

2015

Development of an Evidence-Based Influenza Vaccination Program for Nurses

Marlene Reid
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

 Part of the [Nursing Commons](#)

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Marlene Reid

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Judith Cornelius, Committee Chairperson, Health Services Faculty
Dr. Robert McWhirt, Committee Member, Health Services Faculty
Dr. Corinne Wheeler, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2015

Abstract

Development of an Evidence-Based Influenza Vaccination Program for Nurses

by

Marlene Reid

MSN, Walden University, 2012

BSN, College of Notre Dame, 2009

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

August 2015

Abstract

The purpose of this educational influenza vaccination project was to increase nurses' influenza vaccination rates. Nationally, 41% of nurses were vaccinated, which is far below the Healthy People 2020 goal of an influenza vaccination rate of 90%. Literature suggests that the low nurses' vaccination rate is responsible for inpatient healthcare associated influenza, mortality, and influenza-like illness. Healthcare facilities will not be reimbursed for treatment of healthcare associated infection. Despite recommendations from the Centers for Disease Control and Prevention for nurses to become vaccinated, only 20% of the 800 nurses at a healthcare facility in Baltimore were vaccinated for the past 2 years. A literature search for evidence-based articles was done electronically. Databases such as CINAHL, PubMed, and Medline identified 450 scholarly articles on attitudes, perceptions, and benefits of vaccination. Twenty-one scholarly articles written from 2006 onward that referenced increasing nurse vaccination rate were selected. Pender's health promotion model provided a conceptual view on beliefs and attitudes while explaining the delay in nurses to becoming vaccinated. Based on these scholarly sources a Power-Point presentation was developed that included 10 educational sessions. Five advisory committee members of experts were contacted via e-mail and telephone to review the educational project for feasibility and content validity. The advisory committee members commented that the educational project was feasible and relevant to the content of influenza vaccination for nurses. Social change will focus on nurses adapting a change in practice, and increasing their vaccination rate as a result of this evidence-based educational project.

Development of an Evidence-Based Influenza Vaccination Program for Nurses

by

Marlene Reid

MSN, Walden University, 2012

BSN, College of Notre Dame, 2009

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

August 2015

Dedication

I would like to dedicate this project to my two daughters who stayed up with me late into the night cheering me on and helping me to stay awake. Thank you, Davia and Trisheena McKenzie for your support.

Acknowledgments

I take this opportunity to thank Dr. Judith Cornelius, Dr. Robert McWhirt, Dr. Corrine Wheeler, my daughters, friends and family for providing me with the support that I needed for this journey. It was a struggle but I thank God that He has given me the strength to endure.

Table of Content

Section 1: Objective of Evidence-based project.....	1
Introduction	1
Problem Statement.....	2
Purpose of the Evidence-Based project.....	2
Project Objective	3
Evidence-based Significance.....	3
Implication for Social Change.....	4
Definition of Terms.....	5
Assumptions and Limitations.....	6
Summary.....	6
Section 2: Review of Scholarly Literature Evidence.....	7
Introduction.....	7
Attitudes, Perceptions and Benefits of Influenza Vaccination	7
Conceptual Theory.....	17
Summary.....	19
Section 3: Methodology.....	20
Introduction.....	20
Project Approach.....	21
Target Population/Sample.....	22

Data	
Collection.....	'22
Data Analysis.....	23
Project Evaluation.....	24
Summary.....	26
Section 4: Discussion, Finding, and Implications	28
Introduction.....	28
Summary of Findings.....	28
Discussion of Findings in Context of Literature and Framework.....	30
Implications for Practice/Future Research/Social Change.....	31
Project Strengths and Limitations	32
Analysis of Self.....	34
A Scholar.....	35
A Practitioner.....	36
A Project Developer.....	36
Influenza Vaccination Project for Nurses/Future Project Development.....	37
Summary and Conclusion.....	38
Section 5: Scholarly Product.....	40
Introduction.....	40
Manuscript for Publication.....	40
Project Summary.....	41
Project Evaluation Report.....	42

Conclusion.....	43
Reference.....	45
Appendix A: King’s Nurses Influenza Vaccination Questionnaire	51
Appendix B: Permission Letters	56
Appendix C: Questions for the Advisory Committee.....	58
Appendix D: Flyers.....	59

Section 1: Overview of the Evidence-based Project

Introduction

In the United States, influenza outbreaks have been associated with unvaccinated nurses (Monto, 2010; Music, 2012). A healthcare-associated infection has contributed significantly to the morbidity and mortality rates of patients who were admitted to healthcare settings. Health officials have identified vaccination of nurses as one of the most effective strategies for reducing transmission of the influenza virus from nurses to patients (Rakita, Hagar, Crome, & Lambert, 2010). Nationally, the influenza vaccination rate for nurses remains at 41.1% (Music, 2012). This low vaccination rate is far below Healthy People 2020's goal for an influenza vaccination rate of nurses (Blank et al., 2010; Hood, 2009). As a result of low vaccination rates, influenza has been considered the sixth leading cause of deaths (Music, 2012), and has resulted in extended hospital stay for patients (Blank et al., 2010; Stekel, 2007).

Over the past 30 years, healthcare-associated influenza outbreaks have been reported in nearly all 50 states (Stewart & Cox, 2011). The cost of providing care for those infected has the potential to range up to 35,000 dollars annually (Naz, Cevik, & Aykin, 2009). Hospitals will not be reimbursed for treatment of healthcare-associated infection (Seale, Leask, & MaCintyre, 2011); therefore nurses need to be vaccinated annually yet many are not.

Influenza infection has contributed to increased absenteeism rates for nurses (Hood, 2009; Monto, 2010). Following the Swine influenza (H1N1) outbreak in 2009,

the World Health Organization (WHO), the Infectious Disease Society of America, the Patient Safety Foundation, and the Society for Healthcare Epidemiology of America, recommended increasing the influenza vaccination rate of nurses to protect the public, and to reduce absenteeism at work (Music, 2012; Ottenberg et al., 2011). According to Thomas, Jefferson and Lasserson (2011), at least 23% of infectious nurses showed mild symptoms, and continued to work while contagious.

Problem Statement

Nursing professionals were identified as carriers of the influenza virus. Despite the recommendation from the Centers for Disease Control and Prevention (CDC), and WHO, nurses were refusing the influenza vaccine. Within one healthcare facility in Baltimore, nurses were refusing the influenza vaccine and according to the occupational health department, there has been documented evidence of infected nurses transmitting the virus to patients. The overall report showed that only 20% of 800 nurses were vaccinated. This represented a 5% decrease in nurses' vaccination rate over the past two years. Moreover vaccinated nurses were those who also had diagnoses of chronic illness such as chronic obstructive pulmonary disease (COPD), and asthma. Since this healthcare facility did not have a mandate for nurses to be vaccinated, the development of an evidence-based educational project to educate nurses on the need to be vaccinated was urgent.

Purpose of the Evidenced-Based Project

The goal of this project was to develop an evidence-based influenza educational program for practicing nurses at a healthcare facility in Baltimore. The goal of this

project was to address Healthy People 2020's goal of an influenza vaccination rate of 90% for nurses.

Objective for the Project

The primary purpose of this project was to develop an educational program based on the evidence-based information. Naz et al., (2009) and Zimmerman (2013) associated low vaccination rates of nurses as a threat to patients who are sick, frail, and immunocompromised. The present threat of an influenza pandemic was considered a significant public health issue in the United States. This significant threat can be reduced with a policy /or development of a facility-specific evidence-based influenza healthcare program (Monto, 2010).

Project Question for the Evidence-based Program

The question for this project was: What evidence-based resources were needed to develop an influenza educational program for practicing nurses at a healthcare facility in Baltimore? This project was urgently needed because there is no mandated policy for nurses to be vaccinated at that facility, and a number of nurses were not convinced that the vaccine offers adequate protection against the virus (Hakim, Gaur & McCullers, 2011).

Evidence-Based Significance of the Project

My role as the doctoral student on this project was to develop an evidence-based influenza healthcare vaccination program for nurses. The significance of this DNP project was to address the low influenza vaccination rates among nurses employed within a healthcare facility. The threat of patients, and nurses contracting the virus from

infectious staff was extremely high and significant morbidity and mortality has been associated with high infection rates (Sullivan, Jacobson & Poland, 2009).

According to the CDC (2012), nurses who chose not to be vaccinated do so for personal reasons: perceived risk of injury or illness to themselves, and others. Nurses view vaccination as a personal health choice; therefore, educating nurses at this agency about the benefits of being vaccinated may result in increased vaccination rates, and decreased absenteeism rates. Lastly, this evidence-based educational project provides the latest evidence of why the influenza vaccination is needed.

Implication for Social Change in Practice

The social change implication of this project involves a change in behavior, and practice directly related to the development of an evidence-based influenza vaccination program to increase the vaccination rate for nurses. Nurses have voiced the idea that choosing not to become vaccinated was in accordance with their right to exercise autonomy, but their right conflicts with the recommendation from the CDC for mandatory influenza vaccination (Blank et al., 2010). Most importantly, the healthcare industry respects the right of nurses to refuse to be vaccinated but still supported the fact that becoming vaccinated protects the public from ill effects of influenza.

The primary and the most effective method of reducing symptom and preventing influenza is to increase nurses' vaccination rates. Research studies indicate that nurses' low influenza vaccination rate was responsible for healthcare-associated influenza infection, and this is a cause for concern (Blank et al., 2010; Monto, 2010). This concern has revitalized the need to increase nurses' vaccination rates. The change to increase

nurses' vaccination rate can potentially decrease the rates of healthcare-associated infection being transmitted by nurses.

It is the duty of nurses to improve nursing practice, and to ensure positive patient outcomes. Positive change within the healthcare industry will be recognized when the 90% vaccination rate for nurses is achieved, and the transmission rates from nurses to patients' show a substantial reduction (Blank et al., 2010; Hood, 2009). This will reduce the societal threat posed by the influenza virus. As a result, facilities will experience a reduction in the spread of the influenza virus, reduced cost for infected patients' care, a decrease in nurses' absenteeism rates, and positive patient outcomes.

Definition of Terms

Definitions of terms, as operationalized within this project appear in this subsection. Words that consistently used throughout this project are:

- *Evidenced-based literature*- Scholarly articles that guide nursing practice in making personal choices and clinical decisions (Naz et al., 2009).
- *Influenza vaccine*- An antigen that is used to fight off the influenza virus. This virus is injected into chicken eggs and allowed to grow for three days. Next the virus is removed from the egg white and stored as an antigen for the influenza virus (Steckel, 2007).
- *Mandate* - An order that prevents an individual the right to refuse (Gligorov & Thomas, 2012).
- *Health promotion model*- A model developed to explain and predict health-related behaviors (Pender, 2011).

Assumptions, Limitations, and Biases

This educational project assumes it will provide adequate information to encourage nurses to become vaccinated. It is limited by the fact it only addresses nurses' low vaccination rates at one of the thirteen healthcare facilities in Baltimore in which the vaccination rate for nurses had remained low for the past two years. Additionally, this project will only be offered to nurses employed directly by the facility and would exclude contractual nurses. Nurses at an agency with low vaccination rates may be biased toward this educational program. To address the assumptions, limitations, and biases of this project, the doctoral student needs the support from stakeholders regarding the need for this project. This educational program will be offered three times during the year (pre-influenza season, during the influenza season, and post-influenza season).

Summary

The primary objective was to identify evidence-based resources that would be used in developing this educational project. Vaccination rates of nurses remain low despite mandates, and educational programs. A facility-specific project may address the low vaccination rate of practicing nurses at one healthcare facility in Baltimore. Infected nurses may place patients at risk for infection. Increasing nurses' vaccination rates have the potential to reduce influenza infection within this healthcare setting.

Section Two: Review of Scholarly Literature Evidence

Introduction

This section describes the search methods used to find evidence-based resources for developing an influenza project for nurses. A literature search of electronic databases such as CINAHL, PubMed, and Medline identified articles on the attitudes, perceptions, and benefits of vaccination.

The search produced 450 articles related to the influenza vaccine. The search was revised and keywords such as *nurses*, *influenza vaccination rate*, *influenza vaccine*, *nosocomial*, and *patients' influenza education* were used to narrow the search to yield specific results. The result of this search produced 30 scholarly articles. The articles retrieved were carefully selected utilizing an elimination process. Articles published before the year 2006, and not written in English were eliminated. Twenty-one scholarly articles were selected and these articles were specific to the topic of this project. Information from the articles includes data from influenza educational projects that reflects attitudes, perceptions, and benefits of the influenza vaccination for nurses. Each article was discussed based on design, sample, methods, findings, and limitations.

Attitudes, Perceptions and Benefits of Influenza Vaccination

Sullivan, Jacobson and Poland (2009) conducted a qualitative study that examined reasons for mandating influenza vaccine for nurses. They interviewed sixty nurses for their study. Findings indicated that nurses felt that the vaccine was not effective in preventing transmission of the influenza virus, and the use of universal precautions were sufficient in reducing the rate of transmission. The findings from this study suggested that the majority of the interviewed nurses were not convinced that the vaccine would be effective in preventing influenza infection. The study was limited to one unit in an

inpatient setting, and feedback could not be generalized beyond the sample. This study supported the fact that there is a need to provide education to nurses regarding the benefits of influenza vaccination.

Zimmerman (2013) conducted a quantitative study to address the importance of nurses becoming vaccinated against influenza. Two hundred experienced nurses' working within an inpatient hospital setting participated in the study. The average years of employment for the nurses ranged from 3 to 10 years. Each participant participated in a telephone survey that addressed the severity of influenza in patients. The survey consisted of 25 questions that addressed benefits of the vaccine, nurses' role in the transmission and potential harm of this infection to patients. The findings showed that 20% of the nurses understood the benefits of the vaccine, 25% recognized the potential harm, and 15% identified nurses as a vector for the infection while 40% did not believe that the vaccine was adequate to prevent the infection. One limitation of this study was that the findings cannot be generalized beyond the sample for the study. This study reinforced the need for an influenza educational project for nurses' that addresses modes of transmission.

Riphagen-Dalhuisen (2013) conducted a qualitative study within an acute care setting to examine the effect of a teaching strategy on changing nurses' attitudes towards being vaccinated against influenza. Thirty nurses working in an acute care setting who had not received the influenza vaccine participated. The study employed the intervention mapping (IM) model to change nurses' behavior about becoming vaccinated. Participants completed a 20-minute web-based questionnaire regarding the need to increase influenza

vaccination rates. The findings indicated nurses changed their attitudes towards becoming vaccinated after the intervention. Data was not collected to examine nurses' understanding of influenza vaccination before the intervention, which limited the study. The study showed a strong correlation between education, and an increase in influenza vaccination rates.

Naz et al., (2009) conducted a quantitative study on nurses' perceptions of the influenza for the vaccine. Two hundred and thirty-two nurses participated in the study. Each participant completed a questionnaire to assess nurses' perceptions of influenza vaccination. Findings indicated that nurses reported symptoms after vaccination. Seventeen percent reported fatigue, 3% stated they experienced a mild headache 25% expressed pain at the site of injection and 6 % communicated having low- grade fever. Less than half (42%) stated they did not believe the vaccine was effective in preventing influenza and experienced a short-term episode of dyspnea after injection. The sample represented only a selected number of nurses who worked on the unit, limited the study. The study concluded that educating nurses on the effectiveness of the vaccine was needed.

Amodio et al., (2014) conducted a longitudinal quantitative study on nurses as an easy target for the transmission of the infection within an inpatient setting. One hundred and twenty nurses with no prior influenza infection symptoms participated. The Sentinel Surveillance System for Influenza (INFLUNET) was used to collect data over a seven-year period. Findings of the study revealed that 48% of the unvaccinated nurses showed influenza-like symptoms during the influenza season and that 30% of the nurses'

continued to work even when they were contagious. The study offered no data to support that patients' who were cared for by these nurses showed symptoms of influenza, limiting its impact. The study supported the fact that unvaccinated nurses posed a potential threat to the health of patients, and educating them about the merits of vaccination will help to provide a better understanding of the ill effects of influenza.

Hakim, Gaur and McCullers (2011) conducted a quantitative study using a survey that addressed nurses' perceived benefits of influenza vaccinations. The study addressed 925 nurses' knowledge of influenza and influenza infection, showing there was a lack of understanding regarding the influenza vaccine and influenza infection. While the sample was from one geographic location, it showed that there was a need for this influenza educational project to educate nurses on the importance of the vaccine.

Wills and Wortley (2007) conducted a quantitative study to examine nurses' attitudes towards a new policy mandate for influenza vaccination. Forty-one percent of the 121 nurses who participated stated that they would be vaccinated because it was being mandated and 59% said that if they had a choice, they would not have accepted the vaccine. No data on the percentage of unvaccinated nurses within these facilities was given, limiting the study. The authors concluded that there was a need to educate nurses on the benefits of the vaccine.

DeSante et al., (2010) conducted a quantitative study. Fifty nurses working within an inpatient setting asked to voice their opinions on a mandated policy for nurses' vaccination and how it affected the safety of patients. Findings showed that 50% of the nurses stated that the policy did not reflect their autonomy to choose to become

vaccinated; 25% voiced discontent that they had to be vaccinated; 10% remained neutral and only 15% responded positively to the policy. Though the sample was limited being from one facility, the authors concluded that further education was needed to help nurses understand the urgency in increasing nurses' uptake of the influenza vaccine.

Sullivan et al., (2009b) conducted a qualitative study to explore nurses' opinions on the need to increase the rate of influenza vaccination with nurses. Thirty nurses working on a medical-surgical care unit participated. The study utilized the database information retrieved from the CDC (2008) influenza report. Findings of the study identified nurses' as vectors for the transmission of influenza because they were directly involved in patient care. Though the report was limited to only one unit within the inpatient healthcare setting, the study still supported influenza educational to fill the gap, fostering, and enhanced understanding of the need to increase nurses' vaccination rates.

Seale, Leask and MacIntyre (2009) conducted a quantitative study to measure nurses' responses to a mandate for an influenza vaccination after participation an educational seminar. Findings showed that 30% of the 56 nurses working in the emergency room of a large teaching hospital felt those nurses who accepted the vaccine did so based on beliefs regarding their personal and patient protection that the vaccine offered. Twenty percent stated that they did not see the need for this mandate; 8% expressed that they understood the policy to protect the patient and to reduce possible harm, and 20 % chose to remain neutral. Findings showed that the educational seminar was instrumental in assisting nurses to understand the need to become vaccinated. Other nurses were not exposed to this educational opportunity and only 50 of the 56 participants

responded to the survey, limiting its findings. This study showed that educating nurses about the influenza vaccine benefits and safety of the patients effectively created awareness for the need for the vaccine.

Liupia et al., (2010) conducted a qualitative study to address nurses' beliefs about the influenza vaccination and prevention of nosocomial infection. Forty-five nurses working in a hospital and a nursing home facility responded to questions asked during a panel discussion. The study showed that some nurses had misconceptions about the influenza vaccine and infection. The panel discussions were held during the peak of the nurses work schedules; therefore the responses from the nurses were limited. The study supported the need to address the prevention of nosocomial infection through vaccination.

Stekel (2007) conducted a qualitative study of 30 registered nurses working in an inpatient unit within a hospital setting to examine nurse feedback on the American Nurse Association Committee on Ethics report regarding the need to increase nurses' influenza vaccination rates. Forty-percent of the nurses felt that they were in agreement to protect the patient from potential harm and 60% stated that making the vaccine mandatory violated their autonomy as healthcare professionals. The study concluded that nurses' role in preventing patient harm from the infection needs to be addressed.

Music (2012) conducted a quantitative study that focused on protection of the patients and nurses by increasing nurses' influenza vaccination rate. The study showed that 60% of the 35 nurses working on an oncology inpatient unit were in favor of the influenza vaccine and the other 40% thought it was a good gesture to protect the patient.

Even though 60% were in favor for the vaccination, 30 nurses (86%) refused to become vaccinated, 15% stated that annual vaccination was not necessary and 15% indicated that they had already received the influenza vaccine. The sample was limited to one unit agency, but it reaffirmed the need to address the nurses' perceptions of the influenza vaccine.

Hood (2009) conducted a qualitative study to address healthcare leaders' obligations to become vaccinated. One hundred fifty nurses working in an inpatient facility participated. The study utilized the best practice model to provide nurses with reasons to protect the patient from influenza. The model included evidence of hospital length of stay, possible transmission from patients to nurses or from nurses to patients, and absenteeism rates. Findings of the study reiterated the importance of increasing nurses' vaccination rates. There was no feedback from healthcare leaders regarding their efforts to support increasing nurses' vaccination rate, however, it showed there was a need to increase nurses' vaccination rate.

Tilburt et al., (2008) conducted a qualitative study of 200 nurses working in a tertiary hospital who engaged in a discussion on influenza vaccination to discuss the effects of the influenza virus within an inpatient setting, and its relationship to decrease length of hospital stay. Twenty percent of the nurses felt that the vaccine was not adequate to prevent influenza. 30% were not convinced that extending the hospital stay for influenza was necessary and 50% stated that not being vaccinated did not place the patient at a greater risk for infection. While a small percentage of nurses at the facility

participated in the study, it suggested there was a need to educate nurses about the benefits of being vaccinated and on influenza to address misconceptions.

Ottenberg et al., (2011) conducted a quantitative study on the legal and ethical implication regarding policy change for nurses' vaccination. One thousand nurses working from facilities including Barnes-Jewish Hospital, Virginia Mason Medical Center, Johns Hopkins Healthcare, University of Iowa Hospitals and Nashville hospitals participated. They were required to complete a survey of 50 questions regarding policy change for voluntary influenza vaccination. The study showed that 84% of the participants did not support nurses' vaccination and 16 % percent were in favor of the policy change. The responses only addressed policy change for a voluntary nurse vaccination program and failed to address the ill effects of the influenza infection adequately. It concluded that educational was needed to increase nurses' vaccination rate.

Blank et al., (2010) conducted a qualitative study to gather information regarding nurses' knowledge and attitudes regarding vaccination coverage for nurses. One hundred twenty registered nurses involved in patient care participated with some voicing that they washed their hands after patient care and believed that if they felt sick they would stay home. Additionally, nurses were aware of the symptoms of influenza but did not understand the ill effects of the infection on frail patients. Only registered nurses were involved in the study even though there were licensed practical nurses working within the facility. The study confirmed that there was a great need to address the lack of understanding regarding the need to increase the rate in which they are vaccinated.

Babcock et al., (2010) conducted a qualitative study with 130 nurses to address nosocomial infection on an inpatient oncology and intensive care units. The study showed that nurses failed to realize that they were considered targets for the transmission of influenza infection to their patients. Nurses stated that wearing a mask was sufficient protection and were not convinced that the vaccine was effective. The sample was limited to two intensive care units but reinforced the need to address nosocomial influenza transmission.

McLennan and Wicker (2010) conducted a qualitative study to discuss the need to increase nurses' vaccination rate to prevent nosocomial infection. Participants were 190 nurses working with patients who were failed and immunocompromised. The nurses were asked to complete a questionnaire on nosocomial infection and related complications. The study showed that 50% of the nurses stated that if they were infected they would have overt signs and would stay home. Forty percent of the nurses reported that working in healthcare placed them at risk for the infection, and 10 % felt that it did not matter if they were vaccinated. A limitation of the study was that it only included nurses working with high- risk patients. The findings of the study underscored the seriousness of influenza infection and that an influenza educational project was needed to address increasing vaccination rates of nurses.

Gilgorov and Thomas (2012) conducted a longitudinal quantitative study to address the urgency of nurses getting influenza vaccination in a healthcare setting in New York City. Participants of this study were 200 nurses who worked with acutely ill patients over a 10-year period. Findings of the study showed that there were an increased

number of deaths that were related to the influenza infection. Fifty percent of the deaths occurred in patients who at the time of admission presented no symptoms of influenza infection. The vaccination rate of nurses was 40%. A limitation of the study was that the information from the hospital's medical health record did not provide documentation on whether any of the patients were admitted to the hospital with influenza- like symptoms. This study reinforced the need to increase nurses' vaccination rates to lower the incidence of nosocomial infection and the need for influenza educational.

Chan (2007) conducted a qualitative study with 45 nurses within a hospital's emergency department. Nurses were asked to voice their opinions during staff meetings about the influenza vaccine. The study showed that nurses needed more information regarding the vaccine that even when vaccinated the risk of contracting the infection remained the same and that nurses continued to experience symptoms of infection after being vaccinated. Only nurses working in the emergency department were sampled for this project and nurses working in other nursing specialties within the facility were excluded. The study supported the need to educate nurses on the benefits of the vaccine.

McLennan, Gillett, and Celi (2008) conducted a qualitative study that addressed the need for nurses to receive the influenza vaccine to protect them from the ill effects of the influenza infection. One hundred thirty-two nurses working in an inpatient setting voiced their opinions on the influenza vaccine. The study showed that nurses needed a greater understanding of the influenza vaccination and severity of the influenza symptoms. The sample represented nurses from one area of the hospital only but the

authors' study supports the need for this influenza educational project as a potential means of reducing the transmission to patients.

Conceptual Model Theory

The conceptual model identified for this project was the health promotion model (HPM). This model was used to guide the development of this influenza educational project to increase vaccination rates of nurses. The model was considered a psychological model that attempted to provide an explanation for behaviors, attitudes, and beliefs of nurses regarding the need to increase health promotion behaviors (Pender, 2011). HPM addresses perceived barriers that can be applied in this project to gain a better understanding of nurses' arguments regarding mandatory influenza vaccinations. This model incorporated the use of individuals' perceptions relating to barriers, the seriousness of the health concern, benefits, and the susceptibility of the proposed action (Pender, 2011). The HPM inferred that a lack of knowledge, and information would influence nurses' responses to the need to become vaccinated.

The model proposes that nurses' perceptions and attitudes about the adverse outcomes of influenza would motivate them to act to avoid those outcomes (Pender, 2011). Nurses' would not act to prevent adverse consequences unless negative results are likely to afflict them. Despite the potential of threat for an outbreak of influenza infection associated with nurses' low vaccination rates, the nursing professional continues to need the support of healthcare officials to help them to identify the significance of the influenza vaccine as a joint effort to protect patients and healthcare workers (Pender, 2011).

Since the change was not readily accepted, the HPM inferred that barriers to change were often bombarded with nurses' ability to adapt new behavior (Pender, 2011). A change in behavior was often met with resistance, and this resistance may be often accompanied by attitudes and behaviors that reflected negative feelings about the influenza vaccination for nurses. Barriers that prevent nurses' acceptance of the influenza vaccination can be easily overcome with adequate information that the effort to protect patients and the nursing professional (Najimi & Golshiri, 2012).

Summary

Nurses' perceptions and attitudes are powerful determinants of health behaviors towards increasing nurses' vaccination rates. This had contributed to low vaccination rates among nurses. The findings from the scholarly articles showed that there was a need to address nurses' lack of understanding, and misconceptions related to the benefits of the influenza vaccine. Increasing the rate of nurses' vaccinations has the potential to reduce the transmission of the virus to vulnerable patients. The HPM would guide this project to gain insight into nurses' attitudes, perceptions, behaviors, and address the need to increase the influenza vaccination rates for nurses.

Section Three: Methodology

Introduction

The evidence-based influenza educational vaccination program for nurses developed in this project focuses on providing activities and resources to increase nurses' vaccination rates. The educational component of an influenza vaccination program is likely to require extensive planning, and time to tailor activities to foster a level of understanding for the urgency to increase nurses' vaccination rate. Program planning is necessary to ensure that the successful outcome of the intended program would achieve the desirable impact on the healthcare industry (Hodges & Videto, 2011). This section provides information regarding the project design; target population, and sampling; data collection, data evaluation, data analysis; and the project evaluation plans as essential components for this influenza vaccination educational project.

The CDC and WHO address the need to increase nurses' vaccination rates, but despite this effort, the vaccination rates of nurses remain remarkably low. This project was developed for nurses utilizing Pender's (2011). HPM was used as a guide and provided additional information to motivate nurses to become vaccinated. Since this population was identified as a medium for transmission of the influenza virus, this model was appropriate because it sought to address nurses' attitudes and misconceptions regarding the influenza vaccination. Integrating concepts from the HPM into this project

guided the identification of evidence that would be used to provide nurses with the necessary information needed to implement a change in their health behaviors to become vaccinated.

Project Approach

This evidence-based educational project was developed to increase vaccination rates of nurses employed within a healthcare facility located in Baltimore, Maryland. This healthcare facility was chosen for this educational project because of its low influenza vaccination rates for nurses. The project was developed to show that nurses attitudes, and misconceptions regarding the influenza vaccine influences their decision to be vaccinated (Pender, 2011).

The literature suggests that their attitudes and misconceptions greatly influenced nurses' decision to become vaccinated (Monto, 2010). I recommend that the facility conduct the educational project for at least five weeks excluding weekends. The recommendation is for daily sessions (three to four), lasting at least 30 to 40 minutes. Zang et al., (2010) suggests that scheduled times for workshops should be tailored to encourage the participation of the greatest number of nurses' in the project. This scheduling allows nurses on 8 or 12-hour shift to attend the educational sessions.

Since this healthcare facility does not have an extensive online technology, the information for the educational project was developed for delivery by Power -Point Presentation by the nurse educator. During the introductory phase of the education project, nurses will engage in a discussion about the urgency of the educational project. As the sessions progress, the presentation will address areas such as a brief overview of

influenza, influenza risk, nurses' misconceptions, influenza transmission within inpatient settings, nurses' role in preventing the transmission of influenza, benefits of influenza vaccine, and evidence-based information supporting the need to increase the vaccination rates for nurses. Throughout the educational sessions nurses will be given opportunities to ask questions to enhance their understanding of this educational project.

Target Population/Sample

The target population and sample for this project will be nurses' working within this healthcare facility. According to Polit (2009) the target population is a group of individuals under consideration that share a common trait. Stakeholders can significantly influence the intended outcome and success of this project. Their involvement in the project would show support for the project, and also provide information for the urgency to increase nurses' influenza rates. Successful programs are multifaceted and need the commitment of nursing personnel to ensure the success (Hodges & Videto, 2011). To promote maximum participation for this project, the healthcare facility should provide additional notifications via e-mail or through telephone call as a friendly reminder to ensure nurses participation. The sample for this educational project will consist of nurses who work for the agency full time, part time and as needed (per diem). Contractual nurses will not be considered because they are not eligible to attend educational sessions at this healthcare facility.

Data Collection

The success of this DNP project will be dependent on the information received from nurses on the efficacy of this educational project to provide knowledge and to

change nurses' attitudes toward getting vaccinated against influenza. The King's Nurses Influenza Vaccination Questionnaire (KNIVQ) (Zang et al., (2012) will be given to the project participants (see a copy in Appendix A). Key components of this questionnaire were based on existing literature about the determinants of nurses' influenza vaccination behaviors. The KNIVQ consist of 28 questions with four questions addressing demographic characteristics, six questions soliciting answers relating to knowledge of influenza, six questions addressing perceptions, three questions addressing health beliefs and practices, and eight questions addressing nurses' reasons for not being vaccinated. The Cronbach's alpha coefficient score for this instrument is 0.78. Cronbach's alpha coefficient score above 0.70 indicates good internal reliability (Polit, 2010). Zang et al., (2012) were contacted for permission to use this questionnaire by the healthcare facility for the project. (see Appendix B for copy of approval). This questionnaire was selected because it addresses nurses' attitudes, knowledge, health beliefs, and risk perceptions relating to the influenza vaccination.

Since this healthcare facility is not completely computerized, and nurses were not proficient in navigating through the system, the use of a computerized questionnaire for this project was not considered. The DNP student recommends that nurses be provided with the paper version of the KNIVQ at this time, but a computerized version will be considered at a later date. I recommend to the facility that upon completion of the questionnaire, the forms will be placed in a secured drop box, and collected at the beginning of the project and the completion of the project. This process will allow for

confidentiality of responses with this questionnaire. All completed questionnaire will be maintained in a secure location at the healthcare facility.

Data Analysis

Descriptive statistics will be used to analyze the demographic data. In addition, the *t-test* will be used to analyze the pre-test and post-test data. According to Polit (2010), the *t-test* can be used to note the effect of the educational project on nurses' knowledge, attitudes, health beliefs, and risk perceptions. The agency will examine the annual vaccination rates of the nurses to see if there is an increase in rates after attending the educational project. Given the importance of increasing vaccination rates of nurses, this primary analysis will be able to provide the staff results related to the effectiveness of the educational project in increasing nurses' vaccination rates (Polit, 2010).

Project Evaluation Plan

An advisory committee of five individuals was established to monitor the success of this project and to ensure that the project was appropriate for the target population. The advisory committee members included two direct care nurses from the nursing department, an expert in infection control and prevention since 2009, a community health nurse, and an occupational health nurse within this facility. They were charged with the responsibility of identifying the strength and weaknesses of the educational project. The advisory committee was contacted through e-mail, and a follow-up phone call was made within 2 weeks to see if they had questions or if they did not respond.

The advisory committee reviewed the educational project electronically in the form of a Power-Point presentation. A hard copy of this information was also made

available. The advisory board ensured that the information in the educational project was appropriate, was accurate, can increase nurses' knowledge, and change attitudes toward influenza vaccination. The first and second sessions provided an explanation for the educational project, and gathered information from nurses' regarding their knowledge, and misconceptions relating to the influenza and the influenza vaccine. The third to fifth sessions provided an education on the benefits and risks of being vaccinated, addressing nurses' misconceptions, and transmission of influenza infection within the inpatient setting and the role of the nurses. The sixth to the eight sessions presented evidenced-based information on the need to increase vaccination rates of nurses. The ninth and ten sessions summarized information discussed, and answer questions from the previous sessions. Questions for the advisory committee can be found in Appendix C.

To measure the validity of the advisory committee responses the CVI score was used. Polit (2010) referenced the CVI scale as a valid instrument frequently used in educational projects to assess the efficacy, and relevance of the project to the audience of interest. An acceptable CVI score is 5 or higher; an advisory committee score of 6 met the criteria for the three questions that required a yes or no answer. A "yes" response to the questions was assigned a score of two points and a "no" response; was assigned a one point. The total points were tallied, and a mean average was calculated. The mean average became the CVI score based on the response from the advisory committee to the questions. For example, if the advisory committee responded with a score of five out of the six questions, the average score would be 0.83. This score then determined the validity of the educational project. The CVI score was calculated based on the five

advisory responses divided by the total number of questions. (21 divided by 25). The results yielded a CVI score of 0.84. According to Polit (2010) CVI score above 0.78 or higher from advisory committee experts' referenced evidence of good content validity. I will use this feedback to ensure that their recommendations for the educational project were addressed. Feedback from the advisory committee is integrated into the final draft version of the project. According to Kettner, Moroney, and Martin (2008) addressing feedback will promote the success of the project.

The evaluation process is an essential element of a project. This influenza project will be annually evaluated by the healthcare facility; with the hope of motivating nurses to increase their vaccination rates until 90% compliance is attained. The Occupational Health department of this healthcare facility will review the immunization records of nurses' to see if there is evidence of an increase in nurses' rates after the educational project. Lastly, I would recommend an annual review of the project by a staff member at the agency. The review will allow for informational updates as needed.

Summary

The development of an evidence-based educational vaccination program for nurses focused on providing activities and resources to increase nurses' vaccination rates. An advisory committee provided feedback on the appropriateness, and accuracy of the content of the project and a CVI score was determined. The survey that was chosen and recommended to the facility for data collection is the KNIVQ. Descriptive statistics and the t-test will be used for data analysis by the facility. This project will be evaluated annually by the nurse practice facility educator to ensure that the information is current

on influenza updates, and nurses' vaccination rates. Evaluation of this influenza project will be done annually, with the hope of motivating nurses to increase their vaccination rates until at least 90% compliance is attained. This outcome will be similar to that of Healthy People 2020's goal of a 90% compliance rate.

Section 4: Discussion, Findings, and Implications

Introduction

The purpose of this educational project was to provide educational information coupled with evidence-based literature to address the need for nurses to increase their vaccination rates. It was developed based on the low nurses' vaccination rate within a healthcare facility located in Baltimore, Maryland. Low vaccination rates have been associated with morbidity and mortality among patient within the inpatient setting. These practicing nurses were easy targets for the transmission of health associated infections to vulnerable patients (Hood, 2009). This project was designed to address nurses' misconceptions, attitudes relating to influenza, and to encourage practicing nurses to accept the influenza vaccine.

The Pender's health promotion model (2011) was used as a premise for the development of this project. It provided the conceptual view on beliefs, and attitudes while explaining the delay in nurses to becoming vaccinated. According to Pender (2011) the HPM was used in other evidence-based studies, and was considered an excellent source for explaining health behaviors of nurses.

Summary of Findings

Low vaccination rate among nurses continue to be a cause for concern and has the potential lead to a major health problem affecting vulnerable patients within the inpatient setting. In the United States, influenza outbreaks have been associated with unvaccinated nurses (Monto, 2010; Music, 2012). Vaccinating nurses was identified as an effective

strategy for reducing transmission of the influenza virus from nurses to patients (Rakita et al., 2010).

The DNP educational project was introduced to the advisory committee comprised of five experts in their area of practice to review for accuracy, and feasibility. The advisory committee members were contacted via e-mail and instructed of their role for this educational project. Two weeks were allotted for the advisory committee to review the DNP project and submit their feedback electronically using a secured password that was accessed only by the DNP student. After two weeks, the DNP student reviewed the feedback.

The advisory committee deemed that the evidence-based influenza vaccination program reflects the best evidence, and content practices to support nurses in increasing their vaccination rates. It was suggested that the DNP student remove the nosocomial term, and replace it with the term healthcare associated infection. They noted healthcare associated infection is in compliance with current terminology used by the CDC to describe infections acquired during an inpatient hospital stay (Smith, Hinman & Pickering, 2014). This feedback was included into the final draft of the DNP project.

The advisory committee members' CVI score was calculated based on the survey responses. Polit (2010) referenced the CVI score as a valid measurement frequently used with educational projects to assess the efficacy and relevance of the project to the audience of interest. Members were given five questions that would rank the validity of the content provided in the DNP project. The first three questions required a yes or no response. The last two questions required the advisory committee to respond to the DNP

project relating to strengths, weaknesses, and adequacy of information presented. The advisory committee member ranked each of the five questions with a universal positive feedback and suggested a minor change from nosocomial to health associated infections. They confirmed that the DNP project met the criteria for having an excellent content validity. Their positive feedback indicated that the information in the DNP project was feasible and relevant to the target population.

Discussion of Findings in Context of Literature and Framework

The findings from the evidence-based articles showed that vulnerable inpatient patients are at risk to become infected with the influenza virus from nurses who are not vaccinated (Monto, 2010). Moreover, becoming vaccinated reduced this risk to these vulnerable patients (Seale, Leasik & MacIntyre, 2009). Several studies strengthen the need for patient safety, positive clinical outcomes, and support the CDC recommendation for practicing nurses to be vaccinated against the influenza virus (Monto, 2010; Music, 2012). Gilgorov and Thomas (2012), Monto (2010), and Music (2012) supported the campaign of increasing nurses' vaccination rates. McLennan, Gilbert, and Celi (2008) provided evidence that potential outbreak of healthcare- associated influenza is associated with low nurses vaccination rates.

Several studies supported the need for this educational project to assist in ensuring nurses understand the potential harm to patients caused by low nurses vaccination rates. Educating practicing nurses on the benefits, and their role in the transmission process, greatly increase their awareness of the need to become vaccinated (Amidio et al., 2014; Riphagen-Dalluisen, 2013; Sullivan, Jacobson & Poland, 2009; Zimmerman, 2013).

Nurses' attitudes and misconceptions regarding the benefits of the influenza vaccine were addressed, and it was concluded from practicing nurses' feedback that their lack of understanding was an essential component for not wanting to become vaccinated (Hakim et al., 2011; Wills & Worthy, 2007).

In designing, and developing this educational program, Pender's health promotion model (2011) provided adequate information for identifying practicing nurses barriers for not wanting to become vaccinated. Pender (2011) suggested that practicing nurses' health behavior is determined by personal beliefs, and their perceptions for the influenza vaccine. The HPM also determined that changing behaviors coupled with the use of educational information was significant to this educational project (Pender, 2011). For a new behavior to be adapted, practicing nurses needs to believe the benefits of the new practice outweigh the consequences of continuing the old behavior (Pender, 2011). This enables barriers to be identified, and new behaviors adapted.

Implication for Practice/Future Research/Social Change

The use of evidence-based practice has gained much momentum within the healthcare industry. The healthcare industry can no longer rely on nurses' expertise to provide positive clinical outcomes. Nurses are encouraged to question their practice, and identify alternate methods to improve the processes of care. Improving the processes of care requires practicing nurses to incorporate evidence-based practices to enhance the care of their patients within the inpatient setting.

The effort to increase nurses' vaccination rate within the healthcare industry, is a concerted effort of practicing nurses to take the initiative to improve their professional

standards through evidence-based literature. Expanding nurses' knowledge and improving positive patient outcomes are embedded into the ethical and empirical aspiration to acquire new knowledge. Nurses who obtain such knowledge will not only practice efficiently but also become role models capable of instituting change in healthcare behaviors that will benefit patients directly under their care and beyond.

Evidence-based literatures provided information to existing health concerns and identify solutions of the resolution for these concerns. The resolution of these concerns was then applied in practice to promote positive patient outcomes and quality care. There is an increasing demand in the healthcare area for educational programs to assist practicing nurses in developing and changing personal practices that will improve the safety of their patients. The findings from this project supported the need for educating nurses to increase their influenza vaccination rates and remind them of their commitment to protect vulnerable patients. This project seeks to empower practicing nurses to recognize the need for a change in practice.

Project Strengths and Limitations

The strength of this educational vaccination project for practicing nurses was based on the foundation of evidence-based literature that supported the need for nurses to become vaccinated against the influenza virus. Since practicing nurses are directly involved in caring for vulnerable patients, the research indicated that transmission of the influenza virus from practicing nurses to patients was a major cause for concern within the healthcare industry (Music, 2012). According to Chan (2007), and Sullivan et., (2009), educating nurses based on a literature review will identify gaps that exist

regarding the influenza vaccination and will determine the need for this new knowledge. The inclusion of evidence-based literature review enhances the worth of developing this educational project. Since this educational project sought to protect inpatients, advance nursing practice and promote positive patient outcomes, health professions can also benefit from the information provided in this project.

This project was limited to one healthcare inpatient facility in Baltimore, Maryland. The program was not designed to include patients outside of an inpatient setting. This DNP student seeks to encourage practicing nurses to change, and adapt to new behaviors that could be met with challenges and resistance. Since the call for increasing nurses' vaccination rates is based on a recommendation, and is not mandatory in nature, ensuring adequate, and proper response to this new healthcare preventative measure among practicing nurses will require continuous education and support (Music, 2010).

Recommending this educational project to other healthcare facilities will address how evidence-based literature review supports the need to increase influenza vaccination rates among practicing nurses. It would be beneficial to extend this educational knowledge to nurses outside the inpatient setting. Since the healthcare industry recognizes that complex, and vulnerable patients are cared for by practicing nurses within the confines of their homes, extending this knowledge will be necessary and beneficial.

Analysis of Self

As a DNP student actively involved in the development of this project, I realized that I shared some misconceptions regarding the benefits of becoming vaccinated. Being

exposed to an evidence-based literature review on the importance of becoming vaccinated changed my thinking and practices. As a practicing nurse since 1998, I lacked sufficient understanding the harm non-vaccination can create. Despite the fact that the influenza vaccination was promoted and offered to inpatient, as a practicing nurse the motivation to become vaccinated was non-existent. As a result of this project, I embrace increasing vaccination rate and support the willingness to adapt to new practicing behavior and standard.

Professional and personal growth materialized as a result of practical experiences, and involvement in the development of this project. I have gained a new level of confidence because of the incredible amount of knowledge I acquired as a result of the literature search for evidence-based articles related to increasing nurses' vaccination rate within the inpatient setting. Throughout this experience I have engaged in conversations with other practicing nurses about the dangers and threat of the influenza virus onto vulnerable inpatient. I chose this topic based on the need to understand further how and why evidence-based support increases nurses' vaccination rate. This project has strengthened my professional, resolve to protect vulnerable inpatient patients, and participate in the coalition to advance nursing practicing standards.

As a Scholar

Clinical scholarship is one of the core values of the DNP trained practitioner. A scholarship is an integral part of nursing practice. Zaccagnini and White (2011) defined scholarship as the ability to disseminate information in various areas such as publications, presentations and the Internet that can be viewed by others. There was evidence of

scholarly growth that was recognized during the process of developing this educational project to increase nurses' vaccination rates to protect inpatients. From the practicum experience, a review of evidence-based literature and feedback from the advisory committee members provided a wealth of information which has contributed to an increase in knowledge. As a result, there were numerous engagements of conversations with other practicing nurses during the educational sessions.

Practicing nurses are required to become experts, and be able to impact changes in the healthcare industry. It was gratifying, and empowering to be associated as an expert in this influenza vaccination project to increase nurses' vaccination rate. This journey revitalized my effort to advance to a higher level of nursing practice, and become involved in the vision of incorporating evidence-based into practice. This surge of energy led to a continuous review of the evidence-based literature. I am well positioned to disseminate findings to impact changes in the healthcare industry, and for future publication in nursing professional magazines.

As a Practitioner

As a DNP practitioner, the primary focus is to participate in prevention and health maintenance through learning and the involvement of educational activities. The hallmark of the DNP trained practitioner is to identify complex issues, and to apply knowledge gained to develop a holistic approach to problem-solving. The greatest reward of the DNP adventure is the respect, and unspoken recognition from other healthcare professional and the ability to assume a leadership role. Leadership requires a high level

of training to provide high quality, cost-effective, and evidence-based care to guide nursing practice (American Association of Colleges of Nursing, 2006).

As a nurse educator equipped with a terminal degree, I will be able to function in the capacity of a board member, director of nursing, administrator policy maker, etc. DNP practitioners can work effectively to impact positive change in the healthcare industry (Zaccagnin & White, 2011). Many of my colleagues have approached me seeking to know more about the vaccination project. I am bombarded daily with questions and ideas regarding evidence-based information relating to the DNP project. This allows me to provide valuable information on how evidence-based evidence findings can advance nursing practice.

As a Project Developer

The process and development of this educational project have been challenging and mentally exhausting but rewarding. It has encouraged new learning experiences, and motivated me to be a better professional. Developing this project and navigating through the various databases to find evidence-based literature, planning practicum experiences, completing appropriate paperwork and writing the final draft for this DNP project sometimes necessitated lifestyle changes and sacrifices. The process of completing this DNP project reminded me of a quotation used by Henry Wadsworth Longfellow that "...heights by great men reached and kept were not attained by sudden flight but they while their companion slept were toiling upward in the night" (Longfellow, 1839). I learned to embrace comments for revisions and feedback from my committee with the hope that one day my desired goal would be accomplished.

Being a nurse educator, I appreciate the art of abstracting information from the literature search to support this DNP educational project. I realized that I possess the ability to apply evidence into practice to work effectively with other practicing nurses. Bandura (2006) described this as self-efficacy relating to ones' belief and ability to succeed. Task I performed in developing this educational project to increase nurses vaccination rates, strengthens my belief that will apply the skills learned and knowledge gained for future study, advancement, and improvement of nursing practice.

Influenza Vaccination Project for Nurses and Future Professional Development

The development of an evidence-based influenza vaccination program for nurses was a requirement for this terminal degree. This project embarked on the use of evidence-based literature to focus on the need to increase practicing nurses' vaccination rate within a healthcare facility in Baltimore, Maryland, increasing the quality of care. The effort to ensure that practicing nurses understand their role in preventing influenza through vaccination has been personally and professionally rewarding beyond all expectations.

Professional growth and development are essential in keeping current evolving practices and ensuring positive patient outcomes. Stevens (2013) suggested new knowledge acquired through evidence-based literature will improve clinical standards, and enhanced health prevention behaviors. Through education these behaviors will be recognized and transformed into nursing professional standards of care. Transforming standards of care requires the use of resources, information, and education to create awareness of a widely recognized threat of the influenza virus that has the potential to adversely impact quality of care and safe patient care outcomes.

Summary and Conclusions

In summary, low vaccination rates among nurses are a potential threat to patient safety and positive patient outcomes. Patient safety and quality care are top priorities in healthcare. The evidence-based literature search has shown that nurses need resources, and education to address this threat. Therefore, this Evidence-Based Influenza Vaccination Program for Nurses was developed. During the process of developing this educational program, the DNP student experienced personal and professional growth. Since the threat of harm to inpatients and staff as a result of nurses low vaccination rate is unique to other healthcare facilities, the need for this educational project is warranted. The DNP project was designed to be universally applicable to all healthcare environments and any educational level of any practicing nurse. The DNP project contained evidence-based literature that supported the need for increasing nurses' vaccination rate of practicing nurses.

Section 5: Scholarly Product

Introduction

As a DNP prepared practitioner, disseminating information is an integral part of the DNP education. The final scholarly DNP project will provide evidence of the DNP student's knowledge, skills, and expertise. This includes evidence of assimilation of evidence-based literature supporting the need for increasing nurses' influenza vaccination rates. The DNP project will serve as a foundation for the DNP student to become actively involved in a future scholarly practice that will improve the nursing profession and standards of care.

Manuscript for Publication

Disseminating the outcomes of this DNP evidence-based influenza vaccination project is critical to promote change in practice, and standards of care among practicing nurses. The DNP project results will be made available to practicing nurses in other healthcare facilities benefiting the entire field, the need to increasing vaccination of practicing nurses is a universal need that affects all in the field. The Journal of Professional Nursing is an excellent source for disseminating this DNP information. The choice for this magazine was based on the fact that magazine addresses changes in practice, legislative, ethical, research, regulatory and professional standards that affect nursing practice. Since this magazine is accessible internationally, disseminating the DNP information to a larger population of practicing nurses is achievable.

Another professional journal that will be appropriate for dissemination is the American Journal of Nursing (ANA). This journal has long been in existence within the

nursing world and has received favorable recognition for contributing valuable positive information to the world of nursing. The journal also keeps practicing nurses abreast with changes, and evidence-based quality improvement that supports patient safety and positive patient outcomes. Reaching as many practicing nurses as possible is the ultimate goal in the dissemination of the DNP final scholarly product.

Project Summary

The development of an evidence-based influenza educational vaccination program for practicing nurses' addresses increasing vaccination rates was most challenging. The topic was chosen based on a personal experience of having a family member contracting the influenza virus during an inpatient hospital stay for an acute illness. This devastating experience provided motivation to reinforce the need for nurses to be vaccinated against the influenza virus. During the initial phase of this project, it was very difficult to distinguish between research and an evidence-based project. As a result, a great deal of time was spent attempting to understand this process. My instructor, a committee member as well as my preceptor, spent quality time providing feedback, and help to distinguish differences among the two.

This project underwent multiple reviews, and revisions. There were several modifications that were made based on recommendations from program committee members, selected advisory committee members, my preceptor, and from my program chair. There were several themes that emerged from the evidence-based literature on the topic of influenza vaccination for nurses. These themes include a lack of trust for the vaccine, misconceptions of the influenza vaccine, nurses' health beliefs about the vaccine,

and vaccine benefits. Each of these themes was taken into consideration during the application of the literature for this project. Evidence-based literature supporting these themes was included within this project. This quality improvement project was developed with the aim of encouraging practicing nurses become vaccinated.

Program Evaluation Report

According to Polit (2010) content validity requires knowledge and expertise of the topic. The evaluation report for this project was based on the content validity conducted by the advisory committee within the healthcare facility. These include one nurse expert in infections control since 2009, two direct care nurses, a community health nurse, and an occupational health nurses employed within the facility. The CVI score for this DNP influenza educational project was 0.84. This score was based on the advisory committee review of the DNP influenza educational program. A score of two was associated with a response of yes and one to a response of no. The two general questions required the advisory committee to respond generally.

The advisory committee responded that this influenza vaccination educational program included current information related to the topic. It was also noted that this project provides evidence-based information supporting the need for nurses to become vaccinated and that low nurses' vaccination rates increase the risk of inpatients contracting this virus. The advisory committee suggested that this project should have initially incorporated other healthcare professionals since they also involve in the care of inpatients. The favorable response from the advisory committee indicated that this evidence-base influenza vaccination project met criteria.

The nurse expert of the advisory committee recommended the removal of the nosocomial term and to replace it with the term healthcare associated infection. The suggested change was in relevance to the current term used to associate influenza infection acquired during an inpatient hospital stay. This recommendation was incorporated into the final project. This project was deemed to be appropriate by the advisory committee.

Program evaluations are conducted to determine if the program can accomplish its intended goals and objectives (Hodges & Videto, 2011). Evaluation of any program must be initiated from its inception. The evaluation of this project showed that the information presented includes appropriate language and terms that can be easily understood. During this process, multiple revisions were made, and reviewed by the chair for accuracy. Since the facility was not fully computerized, the final evidence-based project draft was both in hard copy, and was e-mailed electronically to the staff educator of the facility.

A wealth of evidence-based information was researched and reviewed. Many hours were spent in the selection of scholarly evidenced-based literature, and were analyzed to fit the need of the target population, and the goal of increasing nurse vaccination rates. Information retrieved was reviewed carefully to determine the appropriateness, and relevance to this project. Many hours were spent engaged in this process. This project is current with up to date information but will be under constant review to ensure its appropriateness. This evaluation process will continue to be updated with new information that reflects changes in the healthcare industry.

Conclusion

In conclusion, the intent of the DNP evidenced-based influenza vaccination educational project for nurses was to provide a meaningful resource of information for practicing nurses' wishing to follow best practice. This developmental project also serves as a quality improvement project, and it has the potential to motivate future professional development. It is the expectation that I will share this newly acquired knowledge with other practicing nurses. The evidence-base influenza vaccination project for nurses will be considered for publication in a nursing professional journal.

References

- Albano, L., Matuozzo, A., Marinelli, P., & Di Giuseppe, G. (2014). Knowledge, attitudes and behavior of hospital health-care workers regarding influenza A/H1N1: A cross sectional survey, *BioMed Central Infectious Diseases*, *14*(208), 1-7. doi: 10.1186/1471-2334-14.208.
- American Association of Colleges of Nursing. (2006). The essentials of doctoral education for advanced nursing practice. Retrieved from <http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf>.
- Amodio, E., Restivo, V., Firenze, A., Mammina, C., Tramuto, F & Vitale, F. (2014). Can Influenza vaccination coverage among healthcare workers influence the risk of nosocomial influenza-like illness in hospitalized patients? *Journal of Hospital Infection*, *86*, 182-187. doi.10.1016/j.jhn.2014.01.005.
- Babcock, R. M., Gomeinhart, N., Jones, M., Dunegan, C., & Woeltje, K. (2010). Mandatory influenza vaccination of healthcare workers: Translating policy into practice. *Mandatory Influenza Vaccination*, *50*, 459-464. doi: 10.1086/650752.
- Bandura, A. (2006). Self-efficacy: The exercise of control. New York, NY: W.H. Freeman.
- Blank, D. L., Bodansky, D. M. S., Forbes, A., Garde, E., Story, F., Roalfe, A., & Tait, L. (2010), Influenza vaccination of future health care workers: A cross-sectional study of uptake, knowledge and attitudes. *Vaccine*, *28*, 4668-4672. doi: 10.1016/j.vaccine.2010.04.066.
- Chan, S. S. (2007). Do vaccinating ED health care workers against influenza reduces

Sickness, absenteeism? *American Journal of Emergency Medicine*, 25, 808-811.

doi:10.1016/j.ajem.2007.02.002.

Desante, J. E., Caplan, A., Shofer, F., & Behrman, A. J. (2010). Physician attitudes towards Influenza immunization and vaccine mandates. *Vaccine*, 28, 2517-2521.

doi: 10.1016/j.vaccine.2010.01.042/

Erkin, O., & Ozsoy, S. (2012). Validity and reliability of Health Belief Model applied to Influenza. *Academic Research International*, 2(3), 2223-2944.

doi: 10.5455/pmb.20110118022318.

Friis, R. H., & Sellers, T. A. (2009). *Epidemiology for public health practice* (4th ed).

Sudbury, MA: Jones& Bartlett.

Futurecare Health Management System Occupational report, 2010-2012. *Influenza Vaccination for nurses*, 1(12), 66-67.

Gligorov, N., & Thomas, D. C. (2012). Should the flu vaccine be mandatory for health? care workers? *The Journal for Nurse Practitioners*, 8 (10), 790-791. doi: 10.1136/bmj.f6705.

Grohskopf, L. A., Shay, D, K., Shimabukuro, T. T., Sokolow, L. Z., Keitel. A.,

Breese, J. S., & Cox, N.J. (2013). Prevention and control of seasonal influenza with vaccines. Recommendations of the Advisory Committee on immunization Practices –United States, 2013-2014. *Morbidity and Mortality Weekly Report*, 62(RR-07-6):1-43.

Hakim, H., Gaur, A. H., & McCullers, J. A. (2011). *Vaccine*, 28, 5963-5969.

doi:10.1016/j.vaccine.2011.06.041.

- Longfellow, H. W. (11902). *The complete poems of Henry Wadsworth Longfellow*.
Houghton Muffin Company.
- Hodges, B. C. & Videto, D. M. (2011). *Assessment and planning in health programs* (2nd ed). Sudbury, MA: Jones & Bartlett Learning.
- Hood, J. (2009). Developing a “Best Practice” influenza vaccination program for health care Workers - An evidence-Based leadership-Modeled program. *American Association of Occupational Health Nurses Journal*, 57(8), 308-312. doi: 10.3928/08910162-20090729-05.
- Kettner, P. M., Moroney, R.M., & Martin, L. L. (2008). *Designing and managing programs: An effective-based approach* (3rd ed). Thousand Oaks, CA: Sage.
- Liupia, A., Garcia-Basteiro, A. L., Olive, V., Costas, L., Rios, J., Quesada, A., Vareia, P., Bayas, J.M., & Trilla, B. (2010).New interventions to increase influenza vaccination rates in healthcare workers. *American Journal Infection Control*, 38, 476-481. doi: 10.1016/j.ajic.2010.01.013.
- McLennan, S., Gillett, G., & Celi, L.A. (2008).Healer, heal thyself: Health care workers and the influenza vaccination *American Journal Infection Control*, 36, 1-4. doi: 10.1016/j.ajic.2007.07.010.
- McLennan, S., & Wicker, S. (2010). Reflections on the influenza vaccination of healthcare workers. *Vaccine*, 28, 8061-8064. doi: 10.1016/j.vaccine.2010.10.019.
- Monto, A., S. (2010).Seasonal influenza vaccination coverage. *Vaccine*, 285, D33-D44. doi: 10.1016/j.vaccine.2010.08.027.
- Music, T. (2012). Protecting patients, protecting healthcare workers: A review of the role

of vaccination. *International Nursing Review*, 29(2), 162-167. doi: 1111/j.1466.7657.2011.00961. X.

Najimi, A., & Golshirt, P. (2012). Knowledge, beliefs and preventative behaviors regarding influenza A in students: A test of the health belief model. *Journal of Education and Health Promotion*, 1(4), 66-70. doi: 10.4103/2277-9531.112699.

Grohskopf, L. A., Shay, D. K., Shimabukuro, T. T., Sokolow, L. Z., Keitel, W. A., Bresee, J. S., & Cox, N.J. (2013). Prevention and control of seasonal influenza with vaccines. Recommendations of the Advisory Committee on immunization Practices –United States, 2013-2014. *Morbidity and Mortality Weekly Report*, 62(RR-07-6):1-43.

Naz, H., Cevik, F., & Aykin, N (2009). Influenza vaccination in healthcare workers. *Journal of Infection in Developing Countries*, 3(1), 50-54. doi:10.3855/jidc.105

Ottenberg, A. L., Wu, J. T., Poland, G. A., Jacobson, R. M., Koenig, B. A., & Tiburt, C. (2011). Vaccinating health care workers against influenza: The ethical and legal Rational for a mandate. *American Journal of Public Health*, 101(2), 212-216. doi: 10. 2105/AJPH.2009.190751.

Pender, N. J. Murdaugh, C., & Pearson, M. A. (2011). *Health Promotion in Nursing Practice* (6th ed). Boston, MA: Pearson.

Polit, D. (2010). *Statistical and data analysis for nursing research* (2nd ed). Upper Saddle River, NJ: Pearson.

Riphagen-Dalhuisen, J., Fristein, G., Geest-Blankrt, N., Dangof-pont, M., Jager, H., Bos,

- N., & Hak, E. (2013). Planning and process evaluation of a multi-faced influenza vaccination implementation strategy for healthcare workers in acute healthcare setting. *BioMed Central Infectious Disease*, *13*(235), 1-10. doi: 10.1186/1471-2334-13-235.
- Seale, H., Leask, J., & MaCintyre, C. R. (2011). Do they accept compulsory vaccination? Awareness, attitudes and behavior of hospital health care workers following a new vaccination directive. *Vaccine*, *27*, 3022-3025. doi:10.1016/j.vaccine.2009.03.038.
- Smith, J. C., Hinman, A. R., & Pickering, L. R. (2014). History and evaluation of the advisory committee on immunization practices-United States, 1964-2014. *Morbidity and Mortality Weekly Report*, *63*(42), 955-958.
- Steckel, C. M. (2007), Mandatory influenza immunization for health care workers- An ethical Discussion. *American Association of Occupational Health Nurse Journal*, *55*(1), 34-39.
- Stevens, K (2013). The impact of evidence-based practice in nursing and the next big idea. *Online Journal of Issues in Nursing*, *18*(2). doi: 10:3912/OJN.vol18No02 Man04.
- Stewart, A. M. (2009). Mandatory vaccination of healthcare workers. *England Journal of Medicine*, *361*(21), 2015-2017. doi: 10.1056/nejmp0910151.
- Sullivan, S. J., Jacobson, R., & Poland, G. A. (2009). Mandating influenza vaccination for healthcare workers. *Expert Review Vaccine*, *8*(11), 1469-1474. doi: 10.2105/AJPH.2009.190751.

- Tiburt, J. C., Mueller, P. S., Ottenburg, A. L., Poland, G. A., & Koenig, B. A. (2008).
Vaccine, 26S, D27-D30. doi:10.1016/j.vaccine.2008.07.068.
- VI, L., Quwehan, S., Kalia, K., Burke, N., & Brown, K. (2011). Who's who in
healthcare: findings from a student-led interpersonal pilot project. *Journal of
Interpersonal Care*, 25, 296-298. doi:10.3109/1361820.2011.561936.
- Wills, B. C., & Wortley, P. (2007). Nurse's attitudes and beliefs about influenza and the
Influenza vaccine: A summary of focus groups in Alabama and Michigan.
American for Professional in Infection Control and Epidemiology, 35(1), 20-24.
doi:10.1016/j.ajc.2006.07.009.
- World Health Organization (2009a). *Epidemic and pandemic alert and response (EPR)
Report*.
- Zaccagnini, M. & White, K. (2011). *The doctor of nursing practice essentials: A new
model for advanced nursing practice*. Sudbury, MA: Jones and Bartlett
Publishers.
- Zang, J., While, A.E., & Norman, I. J. (2012). Development and testing of an instrument
to assess nurses' knowledge, risk perception, health beliefs and behaviors related
to influenza vaccination. *Journal of Clinical Nursing*, 21, 2636-2646.
doi:111/j.1365-2702.2011.03794.x
- Zimmerman, R. K. (2013). Ethical analyses of institutional measures to increase
healthcare workers influenza vaccination rates. *Vaccine*, 31, 6172-617.
doi.10.1016/j.vaccine.203.10.066.

Appendix A**King's Nurses Influenza Vaccination Questionnaire (KNIVQ)**

Copy right received from Zang et al., (2012)

Demographics**I. *Demographics:* Circle the response that represents the most accurate description of your individual professional profile.**

1. Age: _____ years

2. Educational level

- a. LPN
- b. Associate degree
- c. BSN degree
- d. Doctorate degree

3. Ethnicity:

- a. Caucasian (white)
- b. Black
- c. Hispanic
- d. Asian
- e. Other
- f. I do not wish to include this information

4. Area of specialty:

- a. Adult Medical/Surgical
- b. Adult Critical Care
- c. OB/Post-Partum
- d. NICU
- e. Pediatrics
- f. Emergency Department
- g. Oncology
- h. Transplant
- i. Rehabilitation
- j. OR/PACU
- k. Psychiatry
- l. Long-termed Care
- m. Home Care

Circle the answer for the next six questions. True or false.

- 5. Influenza is transmitted primarily by coughing and sneezing.
- 6. Healthcare workers can spread influenza even if they are feeling well.
- 7. The injectable vaccine can cause some people to get influenza.
- 8. Adults with influenza commonly experience nausea, vomiting and /or diarrhea.
- 9. After being vaccinated once in the past with the influenza vaccination, you not have to be vaccinated every year.
- 10. There is no chance I can get influenza this season if I got the influenza vaccine this fall.

Please answer the next six questions as best as you can.

11. Do you think that the influenza vaccine is effective to fight the influenza virus?

12. Do you think that simple handwashing can prevent the influenza virus?

13. Do you think the nurses are carriers of the influenza vaccine?

14. Do you agree with a mandated policy that requires nurses to be vaccinated?

15. What do you fear most about the influenza vaccine?

16. Why do you need to be vaccinated?

The next three question are based on your health belief

17. Do you have a religious belief that prohibits you from becoming vaccinated? If so
what is your belief?

18. Do you think this vaccine will hurt you? If yes, why do you think so?

19. Do you think that you can get influenza if you have never had the influenza infection before?

The next eight questions relate to influenza vaccination

20. Do you feel that you should have the right to choose to become vaccinated? If yes, please explain your reason.

21. How do you feel that nurses will be required to be vaccinated?

22. What are your fears regarding influenza vaccination?

23. Are you afraid of being stuck with a needle?

- 24.** Do you think that increasing nurses' vaccination rates will lower the incidence rate of influenza within the inpatient healthcare setting? If yes, explain? If no, why not?
- 25.** Do you think that nurses' autonomy to choose will be affected by a mandate to become vaccinated?
- 26.** Do you plan to take the vaccine? If yes why? If no, why?
- 27.** Do you feel protected by the influenza vaccine? If yes, why? If no, why?
- 28.** Have you ever gotten sick after being vaccinated? If yes, what were your symptoms?

Appendix B

Search email

Folders

- Inbox** 1771
- Archive
- Junk** 78
- Drafts 15
- Sent
- Big Mar 1**
- Deleted
- New folder

: E: Request for permission to use content of questionnaire

Shosh Sharabani (shoshs@yvc.ac.il)
To: marlene reid

Add to cont

Dear Marlene

You have my permission to use our questionnaire
best regards

Let your inbox do the work
Create and combine files to organize your inbox, automatically

Shosh

*Prof. Shosh Shahrabani, D.Sc.,
Chair, The Economics & Management Department,
The Yezreel Valley College,
Tel: 972-46423526, Fax: 972-46423522
shoshs@yvc.ac.il, shoshs@gmail.com*

New Reply Delete Archive Move to Categories

Search Sent

Folders

Inbox 1785

Archive

Junk 98

Drafts 15

Sent

Big Mar 1

Deleted

New folder

Permission to reference questionnaire in DNP project.



marlene reid 10/01/14
To: alison.white@kcl.ac.uk

My name is Marlene Reid and I am currently enrolling in a Doctorate of Nursing Practice degree at Walden University. I am writing as my final project on the development of an educational vaccination program for nurses and I need an article by authors Zang et al., (2012) on topic :development and testing of an instrument to assess nurses' knowledge, risk perception, health beliefs and behaviors related to influenza vaccination. I found this article very informative and interesting and would like to reference the King's Nurses Influenza Vaccination Questionnaire in my DNP project. I would like to use the information from this questionnaire into my DNP project with your permission. Walden University contact email is : Marlene.reid@waldenu.edu my personal email is marlos31@hotmail.com. I am awaiting your response to this request. Thank you in advance.



H&M MIDSEASON SALE



Midseason Sale now in-store and online with up to 60% off on 1000+ items

Messaging



View all

Appendix C

Questions for the Advisory Committee

Did the project included information sufficiently address nurses' attitudes and misconceptions of the influenza vaccine? Yes or No

Was the evidence-based information on increasing nurses' vaccination rates up to date and current? Yes or No

Was the evidence presented sufficient to support a change in attitude and behavior? Yes or No

Was this DNP project relevant, easily understood or contain evidence of being ambiguous?

What other information could have been included in this project?

What were the strengths and weaknesses of the DNP project?

Appendix D

Vaccinations

GOT YOUR SHOTS?



BEAT the **Flu** BUG



Get your Shot!



*Be Wise.....
Immunize!*



You Are Invited

You are invited to a 2 weeks 5 sessions workshop lasting 30-40 minutes on Influenza

Risk Benefits

└─┬─> Nurses Roles

Evidence Based Information
On Influenza Vaccination ←┬─

└─┬─> Influenza Misperceptions



Snacks will be Served

Come Expecting To Be Informed