QI project, which can be disseminated broadly through local communities. This method of dissemination is the most common strategy to spread results, discussion, comparison with another sources and recommendations according to ANCC. This presentation tool and further dissemination strategies will also provide a trampoline to excel and improve additional educative feedback between author and professionals nationwide. Perkins and Clark (2012) both asserted the importance of spreading doctorate objectives and outcomes with the main purpose of evaluating and consolidating current issues, and properly approaching additional solution.

Educational resources, graphic information, and clear language available on reputable websites, will facilitate provider-patient interaction and communication. Moreover, I will have the opportunity to link product into others healthcare network that will be available to clinics, hospitals, schools and community centers which allow further guideline review and increase education level among parents and adolescents, and therefore enhance HPV vaccination acceptance within the community. Other scholars. By networking and disseminating DNP outcomes and recommendations, additional research on this topic can be generated aim to obtaining a higher quality of care for patients, families, and communities (Scott, 2016).

The process leading to the presentation of the results and dissemination of educative intervention will be divided into four parts: abstract development; presentation of graphic material, educative intervention; and formal presentation and the defense of the results obtained throughout oral presentation.

Conclusion

I developed an intervention in a fact sheet written in a sixth-grade reading level, accompanied by a PowerPoint slide deck that would help to facilitate learning among parents and adolescents. During the intervention with an expert leadership panel composed of staff members and community leaders, it was reported by most of them that parents have an attitude against HPV vaccine which emerges through language barriers, miscommunication, and the erroneous beliefs regarding vaccination. By publishing this manuscript to the Journal of Public Health for publication, I will provide additional tools and resources to engage policymakers, stakeholders, and legislators on this disease

prevention issue that place adolescents as vulnerable population, and propose further immunization guideline review and educative tools.

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Appendix A: Literature Matrix

Full APA Reference	**Research Question(s)/ Hypotheses**	**Research Methodology**	**Analysis & Results**	**Conclusions**	**Grading the Evidence**
Bartlett JA, Peterson JA. The uptake of Human Papilloma virus (HPV) vaccine among adolescent females in the United States: a review of the literature. J Sch Nurs. 2011 Dec;27(6): 434-46. doi: 10.1177/105984051 1415861. Epub 2011 Jul 12. Review. PubMed PMID: 21750234.	Barriers that may interfere on HPV vaccination administration	Review of valid literature to determine the barriers from the parents'/guardians' and primary care providers' (PCPs) perspective, that may be associated with the uptake of Human Papillomavirus (HPV) vaccine among adolescent females	HPV vaccine administration was highly accepted if the parents had received provider's recommendation	Learning about interventions objectives and goals may positively affect the HPV vaccine uptake.	Level I: Evidence from a systematic review
Perkins RB, Clark JA.	Providers' attitudes toward male	Retrospective analysis of qualitative data	Although 24 of 31 (77%) Pediatric and	Providers who did not offer	Level V: Evidence from

Providers' attitudes toward human papilloma virus vaccination in young men: challenges for implementation of 2011 recommendations. Am J Mens Health. 2012 Jul;6(4):320-3. doi: 10.1177/1557988312438911. Epub 2012 Mar 7. PubMed PMID: 22398992.	human papillomavirus (HPV) vaccination		Family Medicine providers interviewed favored vaccinating males, just only 3 (12%) offered vaccination.	vaccination thinks that parents may not be interested in HPV vaccination immunization. Most of parents and guardians were unaware about HPV infection consequences, mostly in males.	systematic reviews of descriptive and qualitative studies
Berenson AB, Rahman M. Gender differences among low income women in their intent to vaccinate	The research question is to Determine current intentions to vaccinate sons and daughters, mostly among low income mothers	Competence Questionnaire was administered to 322 mothers to examine gender differences in intent to vaccinate their children.	Mothers of sons were less likely to consider their child at risk of HPV (27% vs 12%, P = 0.028). However, mother of daughters was more	Educational interventions are required to properly address the importance of vaccinating adolescents from both genders	Level VI: Evidence from a single descriptive or qualitative study

their sons and daughters against human papilloma virus infection. J Pediatric Adolesc Gynecol. 2012; 25:218–20. doi: 10.1016/j.jpag.2012.01.003.			concerned about HPV vaccination side effects (54% vs 33%, P = 0.008).	against HPV.	
Pitts MJ, Adams TK. Implications of the Virginia human papilloma virus vaccine mandate for parental vaccine acceptance. Qual Health Res. 2013; 23(5):605–617	Strategies to enact a school vaccine mandate for the human papillomavirus (HPV),	Longitudinal, randomized design to identify the factors affecting the mandate HPV vaccination in schools.	Most of the findings suggest that many parents are skeptical and do not desired to follow a state-mandated HPV vaccination vaccine requirement. Parental hesitancy constitutes the main barrier to implement such strategy	Study results can inform future legislation considering HPV-related mandates and support in the promotion of HPV vaccination immunization.	Level VII: Evidence from the opinion of authorities
Reiter PL, Stubbs B, Panozzo CA, Whitesell	Educational intervention to increase knowledge	Retrospective analysis of qualitative data throughout HPV education	Following the intervention, more than 90% of school employees	Education intervention applied, increased HPV and	Level III: Evidence obtained from well-designed

D, Brewer NT. HPV and HPV vaccine education intervention: effects on parents, healthcare staff, and school staff. Cancer Epidemiol Biomarkers Prev.2011; 20(11):2354–2361	about human papillomavirus(HPV) and HPV vaccine will increase vaccination rates and reuptake	intervention sessions	though that HPV vaccine education is worthwhile for parents and patients.	HPV vaccination knowledge among groups influential to the HPV vaccination behaviors of adolescent females.	controlled trials quasi-experimental

Appendix B: Consent Form

Dear participant: _____

As part of DNP QI project, you are invited to participate in the present project "Educational Intervention for Engaging Adolescents and Their Parents in HPV Vaccination". The purpose of this study is to enhance educational level regarding HPV immunization among parents and adolescents, and therefore to increase vaccination acceptance. You were chosen as a possible participant in this project as a reliable source of information, and because of your ability to engage the community regarding HPV vaccination. Your signature below indicates your consent to participate in this project. Data will be collected onsite and kept confidentially and all data will be anonymous. Please feel free to ask questions regarding this project.

Thank you for your cooperation

Once signed, present consent also indicates that I am at least 18 years of age and agree to participate in present study.

☐ I agree to participate

Signature _____

Appendix C: HIV Fact Sheets

INFORMATION FOR PARENTS

HPV Vaccine for Preteens and Teens

Last updated March 2012

Why does my child need HPV vaccine?

This vaccine is for protection from most of the cancers caused by human papillomavirus (HPV) infection. HPV is a very common virus that spreads between people when they have sexual contact with another person. About 6 million people, including teens, become infected with HPV each year. HPV infection can cause cervical cancer in women and penile cancer in men. HPV can also cause anal cancer, throat cancer and genital warts in both men and women.

When should my child be vaccinated?

The HPV vaccine is recommended for preteen boys and girls at age 11 or 12 so they are protected before ever being exposed to the virus. If your teen hasn't gotten the vaccine yet, talk to their doctor about getting it for them as soon as possible.

The HPV vaccine is given in 3 shots. The second shot is given 1 or 2 months after the first shot. Then a third shot is given 6 months after the first shot. Be sure that your child gets all 3 shots for full protection.

What else should I know about HPV vaccine?

There are two HPV vaccines. Girls and young women should get either HPV vaccine to prevent cervical cancer.

One of the HPV vaccines also protects against genital warts and anal cancer in both females and males. Boys should get this HPV vaccine to prevent anal cancer and genital warts. Girls can get this vaccine to prevent cervical cancer, anal cancer and genital warts.

Both HPV vaccines have been studied very carefully. These studies showed no serious safety concerns. Common, mild adverse events reported during these studies include pain in the arm where the shot was given, fever, dizziness and nausea.

Some preteens and teens might faint after getting the HPV vaccine or any shot. Preteens and teens should sit or lie down when they get a shot and stay like that for about 15 minutes after the shot. This can help prevent fainting and any injury that could happen while fainting.

Serious side effects from the HPV vaccine are rare. It is important to tell the doctor or nurse if your child has any severe allergies, including an allergy to latex or yeast. HPV vaccine is not recommended for anyone who is pregnant.

HPV vaccination is recommended by the Centers for Disease Control and Prevention (CDC), the American Academy of Family Physicians, the American Academy of Pediatrics, and the Society for Adolescent Health and Medicine.

How can I get help paying for these vaccines?

The Vaccines for Children (VFC) program provides vaccines for children ages 18 years and younger, who are not insured or under-insured, Medicaid-eligible, American Indian or Alaska Native. You can find out more about the VFC program by going online to www.cdc.gov and typing VFC in the search box.

Where can I learn more?

For more information about HPV vaccines and the other vaccines for preteens and teens, talk to your child's doctor or nurse. More information is also available on CDC's Vaccines for Preteens and Teens website at www.cdc.gov/vaccines/teens.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CS 238166-A

HPV Facts Sheets

What is genital HPV infection?

Genital human papillomavirus (also called HPV) is the most common sexually transmitted infection (STI). There are more than 40 types of HPV that can infect the genital areas of males and females. These HPV types can also infect the mouth and throat.

HPV can cause serious health problems, including genital warts and certain cancers. There is no certain way to tell who will develop health problems from HPV and who will not. In most cases HPV goes away by itself before it causes any health problems, and most people who become infected with HPV do not even know they have it.

HPV is not the same as herpes or HIV (the virus that causes AIDS). Both viruses can be passed on during sex, but they have different symptoms and cause different health problems.

Who is at risk for HPV?

Anyone who is having (or has ever had) sex can get HPV. HPV is so common that nearly all sexually-active men and women get it at some point in their lives. This is true even for people who only have sex with one person in their lifetime.

How do people get HPV?

HPV is passed on through genital contact, most often during vaginal and anal sex. HPV may also be passed on during oral sex and genital-to-genital contact. HPV can be passed on between straight and same-sex partners—even when the infected person has no signs or symptoms.

Most infected persons do not realize they are infected, or that they are passing HPV on to a sex partner. A person can still have HPV, even if years have passed since he or she has had sexual contact with an infected person. It is also possible to get more than one type of HPV.

In rare circumstances, a pregnant woman with genital HPV can pass the HPV on to her baby during delivery.

What are the potential health problems caused by HPV?

Most people with HPV never develop symptoms or health problems. Most HPV infections (90%) go away by themselves within two years. But, sometimes, HPV infections will persist and can cause a variety of serious health problems. Health problems that can be caused by HPV include

Genital warts (warts on the genital areas);

Recurrent respiratory papillomatosis (RRP), a rare condition in which warts grow in the throat;

Cervical cancer, cancer on a woman's cervix; and

Other, less common, but serious cancers, including genital cancers (cancer of the vulva, vagina, penis, or anus), and a type of head and neck cancer called oropharyngeal cancer (cancer in the back of throat, including the base of the tongue and tonsils).

All cases of genital warts and RRP, and nearly all cases of cervical cancer, are caused by HPV. A subset of cancers of the vagina, vulva, anus, penis, and oropharynx, are caused by HPV.

The types of HPV that can cause genital warts are not the same as the types of HPV that can cause cancers.

Signs and symptoms of health problems caused by HPV:

Genital warts usually appear as a small bump or group of bumps in the genital area. They can be small or large, raised or flat, or shaped like a cauliflower. Healthcare providers can usually diagnose warts by looking at the genital area. Warts can appear within weeks or months after sexual contact with an infected partner—even if the infected partner has no signs of genital warts. If left untreated, genital warts might go away, remain unchanged, or increase in size or number. The types of HPV that can cause genital warts are not the same as the types of HPV that can cause cancers.

Cervical cancer usually does not cause symptoms until it is quite advanced. For this reason, it is important for women to get regular screening for cervical cancer. Screening tests can find early signs of disease so that problems can be treated early, before they ever turn into cancer.

Other cancers caused by HPV might not have signs or symptoms until they are advanced and hard to treat. Other HPVassociated cancers include some cancers of the vulva, vagina, penis, anus, and oropharynx.

RRP is a condition in which warts grow in the throat. RRP can occur in children (juvenile-onset) and adults (adult-onset). These growths can sometimes block the airway, causing a hoarse voice or trouble breathing. How does HPV lead to health problems?

In most cases the virus goes away and it does not lead to any health problems. However, when the virus persists, or does not go away, HPV can cause normal cells to become abnormal and, most of the time you cannot see or feel these cell changes.

Warts can appear within months after getting HPV.

Cancer often takes years—even decades—to develop after a person gets HPV.

There is no certain way to know which people infected with HPV will go on to develop cancer or other health problems. However, persons with weak immune systems (including persons with HIV) may be less able to fight off HPV and more likely to develop health problems from it.

How common are HPV and health problems caused by HPV?

HPV (the virus):

Approximately 79 million Americans are currently infected with HPV. About 14 million people become newly infected each year. HPV is so common that nearly all sexually-active men and women will get at least one type of HPV at some point in their lives.

Genital warts: About 360,000 persons in the U.S. get genital warts each year.

Cervical cancer: About 12,000 women in the U.S. get cervical cancer each year.

Other cancers:

Other cancers can be caused by HPV, including some vaginal, vulvar, penile, anal, and oropharyngeal cancers: Each year in the U.S., HPV is thought to cause an estimated – 2,100 vulvar cancers, – 500 vaginal cancers, – 600 penile cancers, – 2,800 anal cancers in women,

**Note:* Other factors, notably tobacco and alcohol use, may also play a role with HPV to cause these cancers. About 21,000 of these cancers are potentially preventable by HPV vaccines.

1,500 anal cancers in men,

1,700 oropharyngeal cancers in women* and

6,700 oropharyngeal cancers in men

Recurrent respiratory papillomatosis (RRP) is very rare. It is estimated that about 820 children get juvenile-onset RRP every year in the U.S.

What is the difference between HPV and HIV?

HPV is a different virus than HIV, and causes different health problems. HPV does not live in the blood cells, but rather lives on the skin. Also, whereas HIV can lead to AIDS, genital HPV can lead to genital warts and certain types of cancer. However, persons with HIV are more likely to get HPV and to develop health problems from HPV. This is especially true for anal cancer.

Does HPV affect a pregnant woman and her baby?

Women who are pregnant can get infected with HPV. Usually these infections do not cause any problems. But sometimes HPV leads to genital warts, which can grow during pregnancy. Women with genital warts during the late stages of pregnancy are more likely to have children with warts in the throat, a condition called recurrent respiratory papillomatosis; however, this is a very rare condition.

Pregnant women can develop cervical cell changes due to HPV. These changes can be detected through routine cervical cancer screening. Women should get routine cervical cancer screening, even during pregnancy.

Is there a test for HPV?

HPV tests are available to help screen women aged 30 years and older for cervical cancer. These HPV tests are not recommended to screen men, adolescents, or women under the age of 30 years. There is no general HPV test for men or women to check one's overall "HPV status." Also, there is not an approved HPV test to find HPV in the mouth or throat.

How can HPV be prevented?

There are several ways that people can lower their chances of getting HPV: HPV vaccines are recommended for 11- or 12-year-old boys and girls. HPV vaccines are safe and effective, and can protect males and females against some of the most common types of HPV that can lead to disease and cancer. HPV vaccines are given in three shots over six months; it is important to get all three doses to get the best protection. Boys and girls at ages 11 or 12 are most likely to have the best protection provided by HPV vaccines, and their immune response to vaccine is better than older women and men.

Girls and women: Two vaccines (Cervarix and Gardasil) are available to protect females against the types of HPV that cause most cervical cancers. One of these vaccines (Gardasil) also protects against most genital warts, and has been shown to protect against anal, vaginal, and vulvar cancers. Either vaccine is recommended for 11- and 12-yearold girls, and for females 13 through 26 years of age who did not get any or all of the shots

when they were younger. These vaccines can also be given to girls beginning at 9 years of age.

Boys and men: One vaccine (Gardasil) is available to protect males against most genital warts and anal cancers. Gardasil is recommended for 11- and 12-year-old boys, and for males 13 through 21 years of age who did not get any or all of the shots when they were younger. Gay, bisexual, and other men who have sex with men should receive the vaccine through age 26 years. Males 22–26 years of age may also get the vaccine.

For those who choose to be sexually active, condoms may lower the risk of HPV. Condoms may also lower the risk of developing HPV-related diseases, such as genital warts and cervical cancer. To be most effective, condoms should be used with every sex act, from start to finish. HPV can infect areas that are not covered by a condom – so condoms may not fully protect against HPV.

People can also lower their chances of getting HPV by being in a faithful relationship with one partner; limiting their number of sex partners; and choosing a partner who has had no or few prior sex partners. But even people with only one lifetime sex partner can get HPV, and it may not be possible to determine if a person who has been sexually active in the past is currently infected. Because HPV is so common, and almost every sexually-active person will get HPV at some time in their lives, it is important to protect against the possible health effects of HPV.

Can people prevent health problems caused by HPV?

Yes, there are different prevention strategies for different health problems caused by HPV. HPV vaccines can prevent many diseases and cancers caused by HPV. In addition to vaccination, there are other ways to lower the risk of health problems caused by HPV. A person can lower their risk of cervical cancer by getting routine screening if they are a woman aged 21–65 years (and following up on any abnormal results);

Oropharyngeal cancers by avoiding tobacco and limiting alcohol intake; and Genital warts by using condoms all the time and the right way.

Is there a treatment for HPV or health problems caused by HPV?

There is no treatment for the virus itself, but there are treatments for the health problems that HPV can cause:

Genital warts can be removed with treatments applied by the provider or the person himself/herself. No one treatment is better than another. Some people choose not to treat warts, but to see if they disappear on their own. If left untreated, genital warts may go away, stay the same, or grow in size or number.

Cervical cancer is most treatable when it is diagnosed and treated early. Women who get routine Pap tests and follow up as needed can identify problems before cancer develops. Prevention is always better than treatment. For more information visit www.cancer.org.

Other HPV-related cancers are also more treatable when diagnosed and treated early. For more information visit www.cancer.org.

Recurrent respiratory papillomatosis (RRP) can be treated with surgery or medicines. Curing RRP can sometimes require many treatments or surgeries over a period of years.

Where can I get more information?

STD information http://www.cdc.gov/std/

HPV Information http://www.cdc.gov/hpv/

HPV Vaccination http://www.cdc.gov/vaccines/vpd-vac/hpv/

Cancer Information http://www.cdc.gov/cancer/

Cervical Cancer Screening http://www.cdc.gov/cancer/cervical/basic_ info/screening.htm

CDC's National Breast and Cervical Cancer Early Detection Program

http://www.cdc.gov/cancer/nbccedp/

CDC-INFO Contact Center 1-800-CDC-INFO (1-800-232-4636) TTY: (888) 232-6348

CDC National Prevention Information Network (NPIN)

http://www.cdcnpin.org/scripts/index.asp P.O. Box 6003 Rockville, MD 20849-6003 1-800-458-5231 1-888-282-7681 Fax 1-800-243-7012 TTY E-mail: info@cdcnpin.org

National HPV and Cervical Cancer Prevention Resource Center American Sexual Health Association (ASHA) http://www.ashastd.org/std-sti/hpv.html P. O. Box 13827 Research Triangle Park, NC 27709-3827 1-800-783-9877

INFORMACIÓN PARA LOS PADRES

La vacuna HPV para preadolescentes y adolescentes

Actualizado en junio de 2012

¿Por qué mi hijo/hija necesita la vacuna HPV?

Esta vacuna protege contra la mayoría de los cánceres causados por la infección del virus del papiloma humano (HPV, por sus siglas en inglés). El HPV es un virus muy común que se contagia entre las personas cuando tienen contacto sexual con otra persona. Cada año, alrededor de 6 millones de personas, incluyendo a los adolescentes, se infectan con el HPV. La infección por el HPV puede causar cáncer del cuello del útero en las mujeres y cáncer del pene en los hombres. El HPV también puede causar cáncer anal, cáncer de la garganta y verrugas genitales tanto en los hombres como en las mujeres.

¿Cuándo se debe vacunar mi hijo/hija?

Se recomienda que los preadolescentes, tanto varones como mujeres, se pongan la vacuna HPV a la edad de 11 o 12 años de modo que queden protegidos antes de que se expongan al virus. Si su adolescente no se haya puesto la vacuna todavía, hable con su médico para que se la pongan lo más pronto posible.

La vacuna HPV se administra en 3 dosis. La segunda dosis se debe poner 1 o 2 meses después de la primera y la tercera dosis se debe administrar 6 meses después de la primera. Asegúrese que su hijo se ponga las 3 dosis para asegurar la mejor protección.

¿Qué más debo saber sobre la vacuna HPV?

Hay dos vacunas contra el HPV. Las niñas entre 11 o 12 años de edad) y las mujeres jóvenes entre 13 y 26 años se deben poner cualquiera de ellas para prevenir el cáncer del cuello del útero.

Una de las vacunas también protege contra las verrugas genitales y el cáncer anal tanto en las mujeres como en los hombres. Los niños deben ponerse esta vacuna HPV para prevenir el cáncer anal y las verrugas genitales. Las niñas se pueden poner esta vacuna para prevenir el cáncer del cuello del útero, el cáncer anal y las verrugas genitales.

Se ha realizado estudios muy cuidadosos de ambas vacunas HPV y dichos estudios han mostrado que no existe ninguna preocupación grave de seguridad con ellas. Algunos efectos secundarios que se han notificado en estos estudios incluyen dolor en el brazo, en el sitio que se ha puesto la inyección, fiebre, mareos y náusea.

Algunos preadolescentes y adolescentes se pueden desmayar luego de recibir la vacuna HPV o cualquier otra vacuna. Los preadolescentes y los adolescentes se deben sentar o recostar cuando se les pone la vacuna y quedarse así por alrededor de 15 minutos después de recibir la inyección. Esto puede ayudar a prevenir los desmayos o cualquier otra lesión que les podría ocurrir al desmayarse.

Los efectos secundarios graves de la vacuna HPV son raros. Es importante decirle al doctor o el enfermero de su hijo si tiene alguna alergia severa, entre ellas, alergia contra el látex o la levadura. No se recomienda poner la vacuna HPV a las mujeres que están embarazadas.

Los Centros pare el Control y la Prevención de Enfermedades (CDC, por sus siglas en inglés), lla Academia Estadounidense de Médicos de Familia, la Academia Americana de Pediatría y la Sociedad de Salud y Medicina para Adolescentes recomiendan vacunas contra el HPV.

¿Dónde puedo obtener más información?

Para obtener más información sobre las vacunas HPV y las demás vacunas para los preadolescentes y los adolescentes hable con el médico o el enfermero de su hijo. Usted también puede obtener más información disponible en el sitio web "Vacunas para Preadolescentes y Adolescentes" de los CDC en la siguiente dirección: http://www.cdc.gov/spanish/especialesCDC/VacunasPreadolescentes o www.cdc.gov/vaccines/teens (para más información en ingles).

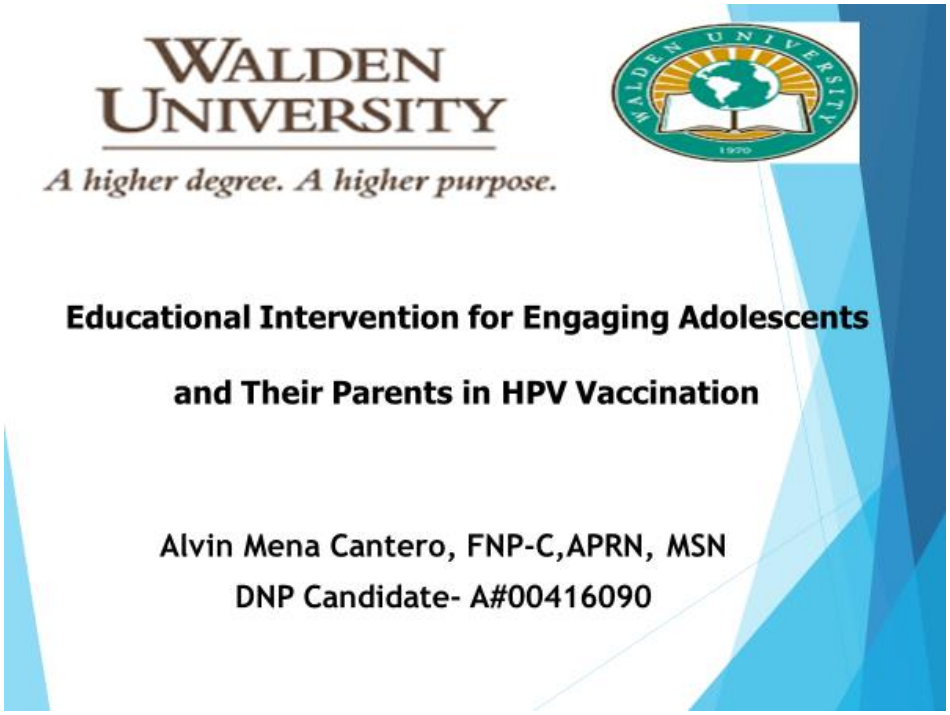
¿Cómo puedo obtener ayuda para pagar por estas vacunas?

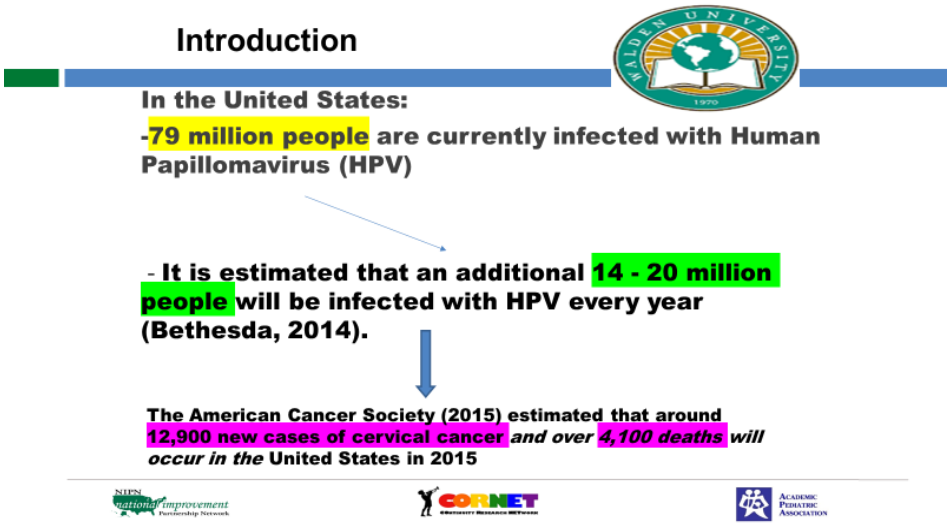
El Programa Vacunas para Niños (VFC, por sus siglas en inglés) provee vacunas para los jóvenes y niños de 18 años de edad y menores que no tienen seguro de salud o están sub-asegurados, son elegibles para recibir Medicaid, son nativos americanos o nativos de Alaska. Hable con el médico o el enfermero de su hijo para obtener más información sobre este programa. Puede obtener más información sobre el Programa VFC entrando en línea a la siguiente dirección: http://www.cdc.gov/spanish/especialesCDC/ProgramaVacunas

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CS 232468A

Appendix D: HPV Powerpoint





Problem statement

HPV vaccination rate in this clinic was 9.4 % in 2015, then dropped to 6.7 % in 2016, which is considerably lower than the recommended Healthy People 2020 goal of 80%.

3

Primary objective and goals

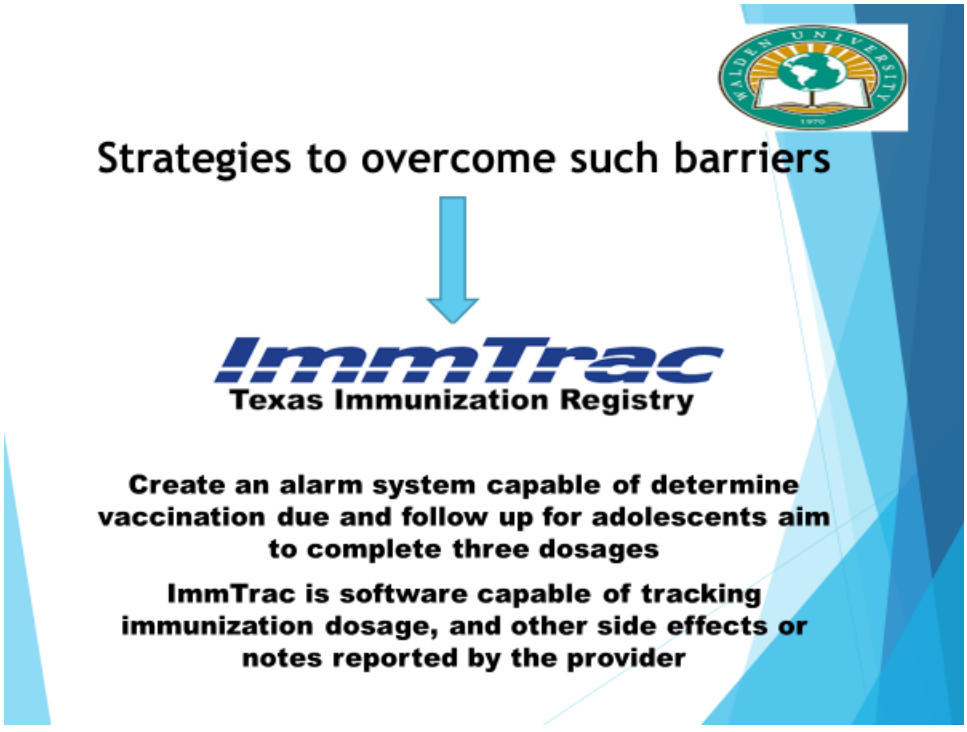
The primary objective of this project is to

Increase HPV vaccination rates in adolescents by educating parents on the benefits of obtaining vaccine against HPV in their daughters and sons

Increase HPV ACCEPTANCE within population chosen

The main goals of this project are aimed at enhancing the acceptance of the HPV vaccination within the selected community, thereby increasing HPV vaccination and three-dose regimen.


Strategies to overcome such barriers
the YMCA
UnitedHealthcare Community Plan
Create a leadership expert panel made up of a senior clinic leader and five community leaders: from YMCA (Refugee Organization), United Healthcare, Molina Insurance company, Texas Children Hospital and Houston Foodbank.
Texas Children's Hospital
houston foodbank
MOLINA HEALTHCARE


Strategies to overcome such barriers
ImmTrac
Texas Immunization Registry
Create an alarm system capable of determine vaccination due and follow up for adolescents aim to complete three dosages
ImmTrac is software capable of tracking immunization dosage, and other side effects or notes reported by the provider

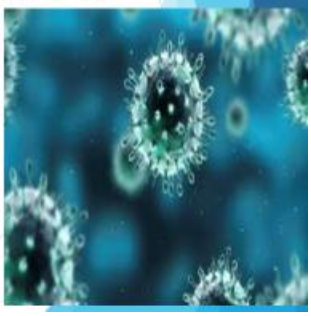
Strategies to overcome such barriers

Presented the expert panel with tools to implement in the community, which included

Advantages of HPV vaccination due its further benefits to prevent oral and rectal cancer, and included teaching regarding appropriate use of condom to prevent additional sexually transmitted diseases (STDs) such as HIV, herpes genital, gonorrhea, syphilis, and chlamydia

What is HPV?

- HPV IS A virus that infects human skin AND mucosal surfaces by touching
- Some of their serotypes HPV16 and HPV 18 are classified as a carcinogen



Oropharyngeal (OP) Cancer Incidence

There are near 11,000 cases annually, 7,000 in men

BOYS ARE REQUIRED TO COMPLETE HPV VACCINATION AS WELL!

http://www.ghorayeb.com/OropharyngealCarcinoma.html

Primary objective and goals

HPV Vaccine Facts!

- HPV vaccine (Gardasil) contains no genetic material, therefore can produce cancer
- This vaccination is covered by Medicaid, CHIP and United Community Plan
- It's important to complete the three dosage of HPV vaccination to develop a complete immunization status

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A higher degree. A higher purpose.

"THANK YOU WALDEN UNIVERSITY, PROFESSORS, TEXAS INMUNIZATION DEPARTMENT AND COMMUNITY LEADERS FOR THIS PROJECT. IT'S NOT THE END, BUT JUST A NEW BEGINNING"

Alvin Mena Cantero

THE END

Appendix E: Southwest Clinic HPV Vaccination Policy

The Advisory Committee on Immunization Practices (ACIP), Texas Immunization Department and Southwest Metropolitan Clinic implement to administer the vaccine to girls and boys between 11 and 12 years of age, but as early as 10 years old before they become sexually active. The available HPV vaccine will be quadrivalent human papillomavirus (HPV) vaccine (HPV4; Gardasil, Merck & Co. Inc.) and it will be covered by Medicaid, CHIP and United Community Plan. By following the article at H.B. 1379, adolescents and their parents will receive educational materials in both English and Spanish. All employees at Southwest Metropolitan Clinic are required to track and document Human Papilloma Virus administration within Meditrek. This HPV Vaccination Policy was discussed and approved by Dr. William Cohen (Family Practice, M.D-Medical Director) and Dr. Stella Eke (CEO and owner of family and pediatric clinic).