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Barriers to Receiving the Influenza Vaccine in Adults 65 Years and Older

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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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Abstract

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Project Submitted in Partial Fulfillment

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Doctor of Nursing Practice

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Abstract

Vaccination is regarded by many as the most effective means of reducing influenza infection and disease; however, many people in the United States are hospitalized from flu-related illness each year. Adults 65 years and older account for more than half of these hospitalizations and almost all flu-related deaths. This project aimed to identify barriers to receiving the influenza vaccine among the adult population (> 65 years of age) in a community setting. The goal was to develop a teaching tool that would assist practitioners towards improving influenza vaccination rates among this population. The Health Belief Model was the theoretical framework utilized. The project was conducted at a primary care practice located in a community outside of New York City. Fifty participants (> 65 years) with no prior influenza vaccination were invited to take part in a short survey involving immunization status and reason for lack of influenza vaccination. Participants completed a researcher designed survey in a private location within the practice setting. Descriptive analysis was completed. Results revealed that 45 (32 females and 13 males) participants refused the influenza vaccine based on fear of becoming infected with the flu from the vaccine itself. The remaining 5 (males) participants based their refusal on never having the flu and therefore deemed the vaccine unnecessary. An educational handout was developed to aid in patient education related to influenza vaccination. Future implications involve the utilization of this tool by all healthcare worker and providers, as well as educating the target population in all community settings where influenza vaccines are administered, ultimately reducing the incidences of influenza and its associated complications by overcoming barriers to vaccination.

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Dedication

I would like to dedicate this project to my family, friends, and coworkers who have encouraged and supported me throughout my educational and professional career. Especially to my brother Sal for the encouragement and vision he had for me when I was too narrow-minded to see toward my future in the Nursing profession.

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Section 1: Nature of the Project

Introduction

The influenza (flu) vaccine is widely regarded as being underutilized despite current recommendations. A common anecdotal complaint about the annual flu vaccine is that it is ineffective because patients are infected with the flu virus despite receiving the vaccination. Epidemiological data seem to back up such anecdotes (Sanghavi, 2012). According to an American Lung Association report from 2010, over the past decades, no sustained decline in influenza-associated deaths were noted. Hospitalization rates among those 65 years and older rose gradually between 1979 and 2001, even though there was an increase in influenza vaccination rates among this age group from 32% in 1989 to 67% in 1997 (Glezen, 2008). Reports of data such as this may make the influenza vaccine seem useless. As a result, skepticism has lately moved beyond the usual antivaccine crowd, and barriers to receiving the flu vaccine occur.

Problem Statement

There are potential barriers to receiving the seasonal influenza vaccine for adults in the community 65 years and older.

Purpose Statement and Project Objectives

The goal of this project was to identify barriers to receiving the influenza vaccine among the 65 and older population in a community setting and propose interventions to eliminate unnecessary barriers. Development of new and more effective influenza vaccines are warranted as evidence for protection by influenza vaccines in adults older

than 65 years old are lacking because researchers are currently working on acquiring the next generation of influenza vaccines (Finnegan, 2014).

Decreasing the mortality problem of influenza within the 65 years and older population was noted by the placement of influenza vaccination policies in high-income countries (Simonsen, L., Taylor, R., Viboud, C., Miller, M., & Jackson, L., 2007). One main goal of Healthy People 2020 (2014) is to enlarge the number or children and adults vaccinated annually for seasonal influenza. The elderly population, particularly those at least 70 years old, makes up three-quarters of influenza related deaths, and yet few placebo-controlled randomized trials have included this population (Simonsen et al., 2007). Within the subspecialty area of adult health in primary care, the issue of to vaccinate or not to vaccinate against the flu is ongoing, and many potential barriers towards receiving the influenza vaccine exist. Practitioners are often questioned on the subject by patients, not only the nurse practitioner, when prescribing but also as a staff RN's and clinical instructors in regards to administering and teaching about the flu vaccine. However, because the geriatric population is a high risk group and is often seen in the primary care setting, defining and analyzing potential barriers is an important issue to research and review.

Research on knowledge translation adds clarity to the phases of moving research evidence into clinical practice (White & Dudley-Brown, 2012). To investigate potential barriers to receiving the influenza vaccine, this project involved discussing reasons why adult patients belonging to a primary care practice in a specific community in New York City are refusing the influenza vaccine. Patients of the practice who met the

requirements were identified through their refusal of the vaccine and their age of 65 years and older. After giving verbal consent, barriers were discussed and documented.

Potential barriers towards influenza vaccination were evaluated through discussion and questions pertaining to participants' interests in and use of the flu vaccine, their understanding of the risks and benefits of the vaccine, and their opinions regarding common reasons for vaccine refusal. Other pieces of information were also collected from respondents including age, sex, race/ethnicity, and primary language. Their participation was completely anonymous and did not require any personally identifiable information. Once participants completed their responses, the information was collected and reviewed. After reviewing the information collected, an educational module was developed and implemented within the primary care practice for patient and provider education.

Significance/Relevance to Practice

In order to decrease the negative consequences of influenza and obtain the goals of Healthy People of 2020, considerable improvements regarding the annual influenza are needed (CDC, 2014). Numerous data sources are employed by the CDC in order to acquire estimations of influenza vaccination coverage related information that may guide programs and policies for improved choices on coverage related issues (CDC, 2014). In place of the influenza vaccination, there is no solitary data source that specifies estimates of season-specific influenza vaccination coverage, according to the CDC. For the 2011–12 influenza season, vaccination implementation differed by several factors including state, age group, and selected populations (CDC, 2014). With a goal of 70% for ages 6

months to 17 years old, 70% for ≥18 years, and 90% for HCP, it was noted that coverage approximates fell below this objective set forth by Healthy People 2020 (CDC, 2014). Even though influenza vaccination coverage was higher in the age group of adults greater than 65 years old, it has not increased over the past 5 seasons since 2012 (CDC, 2014). Primary care practice involves all ages of patients, all socioeconomic and geographic origins, and patients who are seeking to maintain optimal health. These patients also encompass acute and chronic physical, mental, and social health issues, often with multiple chronic diseases. Providers have an important role in health promotion involving all levels of care including primary, secondary, and tertiary. This involves approaches to engage and improve patients' overall health status and include them in their own health issues, concerns, decisions, and prevention.

Project Question

For patients 65 years and older, what are potential barriers to receiving the influenza vaccine?

Evidence-Based Significance of the Project

As reported by the CDC (2009), it is estimated that more than 200,000 people in the United States are hospitalized each year from flu-related illness. The CDC has also reported that of these confirmed hospitalizations, adults 65 years and older typically account for more than half (60%) and almost all (90%) flu-related deaths. Because adults aged 65 years and older have a higher incidence or mortality combined with aggravating preexisting medical conditions, this hospitalization rate is related to an overall impaired immune response (Simonsen et al., 2007). It can then be presumed that the influenza

virus in older adults creates a burden not only on the individual but also on society and healthcare services.

The CDC (2008) has reported that vaccination is deemed the most effective method of decreasing influenza rates among all age groups. Moreover, according to the CDC, influenza continues as a worldwide contributor to human suffering and financial burden despite influenza vaccination recommendations and programs used to target high-risk individuals. It can be easily noted that although the influenza virus affects people of all ages, it is the older adults, young children, and those afflicted by chronic diseases and weakened immune systems who bear the burden of increased mortality and morbidity rates (WHO, 2005). An increased risk of hospital admissions diagnosed with pneumonia and influenza were noted among community residences with older adults, especially during an influenza epidemic (Hak et al., 2004). As a result of such notations, adults 65 years and older are considered to be at a higher risk for serious influenza illnesses (CDC, 2008).

Adults 65 years and older display higher mortality rates for infectious diseases than those compared with people younger and with the same infection (Yoshikawa, 2000). Studies have shown that adults 65 years and older comprise 90% of the total number of deaths, and the chance of death rises among this age group when underlying chronic diseases are present (Thompson et al., 2003). Because influenza causes a decline in overall health status, especially among older adults, it can often produce or exacerbate preexisting disabilities (McElhaney, 2005). According to Healthy People 2020, the eighth leading cause of death in the United States is comprised of acute respiratory

infections, which account for 56,000 deaths annually. More than 200,000 hospitalizations and 36,000 deaths occur each year from these acute respiratory illnesses as well. In 2009, the H1N1 influenza pandemic affected and hospitalized an estimated 270,000 people, and, as a result, 12,270 deaths were reported (Healthy People 2020, 2014).

Brown, Goebel, Neitch, Tweel and Mufson (2011) assessed the regularity of influenza vaccine among 3,858 older adults as well as their most common barriers to receiving the vaccine. The results analyzed the implementation of seasonal and H1N1 vaccines among adults 65 years and older with their university practice and surveyed a cohort of 64 patients to determine whether they had accepted the H1N1 vaccine and their reasons for refusal (Brown et al., 2011). Among this population, acceptance rates of seasonal influenza vaccine were low, and a substantial proportion did not receive the H1N1 vaccine because it was not clear whether they should receive it (Brown et al., 2011).

Implications for Social Change in Practice

It has been noted among governing bodies and health care providers that the annual influenza vaccine is recommended to targeted age groups for prevention of influenza, yet these persons at risk still refuse. As a healthcare provider, it is only normal to question and investigate the reasons why. Behavior regarding this issue among the adult population of 65 years and older is nominally researched. Related information taking the place of vaccination against influenza and associated concerns does not exist in one single data source (CDC, 2014). However, vaccines remain among one of the most

cost-effective medical preventive services. Currently, in the United States, nearly 42,000 adults and 300 children die yearly from vaccine preventable diseases (Healthy People 2020, 2014).

Assumptions and Limitations

It is assumed that within a study, some factors are out of my control. For example, it was assumed that participants of this survey answered honestly. It was conveyed that the participants were volunteers and may withdraw from the survey at any time with no ramifications. Since it was impossible to include every adult over the age of 65 within the community, it was assumed that the sample was representative of the chosen patient population. It was also presumed that potential weaknesses of this project were out of my control, as there are limitations in everything. Therefore, the results of the survey can generally be suggested to a larger population. Furthermore, the information collected from the survey is only as good as the survey itself. The survey was also dependent on conditions occurring during that time since it was conducted over a certain interval of time. Other limitations to mention include time constraints, willingness to participate, and number of participants involved.

Summary

Patients regularly give reasons why they believe they should not have a flu vaccination. Nonetheless, influenza vaccines substantially diminish mortality, morbidity, and deteriorating disabilities involving older adults while remaining cost effective. Within the general specialty area of adult health in primary care, the issue of to vaccinate or not to vaccinate against the flu is ongoing, and many potential barriers towards

receiving the influenza vaccine exist. There are a number of possible factors influencing why eligible individuals do not receive protection against influenza. Patient knowledge, patient perception, patient values, social influences, approach to care, health care provider attitudes, medical office systems, and fear of getting ill from the vaccine are all possible factors influencing why individuals refuse the influenza vaccine. Equivocal education involving patients, physicians, and communities are needed to reach high rates of influenza vaccination among the older adult population. In the present day, no one should die from influenza resulting from refusal to vaccinate.

Section 2: Review of Literature and Theoretical and Conceptual Framework

Specific Literature

According to the CDC, medical office visits have been reduced by nearly 60% as a result of the seasonal vaccination for the 2013–14 season, indicating the benefits of the influenza vaccine. Additionally, for the 2013-14 influenza season, roughly 134 million doses of influenza vaccine had been dispersed in the United States, as of February 8, 2014 (CDC, 2014). The best strategy for preventing influenza continues to be yearly vaccination. However, despite this information, people still remain unvaccinated for personal reasons.

One Canadian study was designed and conducted with the objective of exploring the self-perceived influences among older Canadian adults in deciding whether to take or not take the seasonal influenza vaccine (McIntyre et al., 2014). They employed a qualitative cross-sectional design with focus groups as the method of data collection. Eleven males and 26 females (n = 37) took part in six focus groups conducted at five locations (four retirement homes and one condominium building) between August and November 2010. The average age of participants was 82 years (SD = 6.6, range: 67–91 years). The study inclusion criteria included living in the community without extensive assistance with activities of daily living, being over age 65, and being fluent in English. The researchers had no previous contact and no relationship with participants (McIntyre, 2014).

Participants provided information about their experiences and described factors that influenced their decision-making process regarding vaccine receipt. Content analysis

produced 15 codes from which five overarching themes emerged. The five themes were moderators, beliefs, prevention, accessibility, and knowledge. Moderators and beliefs were the two most influential themes, while prevention, accessibility, and knowledge played smaller roles in the decision-making process (McIntyre et al., 2014). The most influential decision-making factor for receivers in this study was the recommendation by a general practitioner (GP; McIntyre et al., 2014). This suggests the crucial influence of GP prompts in the decision-making process. The patient-physician relationship ought to be built on trust, respect, and knowledge. The stronger the relationship, the more likely a patient would be willing to take a physician's advice on all health aspects, including preventive health measures (McIntyre et al., 2014).

Findings from this survey have a potential to better inform public health policy makers about specific factors that influence the decision-making process of older adults regarding preventive health behaviors: in particular, receipt of influenza vaccine (McIntyre et al., 2014). Future initiatives to improve vaccine intake should consider the powerful role of the physician, a need for greater knowledge about influenza, how the vaccine works, and education about adverse events. McIntyre et al. (2014) also proposed a model that chronologically orders the factors that influence the decision-making process of older adults for the receipt of the influenza vaccine. They also implied that future research should be longitudinal in nature and should involve a larger number of participants (McIntyre et al., 2014).

General Literature

Flu pandemics have occurred throughout history. There have been four since 1918, each with different characteristics. The first initiation of live attenuated vaccines began with the isolation of the influenza virus 80 years ago (Hannoun, 2013). However, the first inactivated influenza vaccine, Influenza A, was noted to be monovalent. A bivalent vaccine was then developed, in 1942, after the detection of Influenza B. Following these findings, the influenza virus was noted to be mutating and leading to antigenic changes (Hannoun, 2013). The WHO has published yearly endorsements for the structure of the influenza vaccine centered on results from surveillance systems that isolate currently circulating strains. The first trivalent vaccine, which included two Influenza A strains and one Influenza B strain, were developed in 1978. Currently, there are only two Influenza B lineages in circulation (Hannoun, 2013).

In order to analyze reasons why adults 35 years and older were not receiving the influenza vaccine, the Medicare Current Beneficiaries was initiated (CDC, 2009). Approximately 20% of patients cited that the reason they were not vaccinated was because they did not know they needed the vaccine, while a small number of patients stated their concerns of getting ill from the vaccine itself (CDC, 2009). Additionally, 13.7% of patients were afraid of unfavorable effects of the influenza vaccine. There were minimal concerns about the cost of the vaccine, which was reported by less than 1% of patients responding (CDC, 2009).

Conceptual Models/Theoretical Framework

The health belief model (HBM) offers a theoretical framework used for measuring the probability that an individual will take advantage of offers provided within their health services (Nexoel et al., 1998). According to the model, people will take steps to avoid diseases if they believe that they are directly susceptible, that the incidence of the disease will have a moderate impact on some aspect of life, that taking a certain action will be beneficial in decreasing their predisposition to the condition, and that their action does not involve overcoming essential barriers (Nexoel, 1998). Therefore, the HBM was employed to measure the probability that an individual will accept or decline the flu vaccine and possible reasons why.

There are four critical areas that the HBM suggests a person's health-related behavior and perceptions depends on: the gravity of a possible illness, the person's susceptibility to that illness, the advantages of taking a preventative action, and the obstacles to taking that action (Nursing Theories, 2013). Regarding issues centering on patient compliance and preventative practices the HBM is a useful model applied, especially in nursing (Nursing Theories, 2013). This model focuses on the relationships between an individual’s beliefs and behaviors and offers a way to understand and predict how patients will behave relative to their health and how they will comply with therapies in health care.

There are six major concepts in HBM, starting with perceived susceptibility. This is the person's view of how severely they would be impacted if they were affected by the condition. In perceived severity, only when the patient perceives a high enough severity

for serious complications to occur with action occur. The patient's belief in a given treatment that will cure or prevent an illness occurs in perceived benefits. The patient will then realize the difficulty, duration, and convenience of treatment with perceived costs. The desire to conform to a treatment by the patient is seen during motivation. Lastly, with modifying factors, the patient's personality variables, satisfaction, and sociodemographic factors can be seen. Therefore, health seeking behaviors may be influenced by an individual's perception of a danger posed by a health issue and the importance associated with acts aimed at decreasing the danger (Nursing Theories, 2013).

In order to effectively overcome barriers to increase vaccine acceptance, several strategies have been noted (Stinchfield, 2008). Two of the most effective strategies are convincing provider recommendations towards immunization and standing orders that allow nurses and other qualified personnel to initiate and provide vaccination, if indicated, for patients (Stinchfield, 2008). According to the CDC (2009), one of the most profound factors influencing vaccine uptake was attitudes. In one particular study, attitudes of both the patient and provider were examined before a visit as the percentage of patients immunized during the visit were measured. An increase in patients immunized, nearly 90%, were noted when the patient and provider had positive attitudes toward vaccination (CDC, 2009). Upon recommendation of immunization by the provider, approximately 70% of the patients opted to receive the vaccine. In the cases where the provider did not recommend immunization, only 8% of the patients opted for immunization (CDC, 2009). That being said, it is clear that providers must advocate for

vaccination as it can aid in combating patients negative attitudes and opinions towards vaccination.

Section 3: Methodology

Project Design and Methods

Using a specific primary care practice, located in a community outside of New York City, potential participants were approached and invited to take part in the survey. This was done in person, after they had received their medical care and left the exam room. When they agreed to participate, they were taken to a private room to complete the survey.

The survey (Appendix A) consisted of questions geared towards ascertaining current influenza immunization status and reasons for refusal. Ethical approval for this project was obtained from the appropriate parties at the facility where the evaluation was conducted as well as the Walden University Institutional Review Board. Written consent (Appendix B) was ascertained from participants meeting the requirements as well.

An educationally planned module, based on responses to the survey, was then developed. This educational module was aimed at increasing awareness on vaccination barriers to healthcare providers as well as patients, and ways to successfully address them.

Population

Improving influenza vaccine uptake among adults 65 and older in any community is essential. According to the United States Census Bureau, the demographics of this specific area included in this survey depicts a largely White (78%), African American (13%), and Hispanic (7%) population (United States Census Bureau, 2014). This report also specified that of the 472,621 people living in this area, 14% are 65 years and older

(United States Census Bureau, 2014). Calculating the percentages, this would constitute a population of 66,167 people over the age of 65 in this community.

Based on these demographics and with a predominance of this population speaking English, written materials were presented in the English language with the option of translating into Spanish if needed. One hindrance for healthcare providers regarding the anticipatory necessities for influenza vaccine uptake is that public views on influenza risk concerning the seasonal vaccine changes from year to year. Moreover, influenza strains can be different from year to year, causing increases in the severity of illness it can cause as well as how quickly it can spread.

According to the CDC, 2014 was a very critical and difficult year as only 23% of the influenza vaccine was shown to be effective (CDC, 2014). Normally, the influenza vaccine has shown to prevent 60 to 65% of serious infections. However, it has been noted that the 2014 season's influenza vaccine is less effective because the viruses used in making the vaccine did not match with the viruses that spread throughout the United States (CDC, 2014). In order for the manufacturers to have ample time to produce the vaccines, scientists must select the viruses used for the vaccines in the spring. In 2014, however, it was noted by scientists that influenza A (H3N2), which happens to be the dominant strain in circulation, started mutating immediately. As a result, approximately 68% of these viruses "drifted" to be altered genetically from the influenza viruses used in making the vaccines (CDC, 2014).

Eligible participants in the study consisted of a population group who did not, for whatever reason, receive the flu vaccine. I also isolated subjects to the adult population

of 65 years and older within the primary practice I currently use for my practicum experience. A discussion and generic form was implemented to explore in a structured manner what factors towards influenza vaccination behavior the participants experienced. The structure of the discussion and form was based on the HBM, as it provided a theoretical framework for gaging the likelihood that an individual will use suggestions and recommendations available to them.

Project Evaluation Plan

A program evaluation is an ongoing process that begins during program development (Hodges & Videto, 2011). However, evaluation for the sake of evaluation is not enough as valid conclusions and meaningful results need to be made for improved programs. Since the project was aimed at looking to create an educational program to potentially increase influenza vaccine uptake, gain knowledge, and change behavior, a summative evaluation design was used. Summative evaluation is a broad term referring to an evaluation that is conducted for the purpose of determining whether a program worked (Hodges & Videto, 2011). This type of evaluation focuses on whether or not the program produced its intended effects (Hodges & Videto, 2011). It is an external method of judging the worth of a program at the end of the program that also focuses on the outcome.

When planning and developing extension programs, the first stage consists of a needs assessment. It is important to distinguish between needs, wants, and interests when needs are being determined. For example, needs refers to something regarded as required or to achieve a purpose. Wants, conversely, are seen as desirable or useful, but not

required. Interests specify an individual's interest or curiosity about something. It is therefore not uncommon for individuals to mistake needs, wants, and interests. Hence, to certify an understanding for all vested parties, involvement of the target population is necessary.

It is important for representatives of the target population as well as stakeholders to be involved in developing the goals and objectives for the program to ensure an understanding for all involved. For example, allowing the representatives from the target population to aid in data collection techniques provides a sense of involvement and inclusion. Some of these methods include face-to-face interviews, strategic interviews, questionnaires, and casual observations as well as formal observations. To prevent unfavorable results, representatives from whom the needs assessment data are collected should not intermingle with one another during the course of gathering data

Involvement of the target population and stakeholders in developing goals and objectives ensures an understanding for all involved. Stakeholders are considered to be those involved in program undertakings. Some examples would be administrators, managers, sponsors, funding officials, collaborators, and staff. In this case, they would include principle physicians included in the practice, the general manager, staff, and those affected by the program (e.g., clients and family members) as well as primary users of the evaluation.

Stakeholder involvement fosters input, contribution, and influence among those who may have an investment in the oversight of the evaluation and findings. Engaging and involving stakeholders also helps to amplify the chances that the evaluation will be

useful, can improve credibility, can refine roles and responsibilities, can aid in protecting participants, and can avoid both real and or perceived conflicts of interest.

Educators and developers of a planned program rely on an evaluation tool that will help them to be accountable for their programs, demonstrate the impacts of their programs, and pinpoint improvements in their programs. By assessing outcomes resulting from dissemination of educational strategies, materials, and products, I will be able to determine in what ways the distribution of the program has benefited the target population and in what ways the program has directly been applied and utilized in their personal lives. The evaluation plan consisted of a participation evaluation tool including simple questions entailing short responses with a final question regarding suggestions for improvements.

Data Analysis

As stated earlier, there is little knowledge of the reasoning underlying decisions about flu vaccine behavior among the elderly. Therefore, the information retrieved from these surveys were reviewed and investigated. Frequencies of responses were evaluated and documented to apply towards the educational planned program. Common themes were closely monitored, as this will greatly benefit the scheme of the educational program.

A sample size of 50 participants was noted. This included 32 females and 18 males. All participants were over the required 65 years of age. Of the 32 females, 28 stated to be of White race and four African Americans. Of the 18 males, 14 were White and four were African American. All participants stated that English was their primary

language. Common themes and trends were examined and recorded. Of the 50 participants, 45 (all 32 females and 13 males) stated they refused the influenza vaccine due to fear of getting the flu from the vaccine itself. The remaining five (all males) stated they never got the flu and therefore do not feel they needed the vaccine.

Summary

Despite the fact that people considered to be in the older population are entitled to free flu vaccinations, the vaccination receiving rate among this population is lacking. A number of theories and models offer explanations and predictions around whether people will seek or accept health interventions. Application of these theories may assist health professionals to develop strategies to help patients in making informed decisions. Health professionals need to use their knowledge and consultation skills to understand relevant aspects of health psychology and to apply them in a therapeutic manner. They must also elicit their patients' ideas, concerns, and expectations about the flu vaccine. By evaluating potential barriers and providing educational tools to overcome those barriers, the older adult population receiving the flu vaccine may increase, therefore reducing the incidences of influenza and its associated complications.

Section 4: Findings, Discussion, and Implications

Evaluation and Discussion of Findings

Upon reviewing survey responses, it was apparent that most barriers or reasons stated, from a strong majority of the participants, were related to fear of becoming ill from the vaccine. When reviewing the data from the survey, most barriers appear to be related to a patient's fear of getting sick from the vaccine. According to Weise & Szabo (2013), many people possess this logic that receiving the influenza vaccine can actually give the person the influenza virus. In fact, one such survey by CVS Pharmacy conducted in 2013 concluded that approximately 35% of consumers thought this to be true (Weise & Szabo, 2013). That being said, this reasoning, or barrier, proved to be the prime directive to address towards overcoming an individual's fear of vaccination and therefore further evaluation of the vaccine itself was warranted.

Upon review of the chemical components of the vaccine itself, professor Charles Chu, a leading professor of infectious disease at the University of California-San Francisco, stated that there is a chemical inactivation used to kill and generate an inactive and noninfectious outcome of the influenza virus (Weise & Szabo, 2013). Sufficient amounts of the outer coating of the virus remains intact enough to elicit a more hearty and dependable immune response within the body that is entirely incapable of reproducing (Weise & Szabo, 2013). Some people may develop mild body aches, fatigue, muscle pain, and a low fever, "but it's very rare and it's not due to flu. It's the body's immune response" kicking in, Chiu stated. The symptoms are "very mild and typically go away in a day or so" (Weise &Szabo, 2013). It is more probable that anyone

receiving the vaccine developed a different kind of respiratory infection and not influenza. Since the process of an immune response takes 14 days after vaccination, it is also likely that the immune system did not have enough time to defend itself against this invading agent (Weise & Szabo, 2013).

The CDC (2014) has also reported that influenza vaccines are safe and are unable to give someone influenza since the vaccine is made from an attenuated virus. However, there may be some slight side effects as there are two different kinds of vaccines, a nasal spray and injectable vaccine. Most common side effects noted from the influenza vaccine can include redness, soreness, and discomfort or swelling at the site of injection (CDC, 2014). Furthermore, side effects noted from the nasal spray include runny nose, cough, or nasal congestion. In fact, in a randomized blinded study where some participants received influenza vaccines and others received saltwater injections, the only difference in symptoms noted was increased soreness in the arm and redness at the injection site among people who received the influenza vaccine, according to the CDC (2014). Interestingly, there were no distinctions in regards to body aches, fever, cough, runny nose, or sore throat.

Vaccination still remains the single most important action one can take for the protection and prevention of influenza. Ultimately, if people have received the influenza vaccine, they can assume a 62% reduction in the possibility of contracting influenza. On the other hand, they have a 0% protection rate if vaccination was not received. Therefore, health providers must urge not to let the odds stop the patient from getting vaccinated, especially for high risk populations.

Implications for Practice

As stated earlier, considerable improvement in yearly influenza vaccination of recommended and high risk groups is warranted to reduce the health consequences of influenza and aid in reaching one of the goals set forth by Healthy People 2020 of enlarging the number or children and adults vaccinated annually for seasonal influenza (CDC, 2014). Despite being universally recommended, especially in the elderly, some patients are not requesting the vaccine and healthcare providers are not encouraging them. Some on health care providers may not be aware of their patient's vaccination status and are therefore missing opportunities during office visits to update their status. Other health care provider's may allow their personal views towards vaccination to impede into practice. There are health care providers who feel that although the government, the CDC and providers mean well and may have done their due diligence, the influenza vaccine remains ineffective and may even cause illness (Brogan, 2013). If an individual's health care provider harbors these feelings, despite current research regarding the chemical components and proven effectiveness, they are less likely to encourage vaccination. This may indirectly affect the attitudes and beliefs of patients regarding the flu vaccine and hinder their decision to accept vaccination. Although the majority of responses to the survey in question related to participants fears of becoming ill from the vaccine and not on attitudes and opinions of the provider, it is worth mentioning since it is noted in the literature and this was a small sample size and may not reflect the opinions of a larger population.

When evaluating systems that have successfully reduced vaccine disparities, such as the Veteran's Affairs Healthcare System (VA), we see they have shifted the focus on what happens during the patient's visit with the healthcare provider to ensure that the opportunity for education and ultimately vaccination does not get missed (American Lung Association, 2010). Electronic medical records, automated reminders and permitting non-physician, yet qualified, personnel to administer vaccines are all system changes the VA has implemented to increase the probability of vaccines being administered (American Lung Association, 2010).

Within the primary care setting, the widest scope of health care variations are noted. Therefore, patients ranging in age, socioeconomic and geographic origins, those seeking to sustain optimal health, and those affected with acute and chronic physical, emotional, and social health issues are embodied within this type of setting. Practitioners within this role play an important part in health promotion, especially primary prevention vaccination. Strategies for improving health and engaging patients to nourish their own health are also important responsibilities of the primary provider.

Upon review of the literature, certain facts remain and are identified by researchers to disprove popular beliefs regarding nonvaccination. According to a report from the American Lung Association (2010), research has indicated the elderly population will more likely accept the healthcare provider's recommendation for vaccination once a stable and trusting relationship between patient and healthcare provider has been established. Results from this project yielded an informational tool (Appendix C) designed for implementation into practice to target barriers and assist

health care providers when faced with reasons for refusal or when educating patients on the importance of vaccination. This may also be beneficial when questioning one's own values and beliefs regarding vaccination as the health care provider's role is influential. Above all, it is important for providers to convey information regarding vaccines at every encounter as they remain the most cost-effective clinical preventive services and are a core component of any primary care practice.

Project Strengths and Limitations

In this project, details about human behavior, emotion, and personalities were examined. This included information regarding behaviors, desires, and assumptions. It is assumed that within a study, there will be some factors outside of the investigator's control. Following data collection, rather than performing a statistical analysis, descriptive trends were examined. As a result of utilizing descriptive analysis, which permits understanding behaviors of values, beliefs, and assumptions; a project strength can be noted. In reviewing life experiences and beliefs of another individual when exercising this technique, one can often remove the barriers of influence the researcher may impose.

Limitations noted were that the survey was dependent on conditions occurring during the period of time the surveys were conducted. Participants of this survey answered honestly, according to them; however, this may not be true. It was also impossible to include everyone over the age of 65 within this community; therefore, the sample can only be assumed to have represented the chosen population and can only be suggested to a larger population.

Research bias may also play a factor as well. Participants may feel the need to convey to the researcher what they think the researcher wants to know. This may be especially difficult if the researcher is a health care provider, especially if they harbor negative attitudes towards vaccination that they may not want to disclose. Other limitations to mention include time constraints, willingness to participate, small sample size, location, and population size of practice.

Analysis of Self

Part of the evidence based practice process is understanding how to apply the knowledge that is already published in the literature and use this information to solve a problem (Mauk, 2012). In the case of this project; barriers to receiving the influenza vaccine in adults > 65, the researcher chose a topic with ample information and research available regarding the influenza vaccine itself; however, how to overcome barriers to receiving the vaccine to aid health care providers was minimally noted. As a healthcare provider it is not only valuable to be aware of possible barriers but to possess the knowledge on how to overcome these barriers. Although education is widely available to consumers and healthcare providers that does not guarantee that appropriate procedures in practice will be utilized. For example, at times providers may have difficulties in determining how, when and what practices to employ for the management of vaccination administration and overcoming barriers, even under the best of circumstances. Depending on the barrier in question the appropriate, effective and best practice would then be selected. This project was intended to assist all health care providers and patient's faced with the challenge of vaccination barriers in the future.

Professional and educational development in nursing helps nurses see issues from different perspectives, to value their contributions to the profession, and to respect the work done by colleagues both within nursing and in other disciplines that contribute to quality patient care (DeSilets & Dickerson, 2010). By completing this project, the researcher has realized that as an advanced practice nurse can provide knowledge and clinical research outcomes to be brought into everyday use. A DNP possesses the skills and knowledge to utilize information available into a useful and workable form that can be used to guide health care providers, thus improving patient outcomes.

As a scholar, development of this project afforded the researcher the means to study, analyze and comprehend a subject matter they may not have been previously considered. As a practitioner, the experience and findings of this project are instrumental and contributory towards the inception of a DNP career and practice aimed at improving patient outcomes. As a professional, future endeavors will benefit from the self-awareness discovered from this overall experience.

Summary

As stated earlier, adults 65 years and older typically account for more than half (60%) and almost all (90%) flu-related deaths and with the aging U. S. population increasing in the next several decades it is concerning that these numbers will dramatically increase. The impact that influenza has on our society in regards to medical costs, loss of productivity and lost lives is equally concerning. One of the notions of public health is that it is beneficial to prevent disease than to have to treat it. The power of prevention is vital as are the revelations regarding myths of vaccination. It is crucial

to recognize the disparities that exist resulting from lack of awareness and effective measures surrounding barriers to vaccination. Without this realization we cannot move forward and progress in a more effective direction.

Despite a patient's resistant attitude towards vaccination, a healthcare provider's recommendation to vaccinate has a strong influence in a patient's decision making process. However despite the evidence that a large majority of patients will receive the vaccine once recommended by the healthcare provider, many healthcare providers are not routinely recommending the vaccine to their adult patients (American Lung Association, 2010). With an unknown knowledge of the severity each influenza season will bring it is vital to remain current and consistent with governing bodies and recommendations. Frieden, director of the CDC stated that "though we cannot predict what will happen the rest of this flu season, it's possible we may have a season that's more severe than most," regarding the 2014 influenza season (CDC, 2014). Officials from the CDC remained certain that the influenza vaccine should provide some protection and still advised people to get vaccinated (CDC, 2014). It continues to be the responsibility of health care providers to educate patients and the community on the flu vaccine and to continue to recommend it.

Barriers relating to decreasing vaccination rates are not impossible to overcome. It remains the health care provider's obligation to exercise their knowledge and consultation skills to understand relevant aspects of health psychology and to apply them in a therapeutic manner when attempting to overcome such barriers. They must also elicit their patients' ideas, concerns, and expectations about the flu vaccine. By

evaluating potential barriers and providing educational tools to overcome those barriers, the older adult population receiving the flu vaccine may increase, therefore reducing the incidences of influenza and its associated complications. It is ultimately the aim of this project to aid in this challenge as well.

Section 5: Scholarly Product

Many people in the United States each year are hospitalized from flu-related illness. Adults 65 years and older typically account for more than half of these hospitalizations and almost all flu-related deaths. Vaccination can be regarded by many as the most effective means of reducing influenza infection. In this project, barriers to receiving the influenza vaccine among the 65 and older population in a community setting were identified and interventions to eliminate unnecessary barriers are proposed. The question of, "For patients 65 years and older, what are potential barriers to receiving the influenza vaccine?" was examined. Patients meeting the criteria for inclusion completed a survey, and the results were evaluated. Evaluating potential barriers and providing educational tools to overcome those barriers, thus increasing the older adult population in receiving the influenza vaccine, may reduce the incidences of influenza and its associated complications. For the benefit of implications into practice, a fact sheet (Appendix C) has been developed and is provided to target this barrier for the benefit of health care providers when faced with this reason for refusal when discussing vaccination with patients. Above all, it is important for providers to convey important information regarding vaccines as they still remain the most cost-effective clinical preventive services and are a core component of any primary care practice.

A Doctor of Nursing Practice nurse has the potential to develop and improve evidence based practice at the local, state and national level. Addressing barriers related to receiving the influenza vaccine in adults over 65 years old for possibility of becoming a change agent and positively affecting the masses was the intent of this project. As a

result, the focus on providing leadership for evidence based practice and translating research into practice remains to be one of the goals of the DNP. This requires competence, decision-making, evaluating research and evidence as well as implementation of findings.

Creating a meaningful contribution into practice and policy was also an objective of this project. To have the ability to positively affect practice and policy is a privilege afforded to the DNP. This process served not only as a learning experience but as a guide aimed at demonstrating the DNP student's ability to apply systemic inquiry into a specific need in healthcare practice. In order to apply these finding's into practice, it is the intention of the researcher to provide the educational tools developed not only to the practice setting but to disseminate into the community as well thru local programs and healthcare facilities. Educational tutorials and seminars for patients, community and healthcare providers will be conducted at local primary care settings and healthcare facilities upon approval from appropriate administration.

To be more specific, in the local area where the research took place, there are 7 clinics separately located in various facilities that offer's assistance, information and administration of the influenza vaccine if desired. These clinics are state operated and are also free to the public. The near future plan is to present and distribute project findings and educational tools at these community sites to engage and further educate the community regarding the importance of accepting the seasonal flu vaccine. It is also the intent of the researcher to engage the health care community through a speaking engagement at a local conference, pending approval, where the importance of seasonal

and recommended vaccinations will be discussed. Through program evaluation and distribution, it is a goal to encourage positive social change and attitudes of individuals and communities to improve human and social conditions related to the importance of influenza vaccination.

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Appendix A: Influenza Vaccine Survey

2015

Please circle the answer that best applies to you:

1. Have your received the influenza vaccine this year? Yes No

2. What is your gender? M F

3. How old are you? 65-75 76-85 86-95 >96

4. What is your race/ethnicity (optional)?

5. What is your primary language? English Spanish Other

6. Please list your reasons for NOT receiving the influenza vaccine?

Appendix B: Consent Form

You are invited to take part in a research study of Barriers to receiving the Influenza vaccine. The researcher is inviting Adults 65 years and older not receiving the Influenza vaccine to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part. This study is being conducted by a researcher named Melissa Madalone, who is a doctoral student Walden University. You may already know the researcher as a Nurse Practitioner, but this study is separate from that role.

Background Information:

The purpose of this study is to evaluate barriers to receiving the Influenza vaccine.

Procedures:

If you agree to be in this study, you will be asked to complete a survey that asks some general demographic information such as your age and gender and what your reason(s) are for not getting the influenza vaccine. The survey will take about five minutes to complete and there are no risks involved. There are no thank you gift(s), compensation, or reimbursements involved.

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time and your decision to participate or not, will have no impact on your ability to receive services with this clinic. There is a potential benefit of learning how to reduce the spread of an Influenza epidemic.

Privacy:

Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Data will be kept secure by locked access. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Walden University's approval number for this study is **IRB will enter approval number here** and it expires on **IRB will enter expiration date.** You may keep this consent forms.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. In order to maintain privacy, signatures are not required and completion of the survey will indicate consent.

Appendix C: Influenza Vaccine Fact Sheet

FACT:

The influenza vaccine CANNOT give you the flu because they are

made in two ways:

Flu vaccine viruses that have been 'inactivated' and are not infectious*

Or

With no flu vaccine viruses at all (as in recombinant influenza vaccine)*

Millions of seasonal flu vaccines have been given safely*

Vaccination is the single most important step you can take to protect yourself

Not getting vaccinated means you have 0% protection

It's safe to vaccinate!

Centers for Disease Control (CDC) (2014). 2014-2015 Seasonal Influenza Vaccine Safety. Available from http://www.cdc.gov/flu/protect/vaccine/general.htm