

Increasing Awareness of Cervical Cancer Screening and HPV Vaccination  
for Vietnamese Women in Utah

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### **Executive Summary**

The aim of this DNP project was to develop a community based educational program informing Vietnamese women about cervical cancer (CC), to raise the awareness of cervical cancer screening (CCS) and Human Papilloma Virus (HPV) vaccination. Cervical cancer continues to be a serious health threat for women in the U.S., despite overall decreases in mortality. Recent data indicates that in the U.S. there are approximately 12,000 new cases of CC diagnosed annually with more than 4,000 deaths.

Cervical cancer is the most commonly occurring malignancy among Vietnamese American women and low participation in cervical CCS and HPV vaccination constitutes an important health disparity in this population. Vietnamese women have the highest incidence rate of invasive CC compared to any other racial and ethnic groups in the U.S. Even though the incidence rate of CC among Vietnamese women has decreased steadily during the last decade, it is still more than twice that of non-Latina white women.

Low rates of CCS and HPV vaccination in this population are attributed to a lack of knowledge about these services, limited English proficiency, socio-cultural barriers, lack of preventive care norm, limited health care access, and lack of income and/or insurance. Cervical cancer screening and HPV vaccination rates among Vietnamese women have shown improvement with multifaceted and culturally appropriate interventions such as community based educational programs, small group or individual education sessions, visual aids, media advertisements, client-physician intervention videos, referrals, reminders, and follow-up phone calls.

The objectives of this project included: 1) develop an educational program about CCS and HPV vaccination for Vietnamese women, 2) improve the CCS and HPV vaccination comprehension among Vietnamese women through the educational program, 3) evaluate and revise the teaching materials, and 4) disseminate the final educational brochure to community organizations, churches, and health care clinics where Vietnamese women participate.

Participants (n=70) were recruited through several Vietnamese Baptist churches, nail salons, and individual homes by personal contact, and conducted in Vietnamese. Participants completed a pre-test questionnaire followed by an informal discussion and subsequent post-test questionnaire. Results indicate an increase in knowledge regarding CC, CCS, and HPV vaccination and an intent to seek screening. A brochure with local health centers offering screening and vaccinations were disseminated to participants and local community organizations where Vietnamese women gather.

The purpose of the project was achieved by improving Vietnamese women's knowledge and awareness about CC, and by providing locations for screening and vaccination. With this knowledge, it is likely that the rate of CC and corresponding morbidity and mortality in this population will decrease. Participants who carry this knowledge and act on it will likely impart preventive health practices to the next generation.

Committee members included, Debra Penney, PhD, CNM, MPH Associate Clinical Professor, project chair, Gwen Latendresse, PhD, Associate Clinical Professor and Director of Nurse-Midwifery, and Pam Hardin, PhD, Executive Director, MS & DNP Programs. Content experts included Deanna Kepka, PhD, Assistant Professor at the College of Nursing and a research investigator at Huntsman Cancer Institute, and Rebecca Wilson, PhD, Assistant Professor and Director of Nursing Education Specialty at the University of Utah.

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### **Problem Statement**

Cervical cancer (CC) continues to be a serious health threat for women in the U.S. despite a decrease in mortality. Since 1980, CC incidence rates per 100,000 women in the U.S. have decreased by 45% and mortality rates have decreased by 49% (National Cancer Institute [NCI], 2014a). In 2012, 12,042 women in the U.S. were diagnosed with CC and in that same year 4,074 women died from it (Centers for Disease Control and Prevention [CDC], 2015).

Incidence of CC varies among ethnic groups. In the U.S., the CC rate among Vietnamese women is more than twice the rate among non-Latina white women (Do, 2015; Taylor, Nguyen, Jackson, & McPhee, 2008). Vietnamese women have the highest incidence rate of invasive CC compared to any other racial and ethnic groups in the U.S. (Ma et al., 2015). Cervical cancer is the most commonly occurring cancer among Vietnamese women in the U.S., and it has been identified as an important health disparity in this population. For this group, the high rates of CC are attributed to the infrequency of screening (Do, 2015). The Healthy People (2020) goal for cervical cancer screening (CCS) is 93% for all women. The rate achieved nationally is 90%, but among Vietnamese women it is only estimated to be 50-70%; Vietnamese women have the lowest rate for screening among women in the U.S. (Wei-Chen, 2010).

There are only a few studies that have identified possible reasons for the low CCS rates among Vietnamese women. Reasons include knowledge deficits about CC and Pap smears, poor communication with health care providers due to limited English proficiency, a sociocultural sense of modesty, the use of traditional health practices, limited healthcare access, the lack of female health care providers, the lack of health insurance, low income and education levels, and marital status (Chilton, Gor, Hajek, & Jones, 2005; Do et al., 2007; Do, 2015; Gregg, Nguyen-Truong, Wang, & Kobus, 2011; Ma et al., 2012; Nguyen, McPhee, Nguyen, Lam, &

Mock, 2002; Nguyen et al., 2006; Nguyen-Truong et al., 2012; Taylor et al., 2004).

Vietnamese American women not only have the lowest rate of CCS, but HPV vaccination rates among this population are also the lowest (Yi, Lackey, Zahn, Casteneda, & Hwang, 2013). In a study among 113 Vietnamese American women in Houston Texas, Yi, Anderson, Le, Escobar-Chaves, & Reyes-Gibby (2013) found that only 14% of the women reported receiving HPV vaccinations and 9% reported receiving all three shots. Another 11% responded that they are not at all likely to receive HPV vaccinations.

Two recent studies indicated that limited English proficiency, limited knowledge and awareness of HPV, and financial barriers are associated with low rates of obtaining the HPV vaccine in Vietnamese-American women (Yi & Anderson et al., 2013; Yi & Lackey et al., 2013).

### **Clinical Significance and Policy Implications**

In the U.S., CC is the 14<sup>th</sup> most common cancer and affects many U.S. women (U.S. Department of Health and Human Services [DHHS], 2013). The incidence rate for CC is 8.1 cases per 100,000 women per year and the mortality rate is 2.4 deaths per 100,000 women per year in the U.S. (DHHS, 2013). According to the CDC (2015a), in 2012, 12,042 women in the U.S. were diagnosed with CC and in that same year 4,074 women died from it.

Currently, Vietnamese women have the highest incidence rate of invasive CC compared to any other racial and ethnic group in the U.S. (Ma et al., 2015). In Vietnamese-American populations, CC incidence and death rates are very high. Information from the Surveillance, Epidemiology, and End Results (SEER) program revealed that CC is the most commonly occurring invasive malignancy (43 per 100,000) among Vietnamese American women (Taylor et al., 2004). This source also reported that Vietnamese American women are over five times more likely to be diagnosed with invasive CC than non-Latina white women. Even though the

incidence rate of CC among Vietnamese women has decreased steadily during the last decade, it is still more than twice of that of non-Latina white women (18.9 vs. 8.1 per 100, 000) (Do, 2015; Taylor et al., 2008; Wang, Carreon, Gomez, & Devesa, 2009).

Cervical cancer morbidity and mortality can be significantly reduced with effective screening. The U.S. Preventive Services Task Force (2015) recommends screening for CC in women age 21 to 65 years that includes either cytology every 3 years or, for women age 30 to 65 years co-testing (cytology and human papilloma virus) every 5 years. Despite the recommendation, Vietnamese women in the U.S. have the lowest rates of participation in CCS. Only 50-70% of Vietnamese-American women have CCS (Wei-Chen, 2010). This number falls far behind the goal of 93% set by the Healthy People 2020 for CCS in the nation (Utah Department of Health [UDOH], 2015a).

Suggested reasons for the low CCS rates among Vietnamese women include a knowledge deficit about CC and Pap smears, poor communication with health care providers due to limited English proficiency, a sociocultural sense of modesty, the use of traditional health practices, limited healthcare access, the lack of female health care providers, the lack of health insurance, low income and education levels, and marital status (Chilton et al., 2005; Do et al., 2007; Do, 2015; Gregg et al., 2011, Ma et al., 2012; Nguyen et al., 2002; Nguyen et al, 2006; Nguyen-Truong et al, 2012; Taylor et al., 2004).

“Vietnamese Americans represent one of the fastest-growing ethnic groups in the United States” (Wei-Chen, 2010, p. 13). According to the U.S. 2014 Census, there were an estimated 1,681,643 Vietnamese Americans residing in the U.S. (U.S. Census Bureau, 2014). An estimated 4 million Vietnamese Americans are expected to live in the U.S. by the year 2030, which will constitute the fourth largest Asian American group in the U.S. (Wei-Chen, 2010; U.S. Census



Bureau, 2014). In Utah, between Salt Lake, Weber, and Davis Counties there are more than 7,000 Vietnamese people, and more than half of them are women (Census Bureau, 2014). With the increase in the number of Vietnamese Americans and their high CC rates, it is likely that CC rates and resulting morbidity will increase in this population if the surrounding issues are unaddressed.

This is a significant population of women who have little knowledge or access to CCS. It is likely that trends in high CC rates will continue if this knowledge gap is not addressed in an effective way for these women. Once these women know about the serious consequences of CC and the means to be screened and vaccinated it is likely that the rate of CC will decrease along with the morbidity and mortality associated with it. Once women gain knowledge about screening and access to care, they can carry this knowledge to their daughters which may benefit the future generation of Vietnamese women.

Given the increased numbers of Vietnamese-Americans, their high CC rates, and their barriers to screening, a community based education program about CCS and Human Papillomavirus (HPV) vaccination has the potential to significantly raise awareness and motivate Vietnamese-American women to be screened for CC.

### **Purpose and Objectives**

The purpose of this project was to develop a community based educational program regarding CC to raise the awareness for CCS and HPV vaccination among Vietnamese-American women in Salt Lake City and Ogden regions.

The objectives of this project included the following:

1. Develop an education program about CCS and HPV vaccination that is culturally relevant for Vietnamese women

2. Improve the CCS and HPV vaccination comprehension among Vietnamese women through an educational program and brochure
3. Evaluate and revise the teaching materials
4. Disseminate the educational information to community organizations, churches, and health care clinics where Vietnamese women participate

### **Literature Review**

#### **Search Methods**

A literature search about Vietnamese American and cervical cancer was done using PubMed, CINAHL, and Cochrane Library Database. Keywords used included *Vietnamese, Vietnamese American, Vietnamese women, cervical cancer, cervical cancer prevention, cervical cancer screening, PAP smear, PAP test, HPV, HPV vaccine, HPV vaccination, healthcare belief, and healthcare practice*. Research studies were limited to those published in the English language with full-text. Due to limited data in this population, a time limit was not set in this search. Further articles were obtained from the primary article's reference sections using the above-mentioned methods.

#### **Cervical Cancer**

**Pathology and risk factors.** According to the American Cancer Society (2016a), cervical cancer is a disease where cells of the cervix grow out of control and if left untreated, cancer cells overgrow and invade other tissues of the body. Invasive CC can be fatal. Cervical cancer has many risk factors such as multiple sexual partners, early sexual activity, other sexually transmitted infections, family history of CC, smoking, obesity, multiple full-term pregnancies, long term use of oral contraceptives, and immunosuppression, but the strongest risk factor is the infection with HPV (American Cancer Society, 2016b; CDC, 2014a).

**Current prevalence.** In the U.S., CC is the 14<sup>th</sup> most common cancer and affects many U.S. women (DHHS, 2013). The incidence rate for CC is 8.1 cases per 100,000 women per year and the mortality rate is 2.4 deaths per 100,000 women per year in the U.S. (DHHS, 2013). According to the CDC (2015a), in 2012, 12,042 women in the U.S. were diagnosed with CC and in that same year 4,074 women died from it.

Currently, Vietnamese women have the highest incidence rate of invasive CC compared to any other racial and ethnic group in the U.S. (Ma et al., 2015). In Vietnamese-American populations, CC incidence and death rates are very high. Information from the Surveillance, Epidemiology, and End Results (SEER) program revealed that CC is the most commonly occurring invasive malignancy (43 per 100,000) among Vietnamese-American women (Taylor et al., 2004). This source also reported that Vietnamese American women are over five times more likely to be diagnosed with invasive CC than non-Latina white women. Even though, the incidence rate of CC among Vietnamese-American women has decreased steadily during the last decade, it is still more than twice of that of non-Latina white women (18.9 vs. 8.1 per 100, 000) (Do, 2015; Taylor et al., 2008, Wang et al., 2009).

In Utah, the lack of data leaves the prevalence of CC undetermined. However, historically, Utah females have consistently had one of the lowest cancer incidence rates for all cancers in the nation according to data from the CDC (2016a), where Utah's CC incidence rate in 2013 was 4.8 per 100,000 and CC mortality rate was 1.7 per 100,000.

### **Cervical Cancer Screening**

Cervical cancer is highly preventable with regular screening tests and follow-up (CDC, 2016b). Two standard screening tests can help detect early and prevent CC for all women are the Pap test and the HPV test (CDC, 2016b). The Pap test detects potentially pre-cancerous and

cancerous changes in cervical cells; the test was invented by Dr. George Papanicolaou and was introduced in the 1940's (Shepard, 2011). This test helps reduce CC morbidity and mortality worldwide by detecting early cellular changes that can then be halted by treatment (NCI, 2014b). Cervical screening also includes the HPV test to detect human papillomavirus which is the primary source of cellular changes that lead to cancer (NCI, 2015).

**Guidelines.** The U.S. Preventive Services Task Force, the American College of Obstetricians and Gynecologists, and the American Cancer Society recommend screening for CC in women age 21 to 65 years that includes either Pap test every 3 years or, for women age 30 to 65 years co-testing (Pap test and HPV) every 5 years (Sawaya & Smith-McCune, 2016).

**Cervical cancer screening rates.** The Healthy People 2020 set a goal for CCS in the nation at 93%. However, according to data from a national survey, only “83% of women were up-to-date with current cervical cancer recommendations with a slight downward trend observed in the percentage of women screened during 2008–2010” (Benard et al., 2014, p. 1004).

Vietnamese-American women have fallen far behind this goal in the U.S. and in Utah. Vietnamese women in the U.S. have the lowest rates of participation in CCS and according to Wei-Chen (2010), only 50-70% of women have participated. Move the paragraph below up to here and join this paragraph

There are is no current data on Vietnamese women's incidence of screening in Utah but overall rates for CCS in Utah are on a downward trend and have been consistently lower than the national rate (UDOH, 2015). Between 1991 and 2010, CCS rate among Utah women age 18 or older decreased from 88.2% to 74 % (UDOH, 2015). In contrast, the data from the National Health Interview Survey showed overall CCS rates in the U.S. in 2010 to be 83% (CDC, 2014b).

According to the data from Behavioral Risk Factor Surveillance Survey, only 69.5% of Utah women aged 18 or older reported receiving a Pap test in 2014 (UDOH, 2015).

### **HPV Vaccination**

**Guidelines.** The Centers for Disease Control and Prevention Advisory Committee on Immunization Practices (ACIP) recommends the HPV vaccine be given routinely to females aged 11-12 years. The HPV vaccine is also recommended for 13-26-year-old females who have not yet received or completed the vaccination series and for 11-21-year-old males (UDOH, 2015b). The HPV vaccine is given in 3 doses. The second dose is given one or two months after the first dose. Then a third dose is given six months after the first shot. The CDC recommends receiving the full HPV vaccine series (CDC, 2015b).

**HPV vaccination rates.** Despite the ACIP recommendations and proven HPV vaccine effectiveness in preventing CC caused by HPV, the rate of HPV vaccination has been, and continues to be, low among age-eligible adolescents and young adults in the U.S. (UDOH, 2015b). Although there is no specific data specific to Vietnamese vaccination rates, data from the 2014 National Immunization Survey (UDOH, 2015b) indicated that

in 2013, HPV vaccination rates in Utah among females with  $\geq 3$  doses and males with  $\geq 1$  dose were the lowest in the nation at 20.5% and 11.0%, respectively. HPV immunization rates in Utah were significantly lower than the national averages of 57.3% (1 dose) and 37.6% (3 doses). (para. 2)

### **The Vietnamese Population in the U.S.**

From 1975 to 1987, Vietnamese people immigrated to the U.S. in four waves and represent one of the fastest-growing ethnic groups in the United States (Purnell, 2008, Wei-Chen, 2010, p. 13). The largest numbers of Vietnamese residents reside in California followed by

Texas, Louisiana, Pennsylvania, Illinois, Minnesota, Washington, and Virginia (Purnell, 2008). According to the U.S. 2014 Census, there were an estimated 1,681,643 Vietnamese Americans residing in the U.S. (U.S. Census Bureau, 2014). An estimated 4 million Vietnamese Americans are expected to live in the U.S. by the year 2030, which will constitute the fourth largest Asian American group in the U.S. (Wei-Chen, 2010; U.S. Census Bureau, 2014). In Utah, between Salt Lake, Weber, and Davis Counties there are more than 7,000 Vietnamese people, and more than half of them are women (U.S. Census Bureau, 2014).

### **Health Care Practices and Barriers for Cervical Cancer Screening**

**Common health care practices.** Among the Vietnamese population, preventive health care is not common. Vietnamese people “are accustomed to dependence on the family unit and traditional means of providing health needs, rarely seek care when they are asymptomatic, and may not seek outside assistance for illness until the family has exhausted its own resources” (Purnell, 2008, p. 65). As Purnell (2008) explained, they believe that “good health is achieved by having harmony and balance with the two basic opposing forces, *am* (cold, dark, female) and *duong* (hot, light, male)” (p. 66). This author added that they hold the belief that diseases and other debilitating conditions result from either cold or hot influences, and Vietnamese people will try to restore their health by using foods, medications, and treatments that have properties opposite those of the problem and by avoiding foods that would intensify the problem.

Purnell (2008) also pointed out that Vietnamese people may likely believe that life is predetermined and this is a deterrent to seeking care. They may use a number of folk and traditional practices such as herbal medicine, acupuncture, moxibustion, *cao gio* (rubbing out the wind), and *Giac* (cup suctioning) to treat illness before using Western medicine. As noted by one woman, preventive medicine is not part of the health care system and CCS is not available for

women in Vietnam (D. Ngo, personal communication, July 14, 2016).

**Barriers for cervical cancer screening.** The high prevalence of CC among Vietnamese women results from a lack of education, reluctance to seek early treatment, fear that nothing can be done, low utilization of the Pap test, and failure to follow up on abnormal Pap tests (Purnell, 2008). Suggested reasons for the low CCS (Pap test) rates among Vietnamese women include lack of reference for this type of service, a knowledge deficit about CC and Pap smears, poor communication with health care providers due to limited English proficiency, a sociocultural sense of modesty, the use of traditional health practices, limited healthcare access, the lack of female health care providers, the lack of health insurance, low income and education levels, and marital status (Chilton et al., 2005; Do et al., 2007; Do, 2015; Gregg et al., 2011; Ma et al., 2012; Nguyen-Truong et al., 2011; Nguyen et al., 2002; Nguyen-Truong, 2012; Taylor et al., 2004).

### **Programs that Facilitate Cervical Cancer Screening**

Several studies have shown that CCS rates among Vietnamese women improved with appropriate interventions. Nguyen et al. (2006) developed and implemented a multifaceted intervention using community-based participatory research (CBPR) methodology and evaluated with a quasi-experimentally controlled design with cross-sectional pre-intervention and post-intervention telephone surveys. The intervention consisted of six components: Vietnamese-language media campaign, lay health worker outreach, Vietnamese Pap clinic, patient registry/reminder system, restoration of a government-funded low-cost screening program, and continuing medical education for Vietnamese physicians. A multifaceted CBPR intervention was associated with increased Pap testing among Vietnamese-American women.

In their studies, Lam et al. (2003) and Mock et al. (2007) used lay health advisors to provide an educational session, follow-up phone calls, and media advertisements to promote

CCS in Vietnamese women. The results demonstrated a significant increase in knowledge about CC and screening for CC.

Ma et al. (2015) conducted a randomized community-based intervention trial at 30 Vietnamese community organizations in the Eastern region of the U.S. to evaluate the effectiveness of a multifaceted and culturally appropriate intervention (education sessions, visual aids and materials, client-physician intervention videos, referrals and reminders) in increasing CCS among Vietnamese women. They found that there was a statistically significant increase in CCS among intervention groups than control groups.

### **Recommendations for Addressing Gaps in Knowledge**

Cultural and linguistic barriers play a vital role in limiting Vietnamese women in CCS and in receiving the HPV vaccine. To increase Vietnamese women's adherence to CCS recommendations, to improve their awareness of HPV infection and help them understand the importance of HPV vaccination, it is essential to have culturally, linguistically appropriate interventions (Nguyen-Truong, 2012; Yi & Anderson et al., 2013; Yi & Lackey et al., 2013). Those interventions should recognize and understand Vietnamese women's cultural background, including language, traditional beliefs, and health perspectives while emphasizing and encouraging them to adopt preventive practices into their daily lives, and change traditional attitudes and misconceptions related to CCS (Do et al., 2007; Do, 2015). In addition, interventions should provide resources and CCS easily accessible to Vietnamese women who may otherwise depend only on the protective effects of their own personal preventive care habits to avoid cancer (Chilton et al., 2005; Gregg et al., 2011; Nguyen-Truong et al., 2011).

### **Theoretical Framework**

The theoretical framework used for this project is the Health Belief Model (HBM)



(Current Nursing, 2012). According to Current Nursing (2012) this theory has been used to address problem behaviors that evoke health concerns, for example, high-risk sexual behavior and the possibility of contracting HIV. It was also one of the first theories of health behavior. It was developed in 1950 by a group of U.S. public health social psychologists who wanted to explain why so few people participated in programs to prevent and detect disease.

The HBM includes six major concepts, which are explained as, 1) *perceived susceptibility* which is a person's perception that a health problem is personally relevant or that a diagnosis of illness is accurate, 2) *perceived severity* which happens when one recognizes personal susceptibility; action will not occur unless the individual perceives the severity to be high enough to have serious organic or social complication, 3) *perceived benefits* which include the patient's belief that a given treatment will cure the illness or help to prevent it, 4) *perceived costs* explained by the complexity, duration, and accessibility of the treatment, 5) *motivation* explained as the desire to comply with a treatment and the belief that people should do what, and 6) *modifying factors* that include personality variables, patient satisfaction, and socio-demographic factors (Current Nursing, 2012). Additionally, the HBM proposed that a person's health-related behavior depends on the person's perception of four critical areas: 1) the severity of a potential illness, 2) the person's susceptibility to that illness, 3) the benefits of taking a preventive action, and 4) the barriers preventing that action from being taken (Current Nursing, 2012).

The theory applies to this project by addressing compliance on preventive health care practices on CCS and HPV vaccination among Vietnamese women in the described geographical area. Use of this model postulates that the health-seeking behavior (getting CCS and HPV vaccination) of Vietnamese women is influenced by their perception of a threat posed by cervical

cancer and action is motivated by the value associated with receiving CCS and HPV vaccination in order to reduce the risk of cervical cancer. This model will be applied by addressing barriers that have limited Vietnamese women's compliance with screening and vaccination practices for cervical cancer. Lastly, the model addresses the relationship between Vietnamese women's beliefs and behaviors. It provides a way to understand and predict how this population will behave in relation to their health and how they will comply with the recommendations for CCS and HPV vaccination.

### **Implementation**

The project objectives were implemented by development of an educational brochure about CCS and HPV vaccine for Vietnamese-American women, obtaining IRB approval, designing pre- and post-questionnaires to assess learning, and reviewing the above content with the designated expert (Dr. Deanna Kepka) and project chair (Deb Penney).

The brochure was created and sent to the content expert and chair for suggestions and approval. Dr. Kepka sent the brochure to her HPV vaccination coalition team at the Huntsman Cancer Institute for suggestions, and feedback was given to the principle investigator (PI). The PI then revised the brochure incorporating all the feedback including obtaining the copy right from the owner of all the illustrations used in the brochures. The brochure was translated by the PI into Vietnamese (her first language).

The pre- and post-test questionnaires were written then reviewed by the project chair and the content expert Dr. Deanna Kepka. Questions were revised and new questions were added that had been used in Dr. Kepka's previous research on this same topic with the Latino population. The questionnaires were adapted to the Vietnamese population and sent to Dr. Kepka for approval. Again, the questions were reviewed by the project chair then were translated into

Vietnamese by the PI. Both English and Vietnamese versions of the pre- and post-questionnaires were tested among 3 American and 3 Vietnamese women and were modified for clarity accordingly.

Participants (n = 70) included women in the Salt Lake vicinity that identified themselves as Vietnamese American and ranged in age from 18 to 65 years old. Non-Vietnamese, females younger than 18 or older than 65 years old, and non-Vietnamese speakers were excluded. Vietnamese women were purposefully selected as they may have limited English proficiency and be the most likely to have barriers to screening and vaccination knowledge. Participants were recruited by personal contact with the PI and located in their work places (nail salons, Vietnamese restaurants, stores) and in meeting places such as churches, Vietnamese markets, and Vietnamese community meetings. Participants were invited to a group meeting or offered to meet individually with the PI to discuss the brochure after being informed of the study. They were informed of the study (including how much time it would take, the content of information, and pre-and post-assessment of knowledge) and assured that their participation was voluntary. Participants were asked to complete a 22-question questionnaire about HPV and CCS. Then, the brochure was read by the PI to explain information about CC, HPV and screening. A model of a cervix, a small speculum, and a pap collection kit was used to explain the screening. Participants were encouraged to ask questions and the PI provided answers to the questions. Participants were then asked to complete the post-questionnaire of 11 questions. A \$10 gift card was given to the participant(s) along with the brochure (in Vietnamese). Gift cards came from Dr. Kepka's funding and the speculum, model cervix, and Pap test kit were provided by project chair Deb Penney.

The final objective was to disseminate the information by distributing the brochures.

Resources on the brochure were updated by the PI to reflect current health fairs and facilities where CCS and HPV vaccines could be obtained. After the final brochure was made (See Appendices E and F), the PI contacted several pastors of Vietnamese Baptist churches via email to request permission to display the brochures at their churches. When permission was obtained, the PI delivered them to the churches.

### **Evaluation**

The first objective of this project was to develop an educational program about CCS and HPV vaccination for Vietnamese women. This was accomplished by creating a brochure about CCS and HPV vaccination, and gathering teaching tools (speculum, cervix and pap test kit). A literature review was done and information obtained to identify gaps in Vietnamese-American education on the topics and effective learning styles for this population. The pre- and post-test questionnaires were successfully developed through review and approved by the content expert and the project chair.

The second objective was to improve the CCS and HPV vaccination comprehension among individuals and communities of Vietnamese women through presentation of an educational program and brochure. This objective was achieved by first receiving the IRB approval (see Appendix D). Vietnamese women participants were successfully identified within the community locations where they work, worship or shop. The PI made several visits to these locations and had many conversations with the women to familiarize herself with them. She then sets times and locations to meet them individually or in groups for an informal discussion. Improvement of knowledge was measured by differences in correct answers on the matching questions in pre-and post-questionnaires following the brochure discussion. Answers on intent to be screened and opinions were compared as well. All are discussed in the results.

The third objective was to evaluate and revise the teaching materials. Before implementation the teaching materials and pre-and post-questionnaires were piloted by 6 women (3 American and 3 Vietnamese) and then revised.

The last objective was to disseminate the final brochure to community organizations, churches, and health care clinics where Vietnamese women are found. Before dissemination, current resources were updated on the brochure. Pastors of Vietnamese churches in Salt Lake City were contacted and permission for placement of the brochures in their churches was obtained. From a survey question (# 22) in the pre-test questionnaire, there was no specific clinic where many Vietnamese women normally go to. For that reason, no health care clinic was contacted about the placement of the brochures.

**Implementation Plan and Evaluation**

<b>Objective</b>	<b>Implementation</b>	<b>Evaluation</b>
1) Develop an education program about CCS and HPV vaccination for Vietnamese women	<ol style="list-style-type: none"> <li>1. Created a brochure in English and Vietnamese with basic information about CC, CCS, and HPV vaccine</li> <li>2. Developed a culturally appropriate educational presentation and collect teaching supplies</li> <li>3. Developed pre- and post-tests for participants</li> </ol>	<ol style="list-style-type: none"> <li>1. Brochure was approved by content expert and chair before translation to Vietnamese.</li> <li>2. Content of the educational presentation was approved by chair and content expert. Supplies were collected.</li> <li>3. Pre- and post-tests were approved by chair and content expert</li> </ol>
2) Improve the CCS and HPV vaccination comprehension in a Vietnamese community of women through an educational session	<ol style="list-style-type: none"> <li>1. Submitted IRB application</li> <li>2. Identified Vietnamese women participants</li> <li>3. Arrange times and implement the teaching for small groups or individual of women</li> <li>4. Women take pre- and post-questionnaire</li> </ol>	<ol style="list-style-type: none"> <li>1. IRB approval was obtained.</li> <li>2. Women were identified (both groups and individuals)</li> <li>3. Times and dates were set for presentations</li> <li>4. 70 women complete the pre- and post-test questionnaire</li> </ol>

<p>3) Improve teaching materials through evaluation and revision.</p>	<ol style="list-style-type: none"> <li>1. Analyze results of pre- and post-questions</li> <li>2. Revised the educational session and brochures as needed; updated resources</li> </ol>	<ol style="list-style-type: none"> <li>1. Pre-and post-tests were analyzed and results are summarized</li> <li>2. Revised brochure was reviewed and approved by content experts and project chair</li> </ol>
<p>4) Disseminate the final brochure to community organizations, churches, and health care clinics where Vietnamese women participate</p>	<ol style="list-style-type: none"> <li>1. Contacted the leaders of Vietnamese churches to get their permission to display or distribute the brochures</li> <li>2. Print brochures</li> </ol>	<ol style="list-style-type: none"> <li>1. Contacts made at Vietnamese churches and they agreed to give permission for placement of the brochures</li> <li>2. Brochures sent to contact persons</li> </ol>

**Results**

After the pre-questionnaire was piloted on 6 women, some questions were changed. On the pre- and post-questionnaire, the question, *what do you think is the main cause of cervical cancer?* The answer options *I don't know* and *All the above* were added.

Participants included 70 Vietnamese-speaking women as explained above. The educational sessions included 15 women in groups (1 group of 6, 1 group of 5, and one group of 4) and 55 women as individuals.

**Baseline Knowledge and Testing**

Knowledge about HPV, the Pap test and participation in screening or HPV vaccination provided data about participant knowledge of CCS and HPV. Results showed that 87% of the women have heard about CC, 10% of them have never heard about CC, and 3% of them were not sure if they had ever heard about this disease. Among the participants, 48.6% of the women had heard about HPV virus, 42.9 % had never heard, and 8.6% were not sure. In regard to the HPV vaccine, less than half of the women (44%) knew of it and 56% indicated that they did not know about it. Only 14% of the participants reported that they had received the HPV vaccine, 67% that

they never received the vaccine and 19% did not know. Among the 70 participants, 11 were currently between the ages of 18 and 26.

Participants reported on their children's immunization with HPV vaccine and only 10% of the women that have children confirmed that their child or children received the vaccine, 51% indicated that their children have not gotten the vaccine, 33% did not know if their children received this vaccine or not, and 6% answered they have not heard about this vaccine.

In regard to Pap testing and frequency, 77% of participants have heard about Pap test and 23% indicated they have not heard about the test. In the past 1-5 years, 60% of participants reported that they had the Pap test with 6% indicating their pap test was in the past 5 years, and 31% indicated they never have had the test, while 3% did not know if they had the test. The most popular reason selected for not getting the Pap test was "I have no health problems" (25%) followed by "no reason/never thought about it" (16%) and "didn't know I needed this type of test" (16%), and 9% selected the answer "I put it off" and 6% selected "too expensive/no insurance/cost." Only 2 of the 70 participants indicated that they had no insurance.

### **Pretest and Post-Questionnaire Comparisons**

The pre- and post-questionnaires had 10 identical questions (See appendix B). The overall score average percentage for all participants increased by 51% from the pre-questionnaire to the post-questionnaire. A change in score was calculated for each question as well. An average score was calculated for each of the matching pre- and post-questionnaires questions then a percent change was calculated for each question to assess if there was a change in knowledge for participants. (See appendix G). The following details the comparisons between the matching questions.

**Question # 1: What do you think is the main cause of cervical cancer? (you can choose more than 1 answer).** In the pre-test, only 14.5% answered that the reason of CC is due to the HPV virus. The highest percentage (25.3%) indicated that they don't know the cause, 16.9% selected "bad hygiene," and 14.5% selected "having sex with multiple partners." In the post-test, 89% indicated the correct answer that CC was caused by the HPV virus indicating a percent change of 65.4%.

**Question # 2: Can cervical cancer be prevented?** In the pre-test, 61.4% indicated that CC is a preventable disease and in the posttest, this number increased to 99% which was a percentage change of 37.1%.

**Question # 3: Is the virus (HPV) able to cause cervical cancer?** In the pre-test, 56% indicated that they did not know if the HPV virus was able to cause CC, 41% thought this statement was, and 3% thought it was false. In the posttest 100% (percentage change of 58.6%) women thought it is true that the HPV virus can cause CC.

**Question # 4: Did you know there is a vaccine that protects against some kinds of this virus?** In the pre-test, less than half of the women (44.3%) indicated that they know of a vaccine that can provide protection against some kinds of HPV virus, and 55.7% indicated that they did not know. The percentage change for this question was 54.3 % in the post-test and 99% of the women indicated that after the educational session they knew that there was a vaccine that provided protection against some kinds of HPV virus.

**Question # 5: Is it true or false that HPV vaccine is given to both male and female (age 9 to 21 for male and age 9 to 26 for female) in 2-3 doses.** In the pre-test, 34% responded that this statement was true, 9% answered it was false, and majority of the women (57%) answered they don't know. In the post-test 96% thought it was true (percentage change of



62.9%), 4% indicating it was false, and none did not know.

**Question # 6: If you are 26 years old or younger and have not received the HPV vaccine, how likely are you to receive the HPV vaccine in the next 12 months?** Among the participants, 11 of the 70 women were younger or equal to 26 years old. In the pretest 18.2% answered very likely, 36.4% answered likely, 9.1% answered somewhat likely, 27.3% answered not likely, and 9.1% answered not likely at all they are to receive HPV vaccine in the next 12 months. In the posttest, 72.7% answered very likely (percentage change of 54.5%), 18.2% answered likely, and 9.1% answered somewhat likely they are to receive HPV vaccine in the next 12 months.

**Question # 7: If your daughter/son has not received the HPV vaccine, how likely are you to have your daughter/son receive the HPV vaccine in the next 12 months?** Among the women (72.9%) who indicated that they have a child or children in the pre-test 23.5% answered very likely, 27.5% likely, 7.8% somewhat likely, 35.3% not likely, and 5.9% not likely at all. In the post-test 76% answered very likely (percentage change of 38,6%), 18% likely, 4% somewhat likely, and 2% not likely (because their child or children were too young to receive the vaccine).

**Question # 8: Is it true or false that the Pap smear will find these two things: 1) cell changes or cancer cells on the cervix and also 2) if the virus (HPV) is present?** In the pre-test, 77% women indicated that they have heard about Pap test, and only 67% indicated that they know the Pap test will find 1) cell changes or cancer cells on the cervix and 2) if the virus (HPV) is present. In the post-test 100% women know that Pap test will find 1) cell changes or cancer cells on the cervix and 2) if the virus (HPV) is present. This is a percentage change of 32.9%.

**Question # 9: How would you rate the importance of getting a Pap test?** In the pre-test, 51% of the women rated the importance of getting a Pap smear as very important, 46% as important, and 3% as somewhat important. In the post-test, 93% of the participants felt it was very important (percent change of 41.4%) and 7% important.

**Question # 10: If insurance and transportation was not a problem how likely are you to have a pap test in the next 12 months?** In the pre-test, if insurance and transportation was not a problem, 49% indicated they were very likely to get a pap test, 44% likely, and 7% not likely. In the post-test 86% (percentage change of 37.1%) indicated they were very likely, 11% likely, and 3% were somewhat likely.

### **Discussion**

Pre- and post-questionnaire response analysis indicated that knowledge about CCS (Pap test and HPV) and HPV vaccination among Vietnamese women has improved. It appears that the teaching session and informal discussion in Vietnamese between the PI and the participant(s), with the use of teaching materials (speculum, cervix and Pap brushes) and the educational brochure was an effective means of improving Vietnamese-American women's understanding of CCS and HPV vaccination. The informal session that included discussion and a question and answer time gave the PI an opportunity to talk about CCS and HPV vaccination in sufficient detail and guided by participants' questions.

Of interest, regarding the main cause of CC, one participant thought that bad drinking water causes CC, and her answer had not changed after the education session. This may indicate a gap in prior understanding regarding cause of CC which she was unwilling to alter.

Limitations to the study include the bias of short time between pre- and post-questionnaire, as information for the post-questionnaire was easily recalled after the brief

educational session. Another bias in this study was the participants' cultural tendency to please the PI and chose answers they thought would please the PI such as how likely they were to receive Pap test, HVP vaccine, or have their kids receive this vaccine in the next 12 months. Pre- and post-questionnaires may not be fully validated in this study, but they have been tested before and reviewed by a researcher (Deanna Kepka) who has used them in the past. The questions have some degree of content validity in that the main person researching this topic has agreed on the selected questions and has used them before to obtain the information that is being sought.

It can be reasonably concluded that a cultural and linguistic competent educational program with informal discussion between healthcare worker (the PI) and the participants using visual aids and take-home information such as a brochure were effective in increasing the awareness of Vietnamese American women about CC, CCS, and HPV vaccination. This project was one means of addressing knowledge gaps and screening tests/vaccination identified in the literature that include barriers because of a lack of knowledge about health services, lack of preventive care norm, limited English proficiency, socio-cultural barriers, lack of Vietnamese providers, and limited health care access. This educational session appeared to improve participant knowledge and intent to act on protecting themselves and their children against CC.

### **Recommendations**

Even though the awareness about CCS and HPV vaccination among Vietnamese women has increased significantly, their habit of health care practice which excludes preventive health care is still strong, and seemingly resistant to change in a short period of time. Future research could evaluate actual increase in CCS and HPV vaccination rates among Vietnamese American women who receive the teaching compared to those who have not. Other projects might also include assessing any change in health practice of participants' children to determine whether

education to mothers has an impact on preventive care in their children. Other pockets of Vietnamese women in large US cities could be identified in order to broaden the population receiving the information. In addition, a future project could address this topic through use of an educational “app”, podcast, or online video in Vietnamese.

### **DNP Essentials**

This DNP project focused on educating Vietnamese American women about CCS. The project addressed DNP *Essential VII: Clinical Prevention and Population Health for Improving the Nation’s Health* (American Association of Colleges of Nursing [AACN], 2006).

This project addressed both clinical prevention through health promotion and educational sessions about CCS. Population health was addressed by including the aggregate community of Vietnamese American women. “These actions are central to achieving the national goal of improving the health status of the population” (AACN, 2006. p. 15). The community based educational program about cervical cancer and CCS to Vietnamese American women, will help increase knowledge about CC and potentially increase CCS rates among this population. This activity is central to achieving the Healthy People 2020 goal in CCS of 93% in the nation (Benard et al., 2014).

The project development was informed through an analysis of epidemiological and bio statistical, data and it incorporated concepts in health promotion, social determinants of health and cultural sensitivity in order to effectively accommodate to the cultural/educational needs of this population. Additionally, concepts in health promotion and disease prevention were synthesized and interfaced with the psychosocial and cultural aspects of the participants in order to address gaps in care.

### **Conclusion**

The goal of the project was to develop a community based educational program to inform Vietnamese women about CC and to raise awareness of CCS and HPV vaccination. Despite the preventability of CC, in 2012 (the most recent year with data), 12,042 women in the U.S. were diagnosed with CC and 4,074 women died from it (CDC, 2015a). Vietnamese women have the highest incidence rate of invasive CC among all studied racial groups in the U.S. (Ma et al., 2015). In order to increase awareness and knowledge about CCS and HPV vaccination, culturally competent educational materials need to be available for the Vietnamese population, as demonstrated in this project.

This project presented one method of reaching Vietnamese-American women with valued information. It was presented in a manner that was culturally and linguistically relevant to the population. Other means should be explored. Cervical cancer screening is a largely preventable disease (Benard et al., 2014), but needs to be communicated in culturally appropriate ways to specific populations, and especially to those populations that do not have reference to preventive care.

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Appendix A  
Proposal Power Point

# Increasing Awareness of Cervical Cancer Screening and HPV Vaccination for Vietnamese Women in Utah

Huyen Hardy, BSN, SNM

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In partial fulfillment of the requirements for  
the Doctor of Nursing Practice degree  
10/07/2016

## Background

In 2012

- 12,042 women in the U.S. were diagnosed with cervical cancer (CC) (CDC, 2015)
- 4,074 women died from CC (CDC, 2015)

Between 2000-2004, the incidence rate for CC was

- 7.3 per 100,000 among non-Latina white women
- 14 per 100,000 among Vietnamese American women (Taylor, Nguyen, Jackson, & McPhee, 2008)

## Background

- Cervical cancer screening (CCS) is recommended in women age 21 to 65 years (Sawaya & Smith-McCune, 2016)
- The Healthy People 2020 set a goal for CCS in the nation is 93%. From 2008–2010 the national CCS rate was 83% (Benard et al., 2014)
- HPV vaccination is recommended for 11-12 yr. olds females, for all 13-26 yr. old females who have not yet received or completed the vaccination series, and for 11-21 yr. old males (Utah Department of Health, 2015)
- National HPV immunization rate is 57% (1 dose) and nearly 38% for completing (3 doses) (Utah Department of Health, 2015)

## Problem Statement

- For Vietnamese-American Women:
  - Cervical cancer is the most common cancer (43 per 100,000) (Taylor et al., 2004)
  - Have the lowest rates for CCS (50-70%) and HPV vaccination (14%) among all US women (Yi, Lackey, Zahn, Casteneda, & Hwang, 2013; Wei-Chen, 2010)
  - Have the highest incidence rate of invasive CC among all racial groups (Ma et al., 2015)
  - Are 5 times more likely to be diagnosed with invasive CC than non-Latina women (Taylor et al., 2004)
- Culturally and linguistically competent educational material is lacking and needs to be available for Vietnamese women.
- The purpose of this project is to develop a community based educational program regarding CC to raise the awareness for CCS and HPV vaccination among Vietnamese American women in Utah.

## Significance & Policy Implications

- *Healthy People 2020* objectives include a reduction in the incidence rate of CC and a reduction in the death rate (Benard et al., 2014)
- 93% of CC cases could be prevented with CCS combined with HPV vaccination (Benard et al., 2014)
- Through the creation of a community based educational program, this project aims to address the gap in care of the Vietnamese population, leading to disease prevention and improved population health

## Objectives

- #1: Develop an educational program with information about CCS and HPV vaccination for Vietnamese women
- #2: Improve the CCS and HPV vaccination comprehension in a Vietnamese community of women through presentation of an educational program and brochure
- #3: Pilot, evaluate, and revise the teaching materials
- #4: Disseminate the final brochure to community organizations, churches, and health care clinics where Vietnamese women participate

## Literature Review

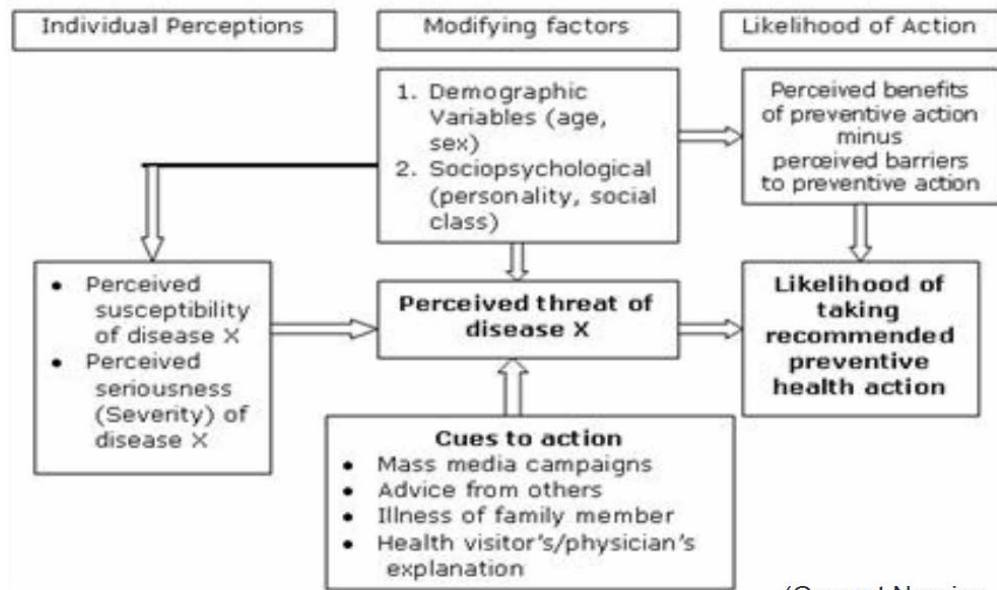
- Preventive health care is not common among the Vietnamese population (Purnell, 2008)
- The high prevalence of CC among Vietnamese women results from a lack of education, reluctance to seek early treatment, fear that nothing can be done, low utilization of the Pap test, and failure to follow up on abnormal Pap tests (Purnell, 2008)

## Literature Review

- Reasons for low CCS and HPV vaccination rates among Vietnamese women include:
  - Deficits in income, health insurance = access, English proficiency, reference for preventive care, and socio-cultural norms (Taylor et al., 2004; Yi et al., 2013)
- CCS rates among Vietnamese women improved with:
  - multifaceted and culturally appropriate interventions
  - community based educational programs
  - visual aids and materials
  - client-physician intervention videos
  - media advertisements
  - referrals and reminders: follow-up phone calls

(Nguyen et al., 2006; Lam et al., 2003; Ma et al., 2015; Mock et al., 2007)

## Theoretical Framework: Health Belief Model



## Implementation & Evaluation

Objectives	Implementation	Evaluation
#1. Develop an educational program with information about CCS and HPV vaccination for Vietnamese women	1. IRB application submitted 2. Create a brochure in English and Vietnamese with basic information about CC, CCS, and HPV vaccine 3. Develop a culturally appropriate educational presentation 4. Develop pre- and post-tests for participants	1. IRB approval obtained. 2. Brochure is approved by content expert and chair before translation to Vietnamese 3. Content of the educational presentation is approved by chair and content expert 4. Pre- and post-tests approved by chair and content expert
#2. Improve the CCS and HPV vaccination comprehension in a Vietnamese community of women through presentation of an educational program and brochure	1. Identify Vietnamese women participants 2. Arrange times and permission for small groups of women to meet for the educational presentation	1. Women are identified (both groups and individuals) 2. Time and date set for presentations 3. Materials are prepared and distributed.



## Implementation & Evaluation

Objectives	Implementation	Evaluation
#3. Pilot, evaluate and revise the teaching materials	<ol style="list-style-type: none"> <li>1. From pre- and post-test analysis evaluate if knowledge about CCS and HPV vaccination has changed</li> <li>2. Revise the educational session and brochure as needed</li> </ol>	<ol style="list-style-type: none"> <li>1. Pre-and post-tests are analyzed and results are summarized</li> <li>2. Revised brochure and presentation reviewed and approved by content expert and project chair</li> </ol>
#4. Disseminate the final brochure to community organizations, churches, and health care clinics where Vietnamese women participate	<ol style="list-style-type: none"> <li>1. Contact the leaders of Vietnamese community organizations and churches and health care providers to get their permission to display or distribute the brochures</li> <li>2. Send brochures to clinics serving Vietnamese American women</li> <li>3. Post a presentation about cancer screening in Vietnamese as a Youtube</li> </ol>	<ol style="list-style-type: none"> <li>1. Contacts made at other Vietnamese community organizations, churches, and health care clinics and they have agreed to give permission for placement of the brochures</li> <li>2. Brochures sent to contact persons</li> <li>3. Content of Youtube reviewed by project chair and content expert then uploaded</li> </ol>

## Summary

- Vietnamese American women have one of the highest risks for CC in the U.S.
- With the recommended screening and vaccination, CC is a largely preventable disease (Benard et al., 2014)
- Previous research has identified many of the barriers to CCS and HPV vaccination within the Vietnamese population in the U.S.
- This DNP project addresses the barriers for a high incident rate of CC among Vietnamese American women through education that is culturally and linguistically competent.

## Acknowledgments

- **Committee:**
  - Debra Penney, PhD, CNM, MPH, MS Associate Clinical Professor
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- **Content Expert:**
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  - Dr. Rebecca Wilson, PhD, RN  
Dr. Wilson is an assistant professor and director of nursing education specialty at the University of Utah college of Nursing.

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Appendix B  
Pre-and Post-test Questionnaires-English Version

Pre-test

Thank you for taking the time to take this survey. It contains 22 easy questions that should take no more than 10 minutes to complete. Please be honest with your answers as we want to know what you think.

1. Have you heard of cervical cancer?

- a. Yes
- b. No
- c. Not sure

2. What do you think is the main cause of cervical cancer?

- a. Multiple sexual partners
- b. Human Papilloma Virus (HPV)
- c. Genetic
- d. Smoking
- e. Bad hygiene
- f. Other\_\_\_\_\_
- g. I don't know
- h. All of the above

3. Can cervical cancer be prevented?

- a. Yes
- b. No
- c. Don't know

4. Have you heard of a virus called Human Papiloma Virus (HPV)?

- a. Yes
- b. No
- c. Not sure

5. Is the virus (HPV) able to cause cervical cancer?

- a. Yes
- b. No
- c. Don't know

6. Did you know there is a vaccine that protects against some kinds of this virus?

- a. Yes
- b. No

7. Have you received the HPV Vaccine?

- a. Yes
- b. No
- c. Not sure

8. Is it true or false that HPV vaccine is given to both male and female (age 9 to 26 for female and age 9 to 21 for male) in 3 doses.

- a. True
- b. False
- c. Don't know

9. If you are 26 years old or younger and have not received the HPV vaccine, how likely are you to receive the HPV vaccine in the next 12 months?

- a. Very likely
- b. Likely
- c. Somewhat likely
- d. Not likely
- e. Not likely at all

If you don't have children skip to question 12.

10. Has your daughter or son received the HPV vaccine?

- a. Yes
- b. No/No, because they are too young
- c. Don't know
- d. Never heard of the HPV vaccine
- e. Other \_\_\_\_\_

11. If your daughter/son has not received the HPV vaccine, how likely are you to have your daughter/son receive the HPV vaccine in the next 12 months?

- a. Very likely
- b. Likely
- c. Somewhat likely
- d. Not likely
- e. Not likely at all

12. Have you heard of Pap test?

- a. Yes
- b. No
- c. Not sure

13. Is it true or false that the Pap test will find these two things: 1) cell changes or cancer cells on the cervix and also 2) if the virus (HPV) is present?

- a. True
- b. False
- c. Don't know

14. When was the last time you had a Pap test?

- a. 1-5 years ago
- b. more than 5 years ago
- c. I have never had a pap test
- d. I don't know

Skip question 15 if you had Pap test in the past 3-5 years

15. What is the ONE most important reason why you have NEVER had a Pap test/NOT had a Pap test in the past 3years?

- a. No reason/never thought about it
- b. Didn't know I needed this type of test
- c. Doctor didn't tell me I needed it
- d. Haven't had any problems
- e. Put it off
- f. Too expensive/no insurance/cost
- g. Too painful, unpleasant
- h. Embarrassing
- i. Too young
- j. Don't have a doctor
- k. Other \_\_\_\_\_
- l. Don't know

16. How would you rate the importance of getting a Pap test?

- a. Very important
- b. Important
- c. Somewhat important
- d. Not important
- e. Not important at all

17. If insurance and transportation was not a problem how likely are you to have a pap test in the next 12 months?

- a. Very likely
- b. Likely
- c. Somewhat likely
- d. Not likely
- e. Not likely at all

18. What is your age? \_\_\_\_\_

19. How many years have you been living in the US? \_\_\_\_\_years

20. What is your occupation/job? \_\_\_\_\_

21. Do you have health insurance? \_\_\_ yes \_\_\_no

22. What health care clinic have you been to most often for your health care? \_\_\_\_\_

## Post-test

This is a short questionnaire about your ideas. The topic is about cancer of the cervix and the HPV vaccine. We are very interested in your knowledge and opinions. Thank you for taking your time to answer the questions. The entire questionnaire should take no more than 10 minutes.

1. What do you think is the main cause of cervical cancer? (you can choose more than 1 answer)
  - a. Too many sexual partners
  - b. Human Papilloma Virus (HPV)
  - c. Genetic
  - d. Smoking
  - e. Bad hygiene
  - f. Other\_\_\_\_\_
  - g. I don't know
  - h. All of the above
  
2. Can cervical cancer be prevented?
  - a. Yes
  - b. No
  - c. Don't know
  
3. Is the virus (HPV) able to cause cervical cancer?
  - a. Yes
  - b. No
  - c. Don't know
  
4. Did you know there is a vaccine that protects against some kinds of this virus?
  - a. Yes
  - b. No
  
5. Is it true or false that HPV vaccine is given to both male and female (age 9 to 21 for male and age 9 to 26 for female) in 2-3 doses.
  - a. True
  - b. False
  - c. Don't know
  
6. If you are 26 years old or younger and have not received the HPV vaccine, how likely are you to receive the HPV vaccine in the next 12 months?
  - a. Very likely
  - b. Likely
  - c. Somewhat likely
  - d. Not likely
  - e. Not likely at all

(Skip question 7 if you don't have son or daughter)

7. If your daughter/son has not received the HPV vaccine, how likely are you to have your daughter/son receive the HPV vaccine in the next 12 months?

- a. Very likely
- b. Likely
- c. Somewhat likely
- d. Not likely
- e. Not likely at all

8. Is it true or false that the Pap test will find these two things: 1) cell changes or cancer cells on the cervix and also 2) if the virus (HPV) is present?

- a. True
- b. False
- c. Don't know

9. How would you rate the importance of getting a Pap test?

- a. Very important
- b. Important
- c. Somewhat important
- d. Not important
- e. Not important at all

10. If insurance and transportation was not a problem how likely are you to have a pap test in the next 12 months?

- a. Very likely
- b. Likely
- c. Somewhat likely
- d. Not likely
- e. Not likely at all

11. Do you have any question or concern that we can help you with?

Appendix C  
Pre-and Post-test Questionnaires-Vietnamese Version

Pre-test

Xin trân thành cảm ơn các chị đã giành thời gian trả lời những câu hỏi này giúp em. Tất cả có 22 câu hỏi và mọi người sẽ mất tầm 10 phút để trả lời.

1. Chị đã từng nghe nói đến ung thư cổ tử cung bao giờ chưa?
  - a. Nghe rồi
  - b. Chưa từng nghe
  - c. Tôi không biết
  
2. Theo chị nguyên nhân chủ yếu dẫn đến ung thư cổ tử cung là nguyên nhân nào?
  - a. Quan hệ tình dục với nhiều người
  - b. Do vi rút HPV
  - c. Di truyền
  - d. Hút thuốc lá
  - e. Không vệ sinh sạch sẽ
  - f. Nguyên nhân khác: \_\_\_\_\_
  - g. Không biết
  - h. Tất cả các nguyên nhân trên
  
3. Ung thư cổ tử cung là căn bệnh có thể phòng tránh được? Đúng hay sai?
  - a. Đúng
  - b. Sai
  - c. Tôi không biết
  
4. Chị đã từng nghe nói đến vi-rút HPV bao giờ chưa?
  - a. Nghe rồi
  - b. Chưa từng nghe
  - c. Tôi không biết
  
5. Vi-rút HPV có thể gây ung thư cho cổ tử cung? Đúng hay sai?
  - a. Đúng
  - b. Sai
  - c. Tôi không biết
  
6. Chị có biết là chúng ta có vắc-xin phòng chống một số loại vi-rút thuộc nhóm vi-rút HPV không?
  - a. Có biết
  - b. Không biết
  
7. Chị đã từng được tiêm vắc-xin HPV chưa?
  - a. Tiêm rồi
  - b. Chưa tiêm
  - c. Tôi không biết



8. Vaccine HPV được tiêm cho cả nữ và nam( tuổi từ 9 đến 26 cho nữ và tuổi từ 9-21 cho nam) trong 3 mũi tiêm. Đúng hay sai?
- Đúng
  - Sai
  - Tôi không biết
9. Nếu chị 26 tuổi hay trẻ hơn 26 tuổi mà chưa từng được tiêm vaccine HPV, chị có mong muốn được tiêm vaccine này trong vòng 12 tháng tới không?
- Rất mong muốn được tiêm
  - Mong muốn được tiêm
  - Hơi hơi mong muốn được tiêm
  - Không muốn được tiêm
  - Rất không muốn được tiêm

Nếu chị không có con thì chị không cần trả lời câu hỏi số 10 và 11

10. Các con chị (con trai và/hoặc con gái) đã từng được tiêm vaccine HPV chưa?
- Tiêm rồi
  - Chưa tiêm/ Chưa tiêm vì con tôi còn bé quá chưa đến tuổi tiêm
  - Tôi không biết
  - Tôi chưa từng nghe đến loại vaccine này
  - Lí do khác: \_\_\_\_\_
11. Nếu con chị chưa từng được tiêm vaccine HPV, chị có mong muốn cho con mình được tiêm vaccine này trong vòng 12 tháng tới không?
- Rất mong muốn được tiêm
  - Mong muốn được tiêm
  - Hơi hơi mong muốn được tiêm
  - Không muốn được tiêm
  - Rất không muốn được tiêm
12. Chị đã từng nghe nói đến xét nghiệm ung thư cổ tử cung (Xét nghiệm PAP/PAP smear/PAP test) bao giờ chưa?
- Nghe rồi
  - Chưa từng nghe
  - Tôi không biết
13. Xét nghiệm PAP có thể phát hiện ra tế bào ung thư và có thể phát hiện ra xem người đó có bị nhiễm vi-rút HPV hay không, Đúng hay sai?
- Đúng
  - Sai
  - Tôi không biết
14. Lần cuối cùng chị đi xét nghiệm ung thư cổ tử cung (PAP test) là khi nào?
- 1-5 năm trước đây
  - Hơn 5 năm về trước
  - Tôi chưa bao giờ đi làm xét nghiệm

d. Tôi không biết

Chị hãy bỏ qua câu hỏi số 15 nếu chị đã đi xét nghiệm ung thư cổ tử cung trong vòng 3-5 năm trở lại đây.

15. Lí do nào là lí do chính cho việc chị chưa đi làm xét nghiệm ung thư cổ tử, hay chị đã không đi làm xét nghiệm ung thư cổ tử cung trong vòng 3 năm trở lại đây?

- a. Không có lí do nào cả/ Tôi chưa từng nghĩ đến việc đi làm xét nghiệm
- b. Tôi không biết là tôi cần phải đi làm xét nghiệm ung thư cổ tử cung
- c. Bác sĩ chả nói gì với tôi về xét nghiệm đó cả
- d. Tôi không hề có vấn đề gì về sức khoẻ cả
- e. Tại tôi trì hoãn không đi
- f. Tại xét nghiệm đó đắt quá/tại tôi không có bảo hiểm y tế
- g. Tại vì xét nghiệm đó gây đau đớn, khó chịu
- h. Tại tôi ngại và thấy xấu hổ
- i. Do tôi còn quá trẻ và chưa đến tuổi đi xét nghiệm
- j. Tôi không có bác sĩ tư
- k. Lí do khác:\_\_\_\_\_
- l. Tôi không biết nữa

16. Chị nghĩ đi xét nghiệm ung thư cổ tử cung quan trọng hay không?

- a. Rất quan trọng
- b. Quan trọng
- c. Hơi quan trọng
- d. Không quan trọng
- e. Không quan trọng chút nào cả

17. Nếu bảo hiểm y tế và phương tiện đi lại không là vấn đề trở ngại thì chị có muốn đi làm xét nghiệm ung thư cổ tử cung trong vòng 12 tháng tới không?

- a. Rất muốn
- b. Muốn
- c. Hơi muốn
- d. Không muốn
- e. Không muốn một tẹo nào hết

18. Chị bao nhiêu tuổi?\_\_\_\_\_

19. Chị đã sống ở Hoa Kỳ bao nhiêu năm rồi?\_\_\_\_\_năm

20. Chị làm nghề gì ạ?\_\_\_\_\_

21. Chị có bảo hiểm y tế không? Có\_\_\_\_\_ Không có\_\_\_\_\_

22. Chị vui lòng cho biết tên nơi chị hay đi khám bệnh\_\_\_\_\_

## Post-test

Xin trân thành cảm ơn các chị đã giành thời gian trả lời những câu hỏi này giúp em. Tất cả có 11 câu hỏi và mọi người sẽ mất tầm 10 phút để trả lời.

1. Theo chị nguyên nhân chủ yếu dẫn đến ung thư cổ tử cung là nguyên nhân nào?
  - a. Quan hệ tình dục với nhiều người
  - b. Do vi rút HPV
  - c. Di truyền
  - d. Hút thuốc lá
  - e. Không vệ sinh sạch sẽ
  - f. Nguyên nhân khác: \_\_\_\_\_
  - g. Không biết
  - h. Tất cả các nguyên nhân trên
2. Ung thư cổ tử cung là căn bệnh có thể phòng tránh được? Đúng hay sai?
  - a. Đúng
  - b. Sai
  - c. Tôi không biết
3. Vi-rút HPV có thể gây ung thư cho cổ tử cung? Đúng hay sai?
  - a. Đúng
  - b. Sai
  - c. Tôi không biết
4. Chị có biết là chúng ta có vắc-xin phòng chống một số loại vi-rút thuộc nhóm vi-rút HPV không?
  - a. Có biết
  - b. Không biết
5. Vắc xin HPV được tiêm cho cả trai và gái tuổi từ 9 đến 26 trong 3 mũi tiêm. Đúng hay sai?
  - a. Đúng
  - b. Sai
  - c. Tôi không biết
6. Nếu chị 26 tuổi hay trẻ hơn 26 tuổi mà chưa từng được tiêm vắc xin HPV, chị có mong muốn được tiêm vắc xin này trong vòng 12 tháng tới không?
  - a. Rất mong muốn được tiêm
  - b. Mong muốn được tiêm
  - c. Hơi hơi mong muốn được tiêm
  - d. Không muốn được tiêm
  - e. Rất không muốn được tiêm

Nếu chị không có con thì chị không cần trả lời câu hỏi số 7

7. Nếu con chị chưa từng được tiêm vắc xin HPV, chị có mong muốn cho con mình được tiêm vắc xin này trong vòng 12 tháng tới không?

- a. Rất mong muốn được tiêm
  - b. Mong muốn được tiêm
  - c. Hơi hơi mong muốn được tiêm
  - d. Không muốn được tiêm
  - e. Rất không muốn được tiêm
8. Xét nghiệm PAP có thể phát hiện ra tế bào ung thư và có thể phát hiện ra xem người đó có bị nhiễm vi-rút HPV hay không, Đúng hay sai?
- a. Đúng
  - b. Sai
  - c. Tôi không biết
9. Chị nghĩ đi xét nghiệm ung thư cổ tử cung quan trọng hay không?
- a. Rất quan trọng
  - b. Quan trọng
  - c. Hơi quan trọng
  - d. Không quan trọng
  - e. Không quan trọng chút nào cả
10. Nếu bảo hiểm y tế và phương tiện đi lại không là vấn đề trở ngại thì chị có muốn đi làm xét nghiệm ung thư cổ tử cung trong vòng 12 tháng tới không?
- a. Rất muốn
  - b. Muốn
  - c. Hơi muốn
  - d. Không muốn
  - e. Không muốn một tẹo nào hết
11. Chị có muốn biết thêm thông tin gì nữa không ạ? Em rất vui lòng trả lời mọi thắc mắc hay băn khoăn của mọi người nên chị cứ tự nhiên cho em biết ạ.
-

Appendix D  
IRB Approval

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**IRB:** [IRB\\_00095891](#)**PI:** Huyen Hardy**Title:** Increasing Awareness of Cervical Cancer Screening and HPV vaccination for Vietnamese Women in Utah**Date:** 11/18/2016

The above-referenced protocol has received an IRB exemption determination and may begin the research procedures outlined in the University of Utah IRB application and supporting documents.

**EXEMPTION DOCUMENTATION****Review Type:** Exemption Review**Exemption Category(ies):** Category 11**Exemption Date:** 11/18/2016

Note the following delineation of categories:

- Categories 1-6: Federal Exemption Categories defined in 45 CFR 46.101(b)
- Categories 7-11: Non-Federal Exemption Categories defined in University of Utah IRB policy in [Investigator Guidance Series, Exempt Research](#)

You must adhere to all requirements for exemption described in University of Utah IRB policy in ([Investigator Guidance Series, Exempt Research](#)). This includes:

- All research involving human subjects must be approved or determined exempt by the IRB before the research is conducted.
- All research activities must be conducted in accordance with the Belmont Report and must adhere to principles of sound research design and ethics.
- Orderly accounting and monitoring of research activities must occur.

**Ongoing Submissions for Exempt Projects**

- **Continuing Review:** Since this determination is not an approval, the study does not expire or need continuing review. This determination of exemption from continuing IRB review only applies to the research study as submitted to the IRB. You must follow the protocol as proposed in this application

- **Amendment Applications:** Substantive changes to this project require an amendment application to the IRB to secure either approval or a determination of exemption. **Investigators should contact the IRB Office if there are questions about whether an amendment consists of substantive changes.** Substantive changes include, but are not limited to
  - Changes to study personnel (to secure Conflict of Interest review for all personnel on the study)
  - Changes that increase the risk to participants or change the risk:benefit ratio of the study
  - Changes that affect a participant's willingness to participate in the study
  - Changes to study procedures or study components that are not covered by the Exemption Category determined for this study (listed above)
  - Changes to the study sponsor
  - Changes to the targeted participant population
  - Changes to the stamped consent document(s)
- **Report Forms:** Exempt studies must adhere to the University of Utah IRB reporting requirements for unanticipated problems and deviations: <http://irb.utah.edu/submit-application/forms/index.php>
- **Final Project Reports for Study Closure:** Exempt studies must be closed with the IRB once the research activities are complete: <http://irb.utah.edu/submit-application/final-project-reports.php>

## SUPPORTING DOCUMENTS

### Informed Consent Document

Consent Cover Letter-Vietnamese Version  
Consent Cover Letter

### Surveys, etc.

Pre-test  
Post-test

### Other Documents

Translation Certification Letter  
Human Subjects Training-City module

Click [IRB\\_00095891](#) to view the application.

Please take a moment to complete our [customer service survey](#). We appreciate your opinions and feedback.

Appendix E  
Brchure-English Version

If you are VIETNAMESE, you are 5 TIMES more likely to be diagnosed with invasive cervical cancer compared to white American women.



Every year about 12,000 U.S. women are diagnosed with cervical cancer and more than 4,000 women die from it.

**Resources**

**Free/low-cost PAP test**

Intermountain Neighborhood Clinics  
1-801-507-3800

Next FREE PAP test clinic will be held at Rose Park Elementary Clinic in February 9th 2017 From 5:30 pm to 7:30 pm.  
Address: 1105 1000 N, SLC, UT  
Tel: 801-406-8626  
Utah Cancer Control Program  
1-800-717-1811 or visit <http://cancerutah.org/about-uccp/>

Utah Department of Health  
Vaccine for Children Program  
[www.immunize-utah.org](http://www.immunize-utah.org)  
1-800-275-0659

Center for Disease Control and Prevention  
1-800-CDC-INFO (232-4636) or visit [www.cdc.gov/vaccines/who/teens/vaccines/hpv.html](http://www.cdc.gov/vaccines/who/teens/vaccines/hpv.html) and [www.cdc.gov/cancer/nbccedp](http://www.cdc.gov/cancer/nbccedp)

National Cancer Institute  
1-800-4-CANCER (22-6237) or [www.cancer.gov](http://www.cancer.gov)

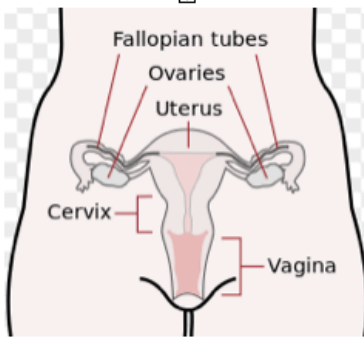
Protect yourself from cervical cancer with a PAP test & HPV Vaccination



**Cervical cancer & Prevention**

## Cervical Cancer

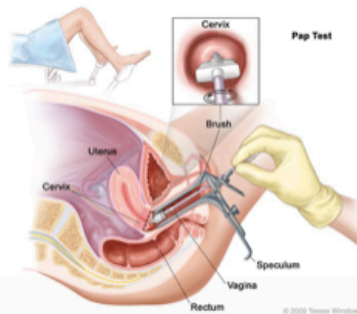
- All women are at risk for cervical cancer.
- The human papillomavirus (HPV) is the main cause of cervical cancer.
- HPV is a common virus that spread through skin-to-skin



**Cervical cancer is PREVENTABLE with screening tests & HPV**

## PAP & HPV Test

- Screening tests can find abnormal cells so they can be treated before they turn into cancer.
- The PAP test looks for changes in cells on the cervix that could turn into cancer if left untreated.
- The HPV test finds the virus that causes cancer.
- A Pap test is recommended every 3 years for women ages 21-65
- Women ages 30-65 may get a Pap test with an HPV co-test every 5 years



## HPV Vaccine



- HPV vaccine is recommended for ALL FEMALES ages 9-26 & ALL MALES ages 9-21.
- HPV vaccine is given in 2 or 3 shots depending on your child's age.
- It is IMPORTANT to get all the necessary shots.

**CHILDREN may be eligible to receive HPV vaccine at NO COST.**



Appendix F  
 Brchure-Vietnamese Version

Nếu bạn là người VIỆT NAM, bạn có khả năng mắc bệnh ung thư cổ tử cung giai đoạn muộn cao hơn người Mỹ da trắng gấp 5 LẦN.



Hàng năm ở Mỹ có khoảng 12000 phụ nữ được chẩn đoán với ung thư cổ tử cung và hơn 4000 người bị chết vì căn bệnh này.

**Liên hệ**

**Xét nghiệm PAP test MIỄN PHÍ**

Intermountain Neighborhood Clinics  
 1-801-507-3800

Xét nghiệm PAP MIỄN PHÍ sẽ được tổ chức vào ngày 9-2-2017 từ 5:30 pm-7:30 pm tại Rose Park Elementary Clinic.  
 Tel: 801-406-8626.

Address: 1105 1000 N, SLC, UT

Chương trình kiểm soát ung thư UT

1-800-717-1811 hoặc <http://cancerutah.org/about-uccp/>

(Hãy gọi số trên để hỏi về điều kiện tham gia và nơi khám miễn phí)

Sở Y Tế Utah

Chương trình Vacc-xin cho trẻ em  
[www.immunize-utah.org](http://www.immunize-utah.org) 1-800-275-0659

Trung Tâm Kiểm Soát và Phòng Ngừa Dịch Bệnh (CDC)

1-800-CDC-INFO (232-4636) hoặc [www.cdc.gov/vaccines/who/teens/vaccines/hpv.html](http://www.cdc.gov/vaccines/who/teens/vaccines/hpv.html)

và

[www.cdc.gov/cancer/nbccedp](http://www.cdc.gov/cancer/nbccedp)

Viện Ung Thư Quốc Gia  
 1-800-4-CANCER (22-6237) hoặc [www.cancer.gov](http://www.cancer.gov)

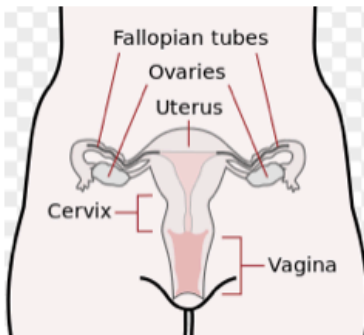
Hãy bảo vệ bản thân bạn khỏi ung thư cổ tử cung bằng xét nghiệm ung thư (Pap test) và chích ngừa vắc-xin chống vi-rút HPV.



**Ung thư cổ tử cung và cách phòng tránh**

## Ung thư cổ tử cung

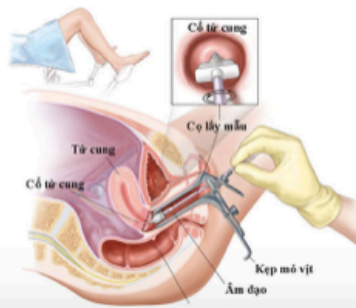
- Tất cả phụ nữ đều có nguy cơ bị ung thư cổ tử cung.
- Vi-rút HPV là nguyên nhân chính gây ung thư cổ tử cung.
- HPV là một loại vi-rút phổ biến được lây lan qua tiếp xúc da thịt.



**Ung thư cổ tử cung có thể PHÒNG NGỪA với các xét nghiệm ung thư và chích ngừa vắc-xin HPV.**

## Xét nghiệm PAP và xét nghiệm Vi-rút HPV

- Xét nghiệm ung thư có thể tìm thấy các tế bào bất thường để điều trị trước khi chúng trở thành ung thư.
- Xét nghiệm PAP có thể tìm thấy những biến đổi của tế bào ở cổ tử cung, những tế bào này có thể chuyển thành ung thư nếu không được điều trị.
- Xét nghiệm vi-rút HPV sẽ tìm thấy loại vi-rút gây bệnh ung thư cổ tử cung.
- Xét nghiệm PAP được khuyến khích 3 năm một lần cho tất cả phụ nữ lứa tuổi từ 21-65.
- Phụ nữ lứa tuổi từ 30-65 có thể kết hợp xét nghiệm PAP và xét nghiệm vi-rút HPV 5 năm một lần.



## Vắc-xin HPV



- Vắc-xin HPV được khuyến khích cho tất cả NỮ tuổi từ 9-26 và NAM tuổi từ 9-21.
- Vắc-xin HPV được chích trong 2 hoặc 3 mũi chích ngừa tùy thuộc vào độ tuổi của con bạn.
- Chích đủ tất cả các mũi chích ngừa là rất QUAN TRỌNG.

**TRẺ EM có thể được chích ngừa vắc-xin HPV MIỄN PHÍ**


Appendix G  
Results Chart

Questions	Pre-test	Post-test		Pre-test	Post-test
<b>1. What do you think is the main cause of cervical cancer? (you can choose more than 1 answer)</b>			<b>2. Can cervical cancer be prevented?</b>		
a. Too many sexual partners	12	7	a. Yes	43	69
b. Human Papilloma Virus (HPV)	12	62	b. No	8	1
c. Genetic	7	0	c. Don't know	19	0
d. Smoking	0	0			
e. Bad hygiene	14	0			
f. Other:	4	1			
g. I don't know	21	0			
h. All of the above	13	0			
<b>3. Is the virus (HPV) able to cause cervical cancer?</b>			<b>4. Did you know there is a vaccine that protects against some kinds of this virus?</b>		
a. Yes	29	70	a. Yes	31	69
b. No	2	0	b. No	39	1
c. Don't know	39	0			

<b>5. Is it true or false that HPV vaccine is given to both male and female (age 9 to 21 for male and 9 to 26 for female) in 2-3 doses?</b>			<b>6. If you are 26 years old or younger and have not received the HPV vaccine, how likely are you to receive the HPV vaccine in the next 12 months?</b>		
a. True	24	67	a. Very likely	2	8
b. False	6	3	b. Likely	4	2
c. Don't know	40	0	c. Somewhat likely	1	1
			d. Not likely	3	0
			e. Not likely at all	1	0
<b>7. If your daughter/son has not received the HPV vaccine, how likely are you to have your daughter/son receive the HPV vaccine in the next 12 months?</b>			<b>8. Is it true or false that the Pap test will find these two things: 1) cell changes or cancer cells on the cervix and also 2) if the virus (HPV) is present?</b>		
a. Very likely	12	39	a. True	47	70
b. Likely	14	9	b. False	0	0
c. Somewhat likely	4	2	c. Don't know	23	0
d. Not likely	18	1			
e. Not likely at all	3	0			


<b>9. How would you rate the importance of getting a Pap smear?</b>			<b>10. If insurance and transportation was not a problem how likely are you to have a pap smear in the next 12 months?</b>		
a. Very important	36	65	a. Very likely	34	60
b. Important	32	5	b. Likely	31	8
c. Somewhat important	2	0	c. Somewhat likely	0	2
d. Not important	0	0	d. Not likely	5	0
e. Not important at all	0	0	e. Not likely at all	0	0


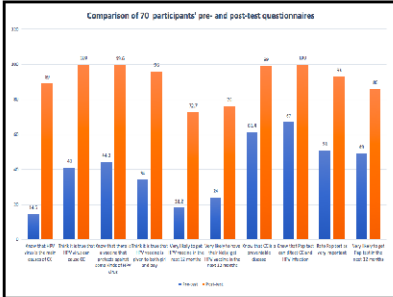

Appendix H  
Poster



## Increasing Awareness of Cervical Cancer Screening and HPV Vaccination for Vietnamese Women in Utah

Huyen Hardy, BSN, DNP student  
Midwifery Specialty



PURPOSE	METHODS	RESULTS
<p>Develop a community-based educational program informing Vietnamese women about cervical cancer (CC) to raise awareness of cervical cancer screening (CCS) and Human Papilloma Virus (HPV) vaccination.</p> 	<ol style="list-style-type: none"> <li>1. Design of a Vietnamese informational brochure about CC, CCS, HPV vaccination, and local clinical resources.</li> <li>2. Development of pre-and post-test questionnaires to assess knowledge on CCS &amp; HPV vaccination in Vietnamese American women.</li> <li>3. Recruitment of 70 Vietnamese American women in the SLC area through personal contact. Brochure information was explained and discussed with individuals or groups.</li> <li>4. Pre-questionnaire was taken before discussion and answers were compared to matched questions on post-questionnaire.</li> <li>5. The change in knowledge was measured by comparison of matched questions on pre and post questionnaires (percent change).</li> <li>6. Brochures were distributed in places where large numbers of Vietnamese American women gather.</li> </ol>	
BACKGROUND	CONCLUSIONS/RECOMMENDATIONS	
<ul style="list-style-type: none"> <li>• In 2012, 12,042 women in the U.S. were diagnosed with CC, and 4,074 women died from this disease.</li> <li>• Between 2000-2004, the incidence rate for CC among Vietnamese Americans was double that of whites.</li> <li>• Screening is recommended in women age 21-65 years</li> <li>• The Healthy People 2020 goal for CCS in the nation is 93%, but the national rate (2008-2010) was 83%.</li> <li>• HPV vaccination is recommended for all 9-26 yr. old females and for all 9-21 yr. old males.</li> <li>• National HPV immunization rates are 57% (1 dose) and only 38% for completing (3 doses).</li> <li>• Low rates of screening and vaccination among Vietnamese Americans has been attributed to linguistic and cultural barriers.</li> </ul>		<ul style="list-style-type: none"> <li>• This DNP project addressed the low rate of CCS and HPV vaccination among Vietnamese American women through a culturally congruent educational intervention.</li> <li>• Effective interventions for immigrant populations include linguistic and culturally appropriate ways of communicating and addressing health issues.</li> </ul> <p style="text-align: center; font-weight: bold; margin: 10px 0;">Recommendations</p> <ul style="list-style-type: none"> <li>• Future research should address follow up and rates of screening/vaccination after an educational session to evaluate the increase in CCS and HPV vaccination rates in the Vietnamese population.</li> </ul>

Committee: Project Chair-Debra Penney, PhD, CNM; Content experts-Deanna Kepka, MPH, PhD and Rebecca Wilson, PhD, RN; Gwen Latendresse, PhD, CNM, FACNM, Associate Clinical Professor & Nurse-Midwifery Specialty Track Director; and Pam Hardin, PhD, RN, Executive Director, MS & DNP Programs.