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### Employee Influenza Immunization: Education and a Directive to Increase Immunization Rates

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EMPLOYEE INFLUENZA IMMUNIZATION: EDUCATION AND A DIRECTIVE TO  
INCREASE IMMUNIZATION RATES

by

ASHLEY ROMAN

APPROVED BY DNP PROJECT ADVISOR / CLINICAL MENTOR:

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Ashley Roman

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### Abstract

**Purpose:** The aim of this quality improvement project was to improve the influenza vaccination rate of health care workers at an ambulatory care center to meet the national benchmark of 90%.

**Background:** Influenza is a communicable disease that affects over 130,000 people causing 7,000 deaths (CDC, 2017b). Over the last 3 years the influenza immunization rates at the facility of interest have been on a downward trend despite multiple interventions, resulting in 43% last season. A directive was published at the beginning of the 2017-2018 influenza season mandating each employee to either get a vaccine or decline in writing. This directive resulted in a formal grievance filed by the union causing a delay in enforcement.

**Methods:** An intense effort to improve the immunization rate was undertaken in collaboration with the Occupational Health employees. Staff were educated with a script that would be utilized for employees who declined the influenza immunization. Employees who were not immunized by week 1 of the project were tracked by the Occupational Health team for directive adherence and provide face-to-face communication to encourage immunization.

**Results:** At the end of the influenza season the health care immunization rate increased to 86%, ( $n = 883$ )

**Conclusion:** Having a one-on-one interaction with individuals who had not made an immunization decision provided the opportunity for education and administration of the immunization if desired. With increased compliance, documentation, and education the project obtained overall success despite unexpected challenges.

*Keywords:* influenza immunization, health care worker, and directive

Influenza is a communicable infectious disease that is spread through droplets or contact with an infected surface. Symptoms typically consist of fever, body aches, fatigue, cough, and headache (Centers for Disease Control and Prevention [CDC], 2017a) which usually appear abruptly after infection. However, spread of the infection can occur even when individuals are asymptomatic. Influenza virus can last up to 2 weeks and can be associated with minor symptoms or more serious complications, such as death. Healthy individuals can usually overcome complications associated with influenza. However, in individuals who have elevated risk such as the elderly, youth, or those who have additional comorbidities, a substantial risk of mortality is often associated with contraction. According to the CDC (2017b), each year in the United States there are nearly 130,000 cases of influenza with nearly 7,000 deaths.

Influenza has a significant impact on both direct and indirect financial costs in the United States. Ten years ago, the direct medical cost of hospital visits, outpatient appointments, and treatments were estimated at \$10.4 billion annually with the indirect costs of loss of work and earnings of \$16.3 billion annually (Molinari et al., 2007). Even though current the information related to influenza costs are dated, the projection remains relevant today as the number of influenza cases continues to increase. To combat the health and financial burdens of influenza, the CDC has recommended that all individuals older than 6 months old receive the influenza vaccine. The influenza vaccine is contraindicated in persons with a previous severe allergic reaction (CDC, 2017c).

The influenza vaccine has been utilized in military personnel since World War II and became accessible to the civilian population in 1946 (History of Vaccines, 2017). Even though the vaccine has been available for over 70 years and is recommended by the CDC, compliance remains a challenge. Figure 1 is a graphic representation of the last seven influenza seasons

showing only a minimal increase in compliance nationally (CDC, 2017d).

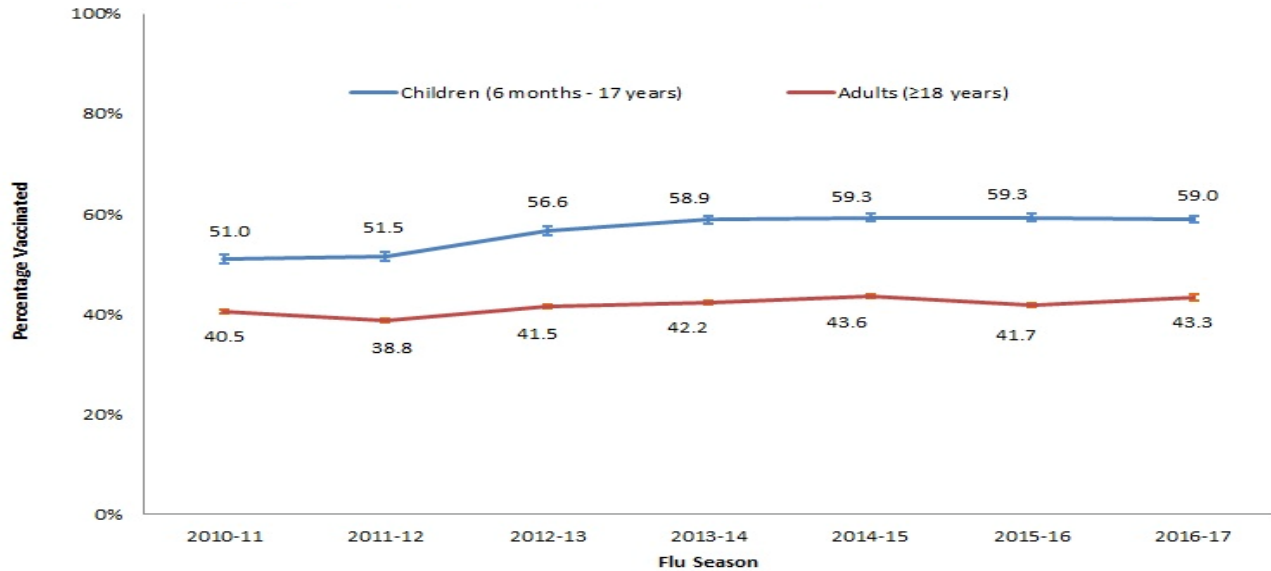


Figure 1. Influenza immunization trends over the last seven seasons (CDC, 2017d).

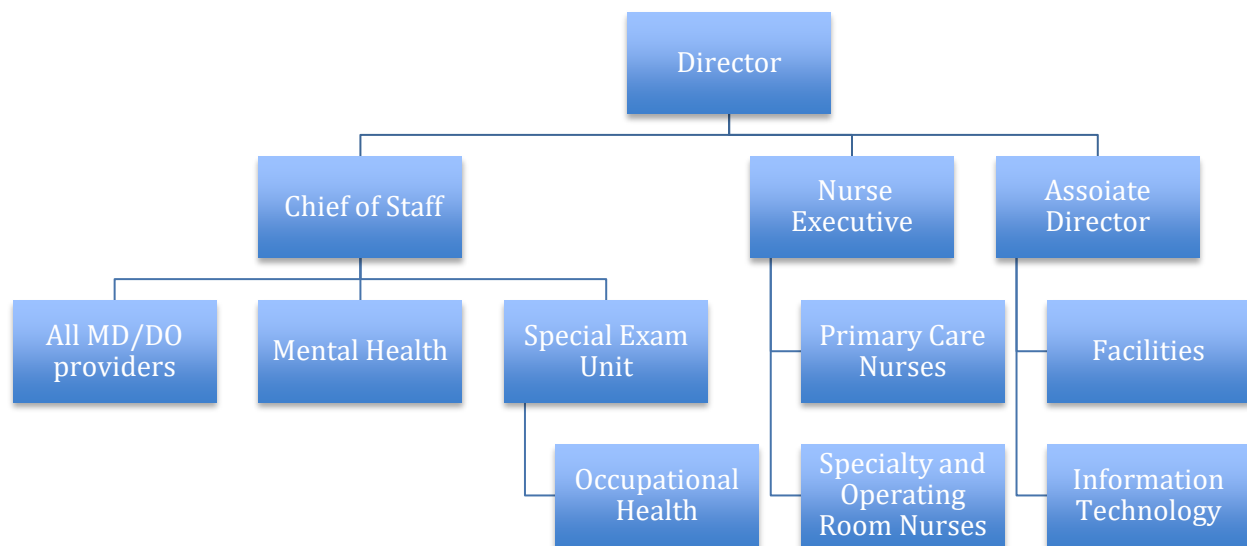
Currently the injectable influenza immunization is the only route recommended by the CDC with multiple different options to accommodate different ages, allergies, and virus presence variance. When given correctly, there are minimal risks and side effects. Each year the vaccine is reconfigured to match the anticipated viruses for the season. The effectiveness was determined to be at 48% for the 2016-2017 season (Flannery et al., 2017).

While the influenza vaccine is recommended for most of the population there is an even stronger emphasis for health care workers (CDC, 2017e). Health care workers have a duty to protect and keep patients safe. Health care workers have contact with vulnerable patients putting them at risk of transferring influenza when not vaccinated. Unfortunately, unlike most other immunizations that only require a onetime dose or a short series, the influenza vaccine is required annually from 6 months of age until death. This annual requirement makes compliance more challenging. There are recommendations by several national organizations toward

influenza vaccination, but compliance is consistently problematic, thereby making influenza a common preventable disease in the United States.

### Assessment

The Occupational Health clinic is the setting for the quality improvement project. The Occupational Health clinic is in a large ambulatory care facility in El Paso, Texas, that cares for over 33,000 military veteran patients. The Occupational Health clinic is responsible for providing immunizations, pre-employment screening, and caring for work related injuries to the 990 employees in the facility. The environment is unique in that the majority, 85% of the employees are military veterans that receive their primary care needs in the same facility. There are two registered nurses that work within the clinic, one with a Doctor of Nursing Practice (DNP) degree and one nurse practitioner working in another area in addition to covering the activities of the clinic. Figure 2 is a depiction of the local leadership.



*Figure 2.* Structure of site leadership.

The daily demands of the Occupational Health nurses consist of 3 hours of walk-in services that include immunizations and tuberculin screening and 3 hours of pre-employment physicals. The

remaining time is spent in committee work related to ethics review, employee ratings, team leader of the influenza committee, accident review, and retention monitoring. The nurse practitioner is available for needs such as pre-employment physicals and evaluation of work related injuries. The Occupational Health clinic is physically located inside the primary care clinic. Table 1 describes the Occupational Health clinic.

Table 1

*Occupational Health Clinic Analysis*

Purpose	Patients	Professionals	Processes	Patterns
To provide pre-employment exams, immunizations, and treatment of work related injuries to all employees of the facility.	All 990 persons that are employed by the facility.	There are two full-time registered nurses and one nurse practitioner that provides services as needed.	Tuberculosis for screening 100% of employees, immunization tracking and providing on a voluntary basis, and screening all potential employees.	Communication between the nurses, providers, and assistants is provided mainly through email since the clinic is located inside the primary care clinic and away from leadership.

When performing an assessment of the Occupational Health clinic there were two main problems identified; low employee influenza immunization rates and poor rates of tuberculin screening. Employee influenza immunization rates have consistently failed to meet the recommended benchmark of 90% of all health care workers be immunized. The 90% recommended rate of influenza vaccine compliance for health care workers was established several years ago by multiple professional organizations. They include:

- Infectious Disease Society of America (2013)—recommends voluntary programs for immunizations if rates remain above 90% and if not, there should be some sort of mandate instituted to maintain rate above goal of 90%.

- Healthy People 2020 (2017)—recommends 90% covered annually by the influenza vaccination.
- Centers for Disease Control and Prevention (2011)—follow the same recommendations that all health care workers be properly immunized to protect the safety of patients and follow the same benchmarks that have been set by Healthy People 2020.
- The Joint Commission (2012)—established a goal of 90% influenza immunization rate by 2020 with established plan to achieve goal if nonadherent.

Health care workers include all personnel that work in the facility and have direct or indirect contact with patients. Influenza rates were chosen as the priority problem based on the last 3 years of HCW compliance along with input gathered from clinic leadership, the Infection Control nurse, and the Occupational Health team. During the last two Joint Commission inspections, influenza compliance has been noted with recommended action to reach the goal of 90%. As shown in Figure 3, the rates of immunization have been on the decline by about 5% each influenza season.

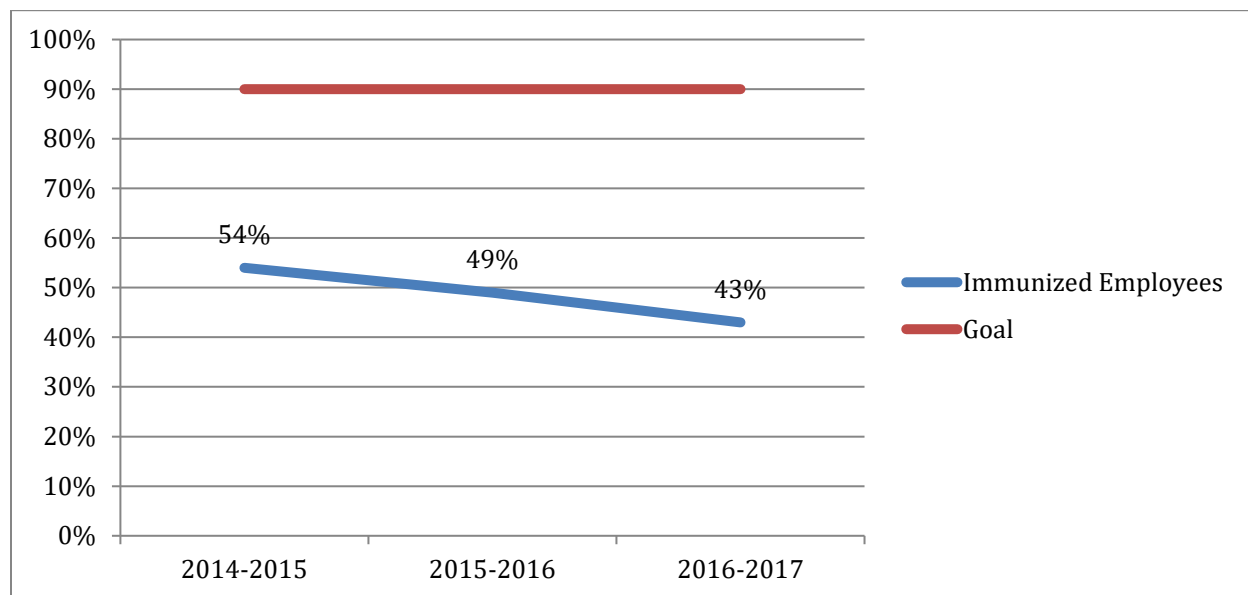


Figure 3. Influenza rates for health care workers in the facility.

An action plan has been in effect for the last 3 years within the facility to increase compliance with the use of a multi-interventional approach, with only minimal success. There are several processes currently in place aimed at increasing compliance. These include: (a) rounds by the Occupational Health nurse to different areas of the facility with a cart stocked with influenza immunization material to give vaccines on the spot, (b) influenza vaccines offered daily at the front entrance of the facility to both patients and employees, (c) walk-in hours in the Occupational Health clinic for vaccine administration, and (d) annual computer-based training specific to influenza that is assigned to all employees of the facility. Immunizations are also offered at no cost. During the influenza seasons, there are flyers and communications through email to all employees. Leadership actively supported immunizations at monthly town hall meetings held October and November, during which immunization were initiated. A multidisciplinary team meets year-round for influenza program planning.

Influenza season lasts from October through May with the peak month being February. The recommendation is to receive the vaccine as early as possible as it takes nearly 2 weeks to become fully effective (CDC, 2016). The date of availability of the vaccine varies from year to year, but vaccines typically arrive mid to late September. Since most influenza cases occur during the first 12 weeks of the calendar year, it is vital to consistently promote compliance throughout the season, but especially during the peak period. Late adopters are defined as health care workers that have not made an immunization decision by the end of December.

In September 2017, the national office overseeing the facility of interest released a directive that states all health care workers must make a choice to either receive the influenza vaccine or formally decline. If the employee declines, they are required to fill out a declination form (see Appendix B) and indicate the reason for declination. All individuals who have

declined the influenza vaccine are required to wear a mask starting 1 December 2017. When the directive was published, the local union filed unfair labor practice grievances against the facility with instructions to the nearly 500 constituents that compliance with the directive is not necessary. This presented an issue in that the employees received confusing guidance related to compliance with flu vaccination. In addition, the direction from the union provided what was viewed as a legitimate excuse to not receive the vaccine.

A needs assessment was performed in the Occupational Health clinic to identify the essential needs of the setting and determine appropriate actions required to improve the process identified. The needs assessment in the Occupational Health clinic included, interviews with key stakeholders, observations during the flu cart activities, and utilization of existing data, which were used to get a detailed picture of the processes and problems relative to the employee adherence to influenza immunization recommendation.

### **Stakeholder Involvement**

Interviewing was performed with the key stakeholders: the nurse executive, two occupational health nurses, the Infection Control nurse, and three HCWs. The union president was also interviewed because of their level of influence and intimate involvement with the influenza immunizations of health care workers. Information was collected using open-ended questions to identify the perceptions and feelings of the key stakeholders. Table 2 describes the responses to the interview.

There were two additional questions asked to the union president to clarify the process and regulations that support the union stance on the current influenza practice. When asked about signing a declination, the union president stated it was against the union agreement to require employees to sign any form or to mandate an immunization. If the facility mandated such a



practice it would constitute an unfair labor agreement and a grievance against the facility would be filed. To clarify the process of the implications of a grievance, the president of the union offered the explanation that it is a cease and desist attempt by the union that once filled must be routed toward the director and if not negotiated will be nationally elevated to a court proceeding.

Table 2

*Summary of Stakeholder Interviews*

	Why do you think the influenza rate is so low here compared to other local facilities?	What do you think needs to happen to improve the influenza rates?	What are your feelings about the directive?
Infection Control Nurse	Because they are all utilizing mandates and people here do not want to make the effort to receive the vaccine	Create a mandate with consequences and hold people accountable	Support it 100% if consequences are utilized but it will never happen here because the union
Nurse Executive	Lack of knowledge of the risks and uninvolved employees	Education and motivational interviewing	The directive is a good option if the proper national guidance is provided so that it can be equitability enforced
Two Occupational Health Nurses	With our mild climate people do not feel the same risk as those with colder climates. If there is no perceived risk the drive to immunize is lower.	Education to the perception that the side effects of the shot are worse than the flu, risk awareness, and a mandate with only medical and religious exemptions.	It has been proven effective in other facilities but we have a lot of hurdles to overcome in order for it to be effective here.
Union President	Unknown but no one has the right to tell someone what to put into their own body	Education but the rate should not matter as it is everyone's own choice	They are unethical. Again no one has the right to tell someone else what to put into his or her body.
Three Employees	They have no motivation to receive it	Make it mandatory but that will never happen	It is comical but if it would actually be enforced it might actually be effective

Key stakeholders have been a part of the quality improvement project since the inception. During the initial problem identification, the top two identified priorities were briefed to my mentor and the executive leadership member who oversees nursing students. The issue of the influenza immunizations for health care workers was selected to be the focus. The stakeholders concurred on the need to focus on the influenza immunizations for health care workers that had consistently been a recommendation from the Joint Commissions surveys since the national benchmark of 90% immunized had not been met.

During the interviews the stakeholders were asked about what needed to be done to improve immunizations with most of responses including education. There were also stark differences between the Infection Control nurse who supports a mandate and the union representative who adamantly oppose the use of a mandate with consequences. Based on the evidence, the intervention of face-to-face contact for all those employees that have yet to decline or accept the influenza vaccine along with providing just-in-time education at the time of contact was the proposed negotiation between the extreme opinions of the stakeholders. Since the Occupational Health department is not able to provide the names of individuals who are not adherent with the vaccine and unable to provide consequences for noncompliance, using a mandate with consequences was not an option in this facility.

Since there were such contrasting opinions about the use of a mandate, the director requested a briefing from the Occupational Health team on the benefits of the vaccine and the action plan on how to increase compliance. The intervention of face-to-face contact for all employees who have neither declined nor accepted the influenza vaccine along with providing just-in-time education at the time of contact was part of the proposal. There have also been several meetings with the union president to discuss the intervention. After discussing the

evidence that supports the intervention and need for improvement, the union supported the use of the intervention if there were no consequences for declination or for not signing the declination form.

### Employee Health Care Record System

The Occupational Health nurses collected data in the Occupational Health Record System, an electronic medical record, to input immunizations given in the clinic, via the flu cart, received elsewhere, or declination form received. Aggregate data of employee profession, age, and gender was available in the database for the last 3 years.

There are currently 990 employees in the facility with only 325 that have received the influenza vaccine as of 29 September 2017. There are several options for the employees to receive influenza immunizations annually either within the facility or at outside sites. Figure 4 is a graphic representation of the locations in which employees have received their vaccinations that include via the flu cart, flu clinic, Occupational Health clinic, facility lead outreach (Stand Down), or by their outside provider. Most employees have received vaccinations in the facility through the flu clinic or the flu cart.

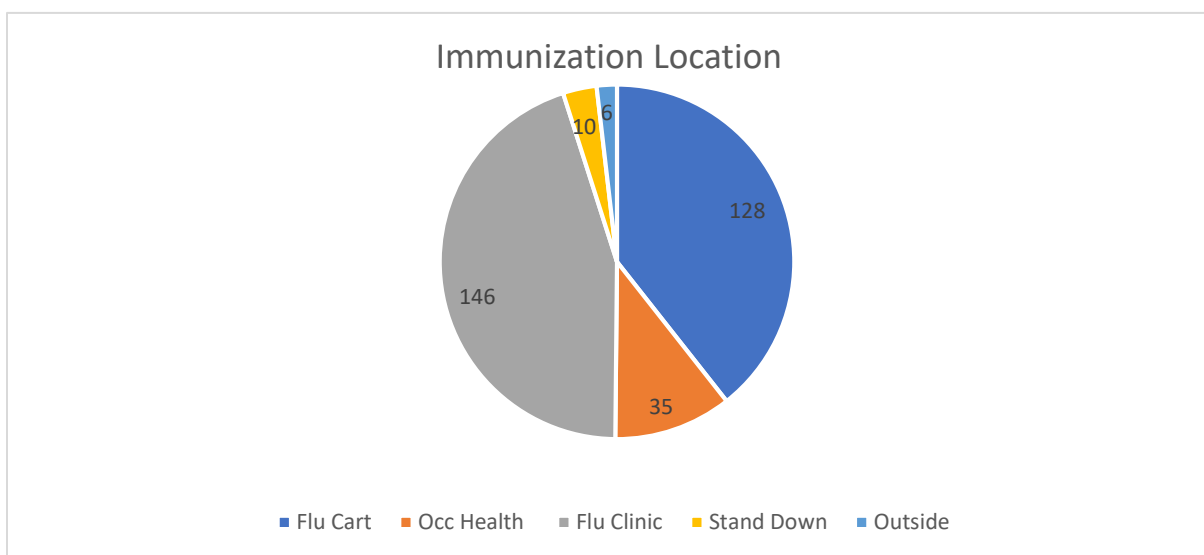


Figure 4. Locations where the health care worker received the influenza vaccine.

### Direct Observation

Figure 5 outlines results of the 21 declination forms were signed over a period of 2 weeks. Six employees stated refusal related to side effects, five did not specify, four were safety concerns, three did not answer, two were declinations were based on religious beliefs, and one indicated no perceived risk. There were five individuals that refused to fill out the form citing reasons such as union guidance, lawyer advice, and need for supervisor's approval.

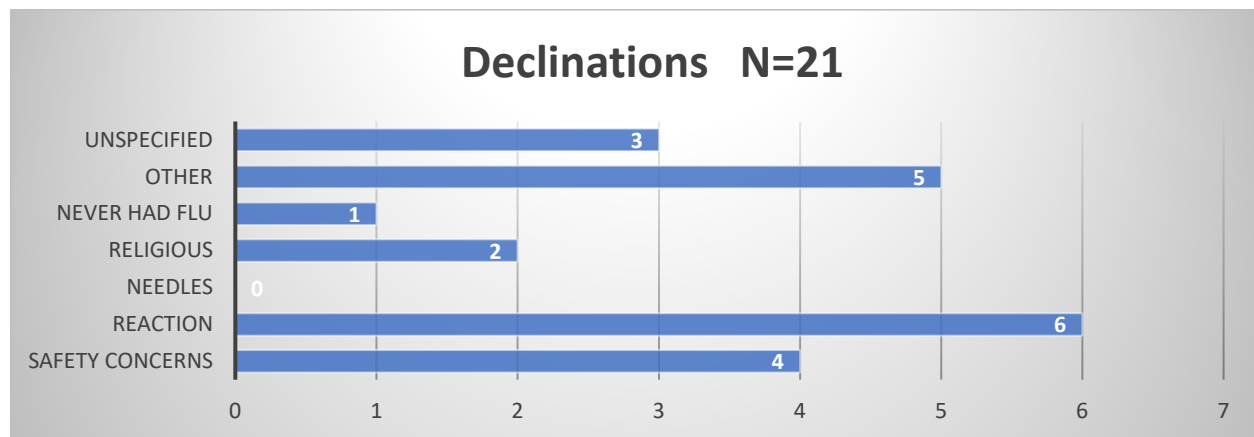
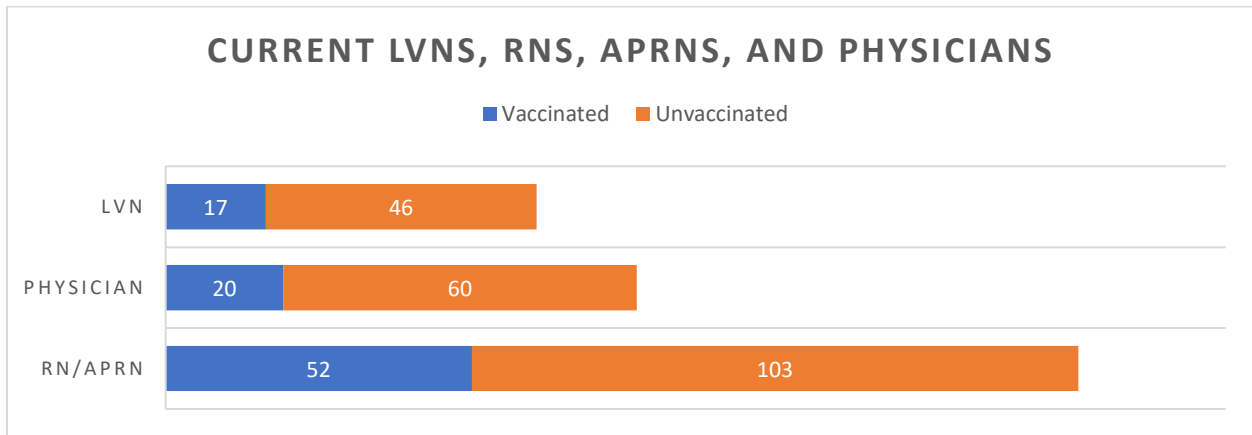


Figure 5. Declinations reasons prior to the project start date.

The largest population of employees in the facility are those who are providing direct patient care. Figure 6 identifies the number of licensed vocational nurses (LVN), registered nurses/advanced practice registered nurses (RN/APRN), and physicians who have been vaccinated alongside those who remain unvaccinated. Data was obtained from a report accessed by the Occupational Health nurse from OHRS.

Medical systems are very complex with many opportunities for improvement. By performing the needs assessment in the Occupational Health clinic, priority issues and the capabilities for change were identified. Once the priority problem was identified the feasibility of change was assessed. Information gained from the use of direct observation, interviews, and existing data identified the need for a change related to the influenza immunizations for health

care workers. The system was assessed in several ways to identify the viewpoints of the key stakeholders, the current rates, locations, and the reasons for declinations at the point of offering. Unfortunately, there are 639 of the 990 employees in the facility that gave neither reasons for declination or received the vaccine.



*Figure 6.* Vaccination status of nurses and providers.

To develop the objectives of the process improvement project, the current process of the system was assessed. Gathering the existing data was beneficial in identifying the different focus areas for potential interventions to improve rates. Identification of the location where most the employees are immunized assisted in focusing interventions on the higher flow areas and increasing resources and education. Breaking down the immunization by professions allowed the Occupational Health team to focus resources on the professions with the poorest compliance rates. All the data was used when developing interventions to assist in meeting the objectives of the process improvement.

### Problem

The current state of the Occupational Health clinic is that there has been a downward trajectory in the compliance rates of influenza immunizations in the health care workers with last season only reaching 43%. This rate is significantly lower than the goal set to meet the nationally

recommended benchmark of 90%. The difference between the goal and current state has identified a gap and a need for improvement in the Occupational Health clinic.

### **General Aim**

From the identified gap, the following general aim statement was developed to clearly identify the purpose of this quality improvement (QI) project:

- To immunize the late adopter health care workers with the influenza vaccine to achieve a minimum rate of 90%, the Healthy People 2020 (2017) benchmark.

### **Specific Goals**

The specific goals of this quality improvement project were as follows:

- By 31 May 2018, increase influenza immunization rates among health care workers to a minimum of 90%.
- By 30 April 2018, achieve face-to-face communication with 95% of health care workers who have not received or initially declined the influenza immunization.
- By 31 May 2018, the end of the influenza season, provide education to 95% of employees that have not made an influenza immunization decision by 18 January 2018.

### **Review of Evidence**

A review of the literature was performed to identify existing evidence that would aid in answering the question: What is the most effective intervention to improve influenza immunization compliance for health care workers over one influenza season? The review was performed using a variety of library databases with key terms such as influenza, intervention, and health care workers to identify interventions utilized and their effect on the influenza immunization compliance. Several articles were reviewed with two themes identified;

interventions that were mandated with consequences associated and interventions in place with no consequences.

There are several options for mandates that include exemptions only for medical or religious reasons or completion of the declination form with reasons identified. If the employee is not adherent with the mandate, then the consequence is enforced. Consequences associated with noncompliance often include masking, nonpaid leave, reassignment or even termination (Ksienski, 2014). Quach et al. (2013) identified the barriers associated with mandates that include enforcement, loss of autonomy, and the union. The union in this article presents similar barriers to those present at the facility with concerns over employee autonomy. There have been 11 states that have various levels of public health laws that mandate influenza vaccinations to include status tracking, offering vaccine, vaccine compliance, and masking (CDC, 2017f). There is no current federal regulation mandating influenza immunizations.

Alternatives to the mandated interventions with consequences were interventions that were not associated with a consequence if not adherent. Education, increased accessibility, offering the vaccine free of charge, declination forms, leadership involvement, incentives, one-on-one accountability, and peer immunizations are all examples of intervention that are often used in combination without consequences to increase compliance (Drees, Wroten, Smedley, Mase, & Schwartz, 2015).

Several individual studies utilized multiple interventions even when mandates were utilized since one stand-alone solution has not proven to be effective at improving the influenza immunization rate above the benchmark. (Ksienski, 2014; Rashid et al., 2016). In addition, a systematic review which included several interventions was a part of the review of literature. The intervention that does consistently project an increasing compliance is the use of the declination

form, either with or without consequences. In a study by Hitoshi et al. (2013), a declination form was used along with interviews resulting in an increased influenza immunization rate to 96.9% without the use of a mandate. This intervention was speculated to improve rates because it is a change from the passive role of the employees coming to the vaccine to taking the vaccine to the employee. Additional benefits include accounting for all employees with either acceptance or declination with an opportunity for education at the time of the encounter. Per Jung, Kwon, and Song (2017), when using one-on-one counseling with education as an additional intervention, influenza immunization rate increased an additional 5% bringing compliance up to 94.7%.

The level of evidence reviewed ranged from quasi-experimental, level III, to descriptive studies, level VI, utilizing convenience sampling with no randomization. There was significant variation in the sampling size as the studies ranged from 50,000 in the Ksienski (2014) quasi-experimental study to under 100 in the LaVela et al. (2015) descriptive study.

The current research has several noted limitations that include no formal baseline data collection and the use of self-reporting of vaccination status with surveys. Unfortunately, this threatens the internal validity of the results because it may skew the data, as those that respond are more likely to be adherent with the immunizations. Another limitation is that the data is only noted in the season after the intervention and not trended over time to verify sustained improvements or influences of variants. To validate findings data should be trended over time with valid and reliable tracking tools to determine the success of the implementation unlike the LeVale et al. (2015) study that only looked at 1 year prior and after the intervention implementation. Another identified need is for increased studies to be performed in the United States to improve generalizability to the population in the clinical site of interest. Strengths of the studies include a wide variety of locations, large sample sizes with the quasi-experimental



studies, and the variety of interventions utilized. Replication of previously conducted studies is warranted.

In a systematic review by Rashid et al. (2016), there were 12 studies identified that examined the interventions used to improve influenza immunization rates in health care workers. All but one study utilized education as a part of the intervention. There were four studies that looked at the use of a singular intervention; three utilized only education and one only used lead advocates. Only one study in the systematic review, by Conner, Godin, Norman, and Sheeran (2011), could produce a statistically significant improvement in immunization rates with education alone.

Most of the remaining studies from the systematic review utilized the multi-interventional approach that included education which was used most frequently, followed by using lead advocates, rewards and reminders, increased access, and awareness and promotion (Rashid et al., 2016). Of those using multi-interventional methods, five of the eight had statistically significant rates of improvement. This shows that the use of multi-interventional methods has an increased chance of producing improved results. Unfortunately, even when multi-interventional methods are used, obtaining the desired benchmark of 90% is difficult without a mandate and the use of clearly defined consequences. The baseline rates of compliance with influenza immunizations ranged from 20% to 62% and after the use of interventions, all studies failed to meet the benchmark goal of 90%.

Another study also suggested the use of an electronic enrollment for tracking purposes to identify and follow-up with employees who remain unvaccinated as an innovative approach with further evaluation needed. Mandates and the masking of unvaccinated individuals are also

proven methods for increasing vaccination rates to above 90%, but enforcement is often a challenge (Rashid et al., 2016).

Most of the studies reviewed utilized multifaceted approaches making identification of the interventions that have the greatest impact on increasing immunizations challenging. In a study by Yue et al. (2017), online surveys were utilized to determine vaccination status, workplace policies and interventions used by systems. Logistic regression models were then used to identify associations between vaccination status and the individual interventions. Providing onsite immunizations was associated with the highest vaccination coverage followed by education on risks and benefits of immunizations, those clinical professionals > 65 in age, sending personal reminders, and requiring the individual to sign a declination form, if refused.

It is evident from the review of literature that a multifaceted interventional approach produces the best outcomes. Since there are several interventions already in place in the facility, such as vaccination promotion, cost-free availability of vaccine, convenient locations, flu cart visits, and employee education, the addition of the use of face-to-face contact with unvaccinated employees and providing education will allow the greatest chance for process improvement.

### **Organization's Strategic Plan**

Every 4 years the national office for the system of hospitals which includes the clinical site of interest releases the strategic plan that is then utilized by all the nationwide facilities. In 2014 the strategic plan had three goals and 17 objectives that were utilized as a primary guide for planning, budgeting, and performing management across the country to meet the mission of providing exceptional care that improves veteran health and well-being (Veterans Association, 2013). This process improvement project is aligned with the first goal of the organizations strategic plan, which describes providing veterans with personalized, proactive, patient-driven

care that optimizes health and well-being. The reason this issue is of importance is because immunizing health care workers against influenza decreases the risk of transmission to coworkers and even more importantly to patients whose health is likely compromised. When health care workers are immunized, herd immunity is optimized in turn reducing the risk of transmission and reducing the influenza rates (Wiley, 2016). If a provider is absent from work related to a preventable disease, the system is stressed and high-quality care is compromised. Another system objective is for the leadership to provide a highly effective, data driven, evidence-based, continually improving, and reliable health care system. To meet this objective, current evidence-based practices and identifying the gap between the national benchmark goal regarding immunizing health care workers against influenza.

Immunizing health care workers against influenza is a proactive approach to health care. As evidenced by the number one goal of the facility, providing proactive care is to take initiative to protect instead of a reactive approach. This is pertinent to the immunization of health care workers against influenza. Instead of waiting until there is an epidemic, loss of work, delay in patient care, and transmission to vulnerable patients, the Occupational Health clinic took preventative actions in providing immunizations. The action of vaccinating individuals is the core of primary preventative care. Primary prevention is the care that is provided to prevent a disease before it occurs and reduces the risk of the disease. When changes are made at the Occupational Health clinic level, such as improving influenza immunization rates in health care workers, the change will improve the overall quality of the facility in turn reducing costs.

### **Project Plan**

Providing education to the employees is an intervention that is focused on reducing the number of declinations related to lack of knowledge about the vaccination limiting the

declinations to only medical or religious reasons by providing education. Training will be provided to the Occupational Health nurses on the scripted responses to declinations. The tailored scripted responses were based on the evidence from the Vaccine Information Statement provided by the CDC (see Appendix A). The responses focused on the reasons identified on the declination related to knowledge deficits, such as no perceived risk, fear of getting the flu from the shot, fear of needles, or the risks of side effects, allergy or religious objections (see Appendix D for the scripted education).

The plan for the QI project was followed:

1. Education was provided to the Occupational Health nurses prior to implementation on the education script.
2. The occupational nurses, with coordination from the DNP student, identified all employees who had not received or declined the influenza immunization through use of OHRS.
3. A list of employees who had not been immunized or declined immunization were approached by the Occupational Health nurses or the DNP student and offered the immunization. Most employees have individual offices, but if not, then a private setting such as the Occupational Health clinic was utilized to provide the teaching and vaccine, as indicated.
4. A tailored script (see Appendix D) indicating the most common reasons (Schult et al. 2012) that employees refuse immunizations was utilized by the Occupational Health nurses when interacting with the employees.
5. If the employee still declined, he/she was asked to sign the declination form (see Appendix B), indicating the reason for declination.

6. If the employee accepted, the immunization was given in the Occupational Health clinic as a priority walk-in between Monday and Friday from 8 a.m. to 4 p.m.

The immunization plan included daily rounding by the Occupational Health and influenza team nurses who administered the intervention and vaccines. If the employee refused to sign the declination form, they were still marked off the list indicating contact had been achieved. Refer to the following algorithm in Figure 7 to identify the sequence of the intervention.

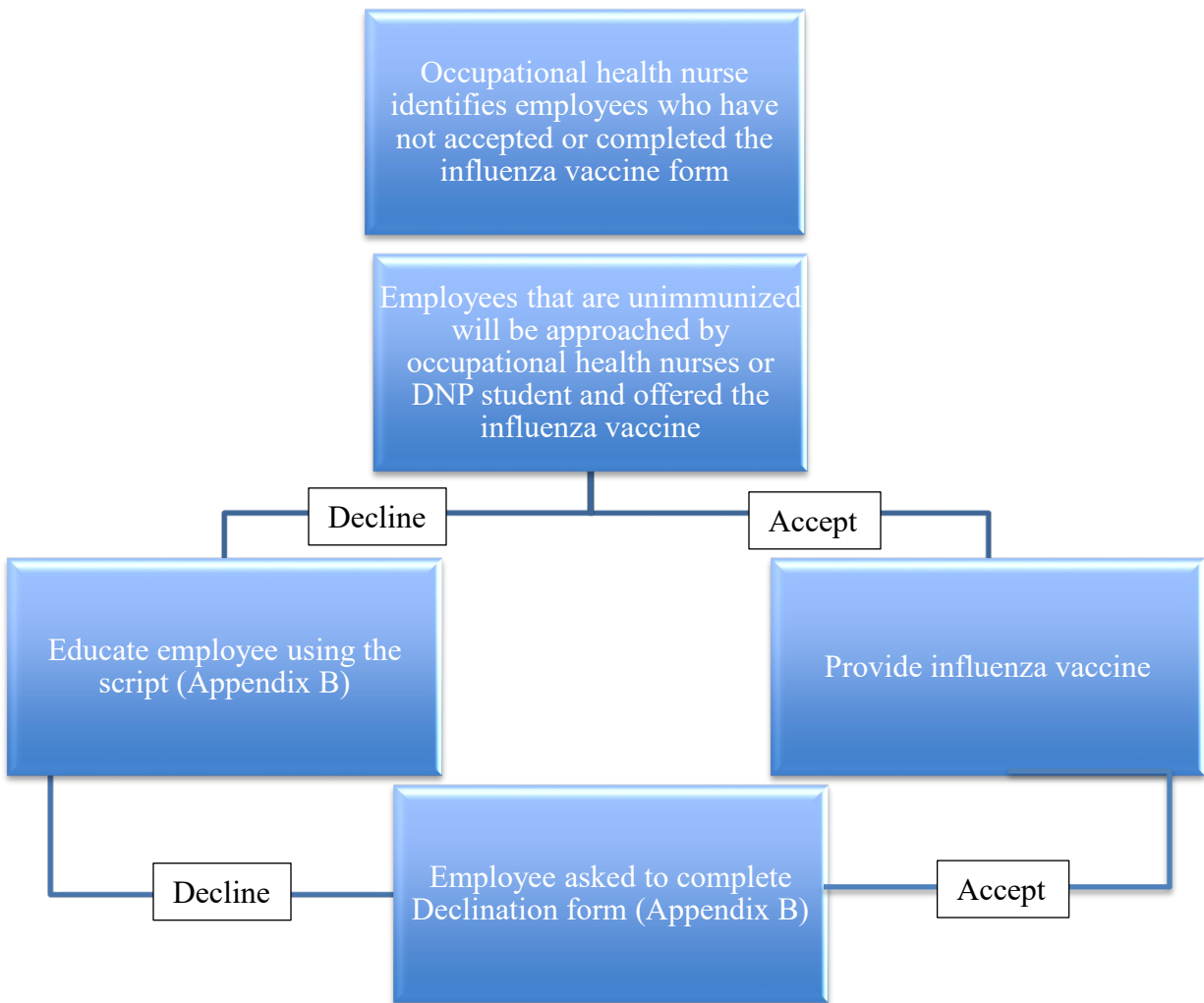


Figure 7. Algorithm of the intervention for the QI project.

**Data Collection**

Influenza vaccination and declinations were documented in OHRS by the Occupational Health nurses, as the system is only accessible to the Occupational Health staff. OHRS is the electronic health record that employees are automatically registered in upon date of hire. The database contains demographic data such as profession, age, and gender. Data collected by the Occupational Health nurses included: (a) the number of individuals immunized, (b) number of declinations, (c) reason(s) given for declination, and (d) education provided (See Appendix D). Aggregate data such as age, gender, and occupation were maintained in the Occupational Health Records System for all late adopters. At the time of declination or acceptance, the employee was asked to fill out the form in Appendix B to accept or identify the reason for declination.

**Data Analysis**

Data analysis included tracking all the employees who had not been immunized or declined (late adopters) after 18 January 2018 using the Occupational Health Records System. Percentages of employees that have received the vaccine and the percentage of employees who have declined the vaccine before and after contact were calculated and compared to the national benchmarks. Frequencies and percentages were used to analyze the demographic characteristics of the employees in each category (immunized, declined, declined with no form signed). Declination and reasons were also analyzed such as frequencies and percentages to determine if education was provided to those declining the vaccination. All data was analyzed in the aggregate.

**Timeline**

The timeline in Table 3 was utilized, as a guide of when data was collected and analyzed along with indications of when the intervention would occur. The Occupational Health and

influenza team implement the intervention daily on an estimated 10 employees per day.

Currently there are 475 employees immunized with 515 remaining.

Table 3

*Projected Proposal Timeline*

Activity	Jan	Feb	Mar	Apr	June	July																
Week #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Immunizations given	X	X	X	X	X	X	X	X	X	X												
Face-to-face interaction with employees		X	X	X	X	X	X	X	X	X	X	X	X									
Educate Occupational Health nurses on script	X																					
Data collection	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X			
Data analysis	X					X				X				X								
Dissemination of findings																				X	X	X

**Evaluation**

Evaluation planning began at the beginning of a project to establish communication of concurrent goals and establish how the outcomes will be measured. Choosing the best fitting evaluation process was critical to a successful project. An evaluation was completed to determine the effectiveness of the quality improvement project using the Kellogg Model. The Kellogg (Logic) Model is an evaluation tool that has been used to demonstrate the relationships

between inputs, outputs, outcomes, and the impact that result in change (Allmark, Baxter, Goyder, Guillaume, & Crofton-Martin, 2013). The model is also useful in identifying the aims of the project, what is needed to achieve those aims, and who will be involved. Each of the objectives contained both summative and formative evaluations to evaluate the change. Formative evaluations were made throughout the process to determine if the improvements were occurring and the goals being attained as the intervention was being implemented. Summative evaluations were performed at the completion of the project to determine if the project was successful in obtaining the aim and meeting the goals.

The Kellogg Model was selected as the evaluation method to identify the intended outcomes and the tools that will be utilized to determine success of the quality improvement project in the Occupational Health clinic. This method was chosen as it provides a systematic method for clear delineation of the relationships that are present in the process. By utilizing the worksheet in Appendix C, identification of plans and evaluations are both clearly defined and measurable tools are established. By clearly determining measurement tools and how the information would be obtained there is a unambiguously communicated plan for evaluation. An employee list will be utilized to address when contact has been made and the date that the employee became adherent by either vaccination or declination. All employees that initially decline will be educated with responses outline in the script (see Appendix D) and their choice documented with the declination form (Appendix B). Since this tool was developed for this specific project there are no existing psychometric properties of reliability or validity available.

There are other methods for evaluation as discussed by Abdulghani et al. (2014), that include the Kirkpatrick Model but the focus is education evaluation, not ideal for this intervention focused on population health. See Appendix C for a detailed representation of how



each objective was met to include details of the activity, outputs, outcome and impact, who was responsible and when it occurred.

### **Protection of Human Subjects**

The purpose of the quality improvement (QI) project is not to develop new theory or practices but to improve upon the processes that are already in place. Influenza immunization for health care workers is a current practice in the facility so the focused intervention is serving as an additional method to improve compliance. Since the intervention is a quality improvement initiative and not research, informed consent was not necessary. There was no risk to the employee by participating in the additional intervention of the face-to-face offering with education. Patient privacy was strictly protected, as medical record access remained in control of the Occupational Health nurses. No medical information on individual employees will be released. To avoid privacy violations which are associated with identifying individuals unvaccinated with stickers or mask usage, these interventions will not be utilized.

The DNP student had no access to the employee files. No identifiers will be used. The names will only be listed as no declination or immunization received. Data reported for this project will be presented in aggregate format, therefore all data collected would remain confidential and anonymous. At the clinical facility there is no Institutional Review Board. In lieu of the Institutional Review Board process, a letter of support was provided by the facility's Associate Director of Patient Care Services (see Appendix E for letter of support).

### **Results and Findings**

As noted previously, there was a directive established for the 2017-2018 influenza season that was delayed enforcement until January due to union concerns. Figure 8 below shows that there was an unanticipated increase in the number of employees being seen in the

Occupational Health clinic during this time period increasing the number of patients seen each day from an average of 6 to 47 with a total of 237 employees the seen the first week. This made the intervention of rounding on unaccounted for employees with the flu cart unfeasible related to staffing, but also unnecessary as the employees that had yet to make the influenza immunization decision were coming to the OH office. This change in employee’s participation was a result of a change in enforcement of the directive. One week prior to the project initiation, the director of the facility unexpectedly placed the responsibility of the directive enforcement on the supervisor of the employees. This act reinforced the directive that all employees must make a documented decision to either receive the annual influenza vaccine or decline. Since the supervisors were enforcing the directive, the responsibility of making an influenza decision was placed back on the employee. The expectation was relayed that every employee would visit the Occupational Health clinic and make a decision to either receive the vaccine, or decline in writing.

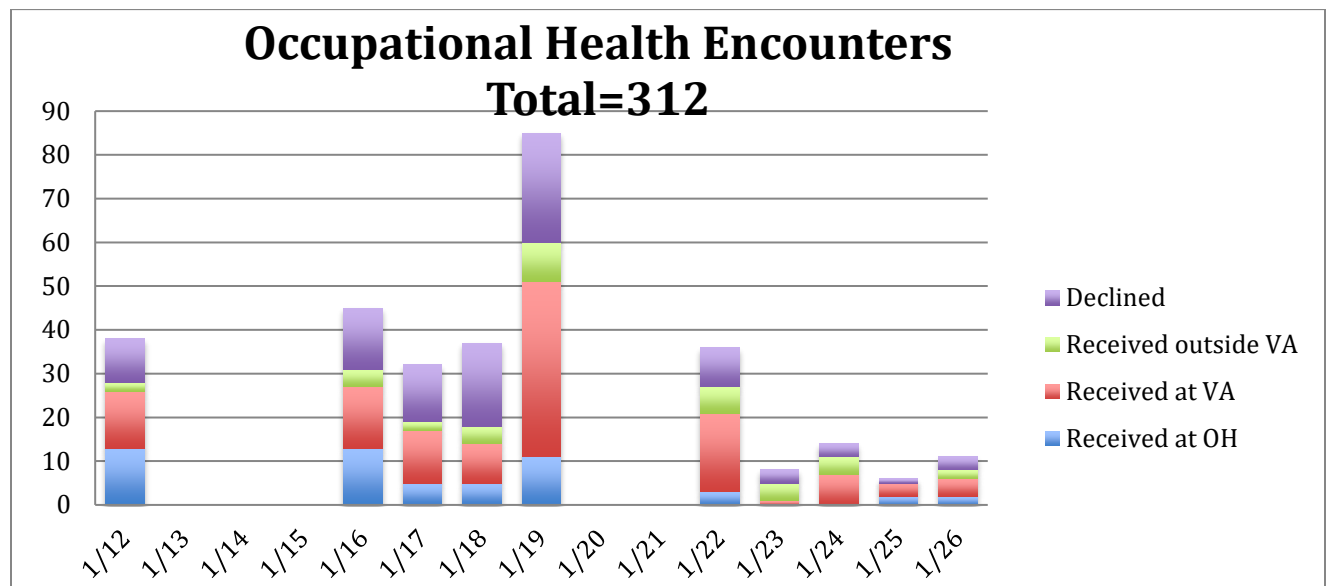


Figure 8. Timeline of encounters at the Occupational Health clinic after directive enforcement.

Week 1: January 15, of the project coincided with the end of the first week of directive enforcement. The first objective, which indicated use of the script for all declinations, was

initiated . The two Occupational Health nurses were educated on the script and utilized the responses with every declination.

Week 2: Unfortunately, the employees could not digitally submit the form, so education could not be provided to those employees. The number of electronic submissions accounted for about 10% of the declinations enabling only approximately 90% of the declinations to be educated with the script falling short of the goal that education would be provided to 95% of all the employees that had not been vaccinated.

Weeks 1, 2, and 3: The employees were given two weeks to become adherent with the directive. There were 100 declinations, 54 new immunizations given in OH, 37 given outside the VA, and 121 vaccinations given at the VA that were not captured by OH, such as given as a veteran patient. At the end of two weeks the employee that remained nonadherent with the directive were again notified by their supervisor to report to OH and given 1 week to comply.

Week 4: There were still nonadherent employees that were called by OH and requested to come to the Occupational Health clinic where they could either decline (in writing) or receive the immunization. See Figure 9 for timeline of when the immunizations became available, 15 September and 15 October related to the timeline when employees made the influenza immunization decision to either receive the vaccine or decline. Also noted is the time when the director enforced the directive and the effects that it had on the immunization decisions.

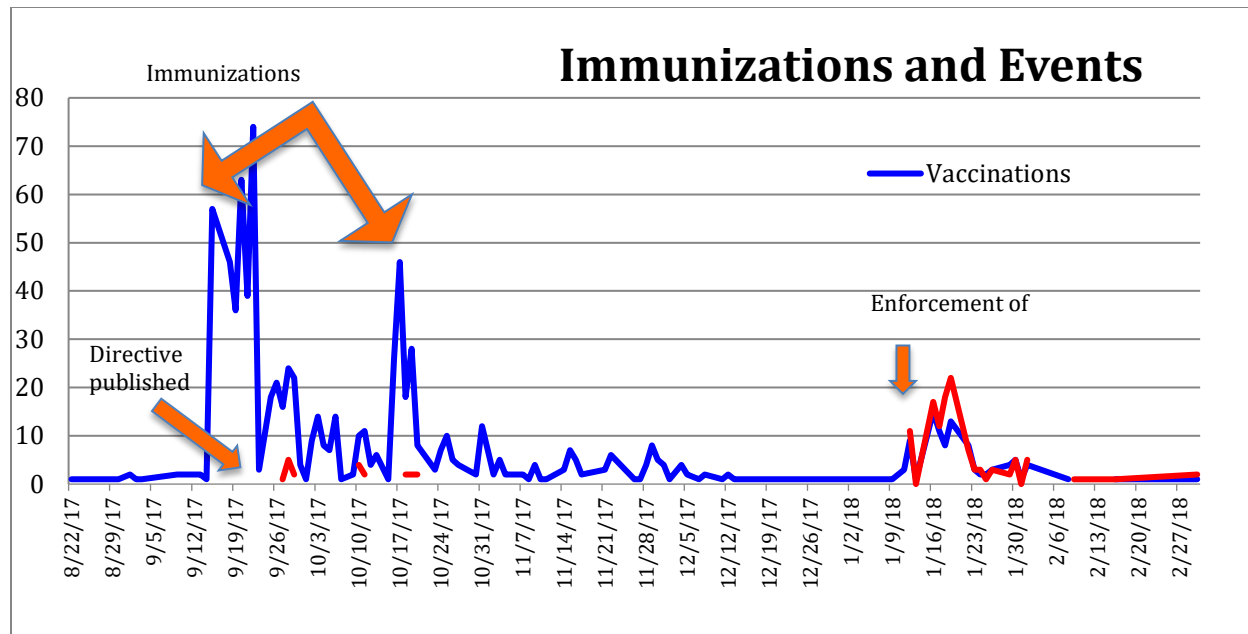


Figure 9. Timeline of immunizations and declinations provided by employees.

Prior to the director enforcing the directive there were only 31 documented declinations and 792 documented vaccinated employees out of the 1032 employees despite the directive being nationally published about 4 months prior to the project. Since the enforcement of the directive, the number of documented declinations increased significantly to 147 along with the number of immunized employees, 883. At the end of data collection there were two remaining employees who stated that they had been vaccinated, but could not provide proof so they remained nonadherent with no decision form completed.

While 86% of the employees immunized against influenza is a vast improvement (i.e. 43% to 86%), it remains below the projected aim and national benchmark of at least 90%, as indicted in Figure 10.

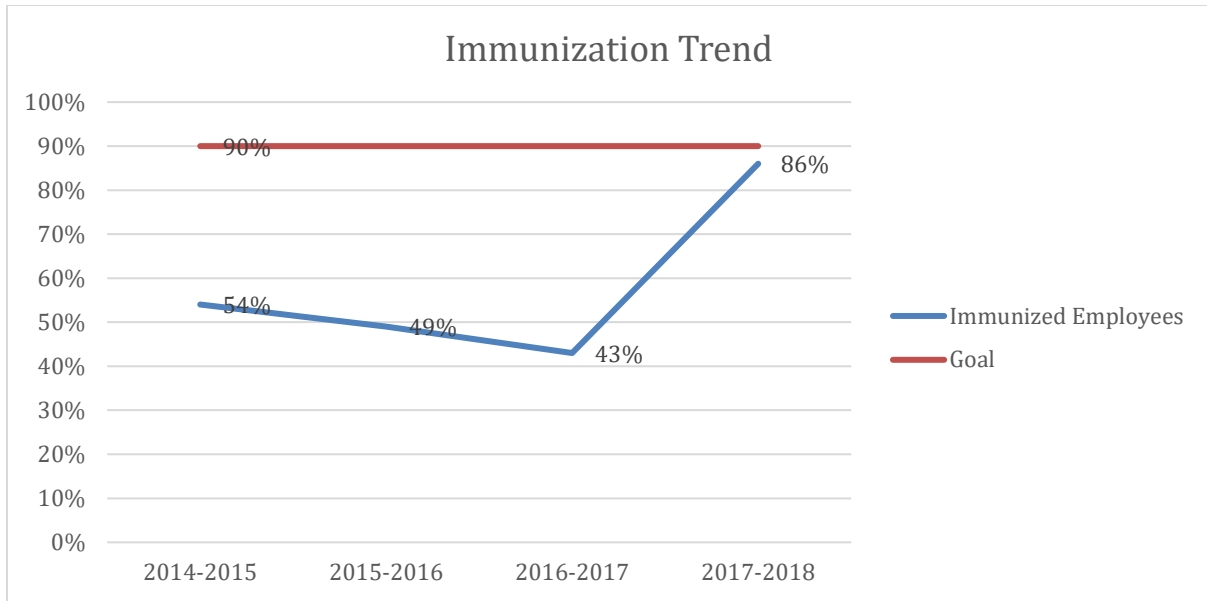


Figure 10. Employee influenza vaccination trended over the last four seasons.

Analysis by health profession revealed that the RNs and APRNs were the highest reaching 89% immunization, followed by the physicians at 86% and the LVNs were the lowest with 84%. Refer to Figure 11. All approaches were equitable and standardized. Literature correlates with finding that the clinical staff are usually higher than the nonclinical staff (CDC, 2017g).

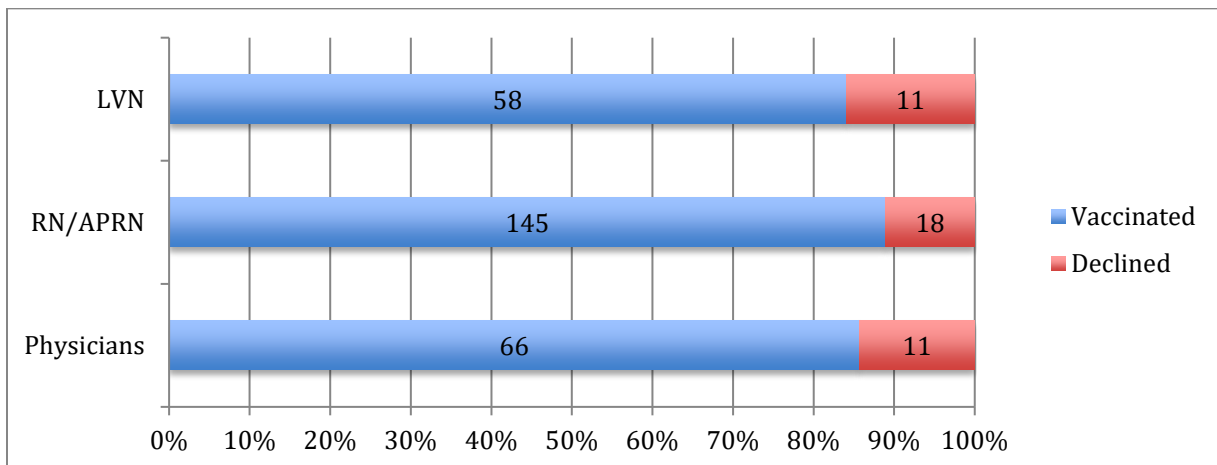
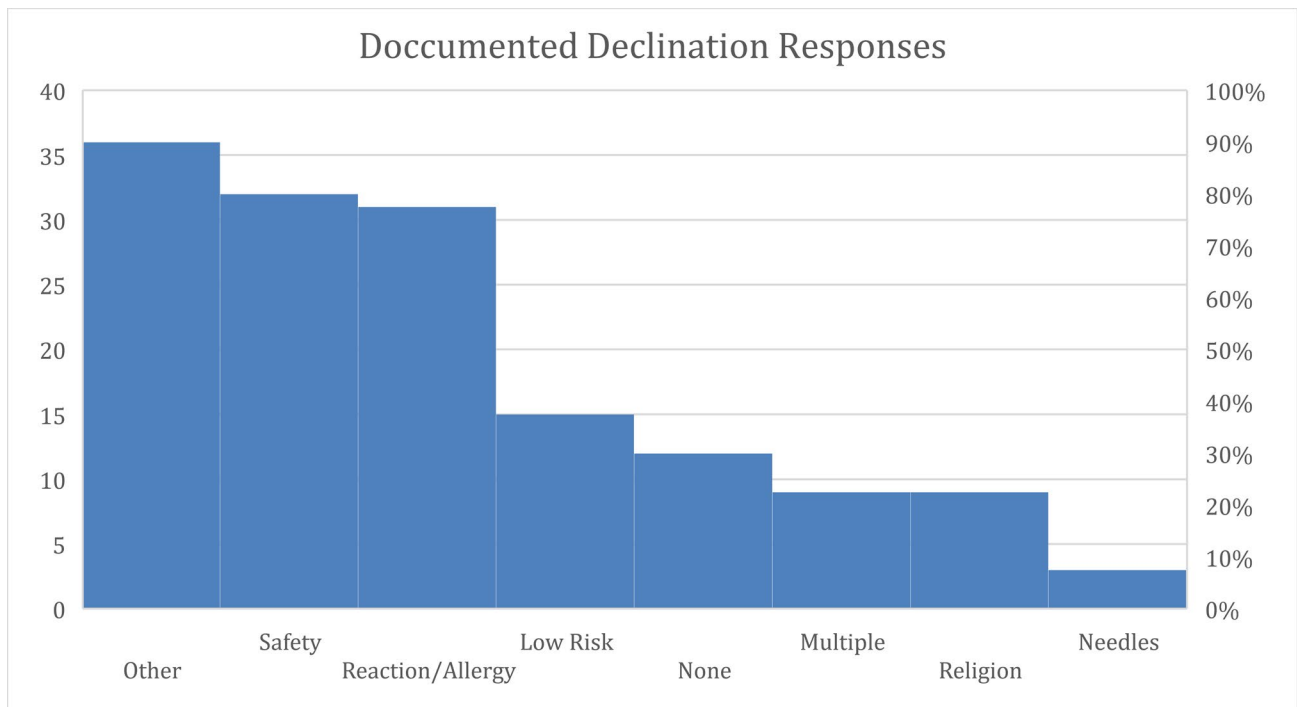


Figure 11. Vaccination status of nurses and providers.

The reasons for declination were obtained from the 147 health care employees that declined. They were instructed to choose the one that provided the best fit for the declination reason (See Appendix B). The employee could choose from the listed reasons on the declination form with the option to choose or provide a narrative response. The declination responses are listed in Figure 12. The response of “Other” is identified as an option to write in responses and represented the largest number of responses. Concern over safety or side effects along with reaction or an allergy to the vaccine rounded out the top three reasons for declination. The other reasons of minimal risk, religion, and fear of needles all obtained less than 27 responses total. There were also situations in which there were no reasons indicated as demonstrated below as none. Nine of the declinations were completed with multiple reasons indicated.



*Figure 12.* Documented declination responses.

Once employees chose other as a response there was an opportunity to write in additional responses that were different than the already listed responses. Those written in responses were grouped together in like themes and represented below in Figure 13.

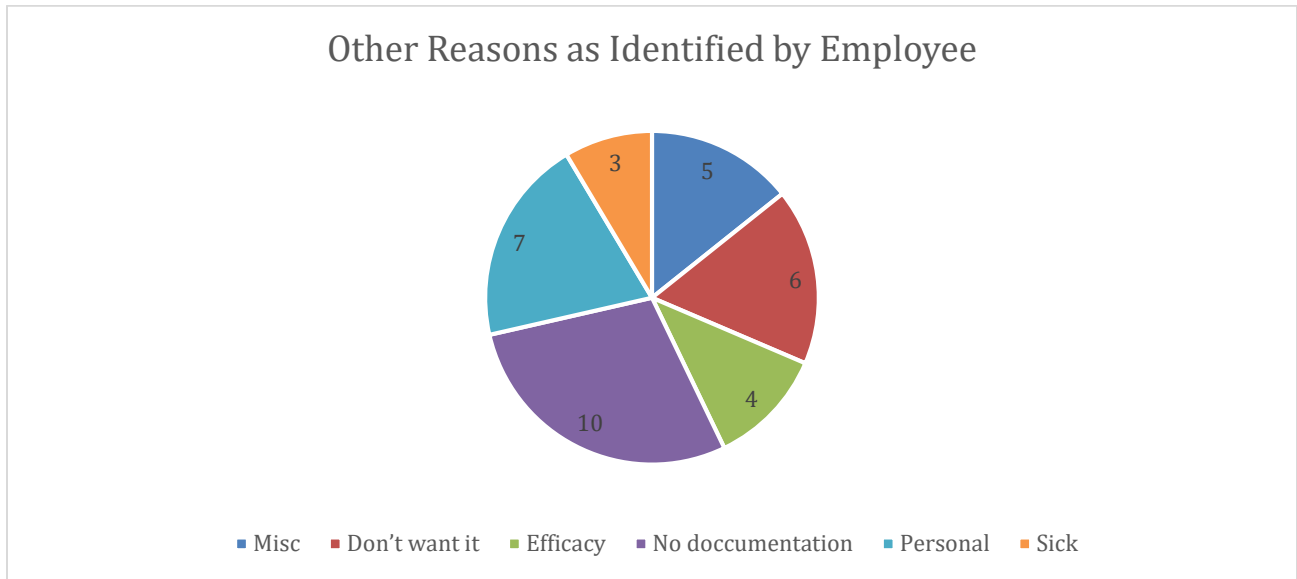


Figure 13. Hand-written “other” reasons for influenza declinations.

### Discussion

Prior to the directive there was no requirement for employees to record their influenza status in the Occupational Health clinic. There are two different electronic records used at the institution, one for patients, Computerized Patient Records System and one for employees. The systems are not interfaced creating a gap between individuals who received the vaccine in the Occupational Health clinic, employees who received the vaccination through an outside provider, and employees who received the vaccine as a veteran patient or through the flu clinic. Previous rates reported by the Occupational Health clinic were identified as consistently low but were only a reflection of the employees who received the vaccine in the occupation health clinic or self-reported themselves as employees as they went through the flu clinic. The flu clinic keeps a list of employees who were immunized in the clinic and reported them to the Occupational

Health office so it would be possible to track and document in Occupational Health Records System. Prior to the 2017-2018 influenza season there was no directive requiring documentation of influenza decision, individuals who received the vaccine outside the Occupational Health clinic or flu clinic were not recorded as immunized employees. This difference is highlighted in Figure 14 showing the difference in time between when the immunization was received and when it was reported to OH.

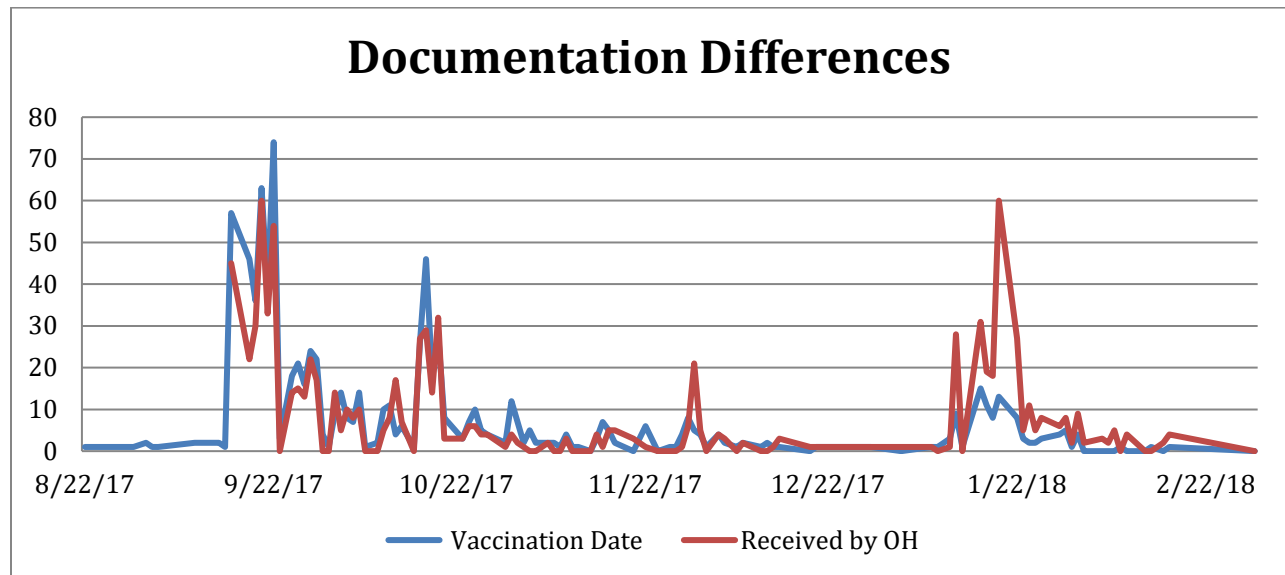


Figure 14. Difference in vaccination date and documentation.

Documentation accuracy and accountability is a critical intervention in increasing the employee immunization rate. In two studies by Hitoshi et al. (2013) and Drees et al. (2015), employee immunization rates improved to >90% with the use of mandatory influenza documentation as part of their multi-interventional study. When mandatory documentation was used in similar QI projects the employee was responsible for submitting documentation for any influenza immunization received outside the system. With the use of the directive, documentation of immunization status was required to be submitted to OH unlike previous years.



### **After the Intervention**

The number of immunized employees that was reported by Occupational Health nurses prior to the directive enforcement was 633, reflecting only 61% of employees immunized. After the directive there were an additional 192, 19% of employees reported they had already received the vaccine increasing the number immunized to 883 (86%). Although this was not an objective of this project, the improved tracking revealed a possible explanation for what had been viewed as a decrease in adherence to flu immunization.

Another intervention utilized was the one-on-one influenza offering to all employees that had not accepted or declined the influenza intervention by the start of the year. Since seeking out employees was not an option, the employees were required to either accept or decline in writing through OH. Many of the remaining individuals were seen face- to- face with only 10% submitting the documentation electronically. When seen face-to-face the script could be utilized to provide education on declination reasons.

Like the CDC findings, employees who provided clinical services had higher immunization adherence. Surprisingly, the CDC mentioned the pharmacists as the highest in compliance at 87%, however, at the site of this project they had one of the lower compliance rates of 70%. It can be speculated that the leadership that oversees pharmacy employees does not value the vaccine, the low rates reflect the leaderships beliefs. In the table listed below the system findings compared to the CDC results. The other majority clinical professionals such as nurses and providers were well above the CDC averages. The nonclinical staff such as the clerks and human resources was also above the CDC averages with 82% and 87% respectively. See Table 4 for a comparative listing of rates for the health care employees at the facility to rates identified by the CDC.

Table 4

*CDC Rates Versus Site Rates*

	Site	CDC
Nurses (APRN, RN, and LVN)	89%	81%
Physicians	86%	83%
Pharmacists	70%	86%
Non-Clinical	82%	61%
Overall	87%	68%

*Note.* Data referenced from CDC (2017g).

The number of employees vaccinated by November can establish a predictor of the number of individuals that will be vaccinated in the season. This year the vaccine became available on 15 of September in the facility. As previously noted in Figure 2, most staff were immunized prior to November 48% (n = 494) of the employees showing a nearly 40% increase when the policy was enforced. This percentage is lower than the CDC data that shows about 68% immunized by November with a 10% increase over the rest of the season (CDC, 2017g).

In a study by Schult et al. (2012), over 70,000 subjects responded to a study by the VA identifying declination reasons that were very similar to most Americans; cost, inconvenience, allergy to vaccine, side effects, fear of needles, disbelief of national recommendations, or low perceived risk. There were 147 (14%) declinations received at the VA with reasons which were consistent with the Schult et al. (2012) study which found individuals thought that the immunization does not work or they do not need the immunization; the main reasons of allergy or safety concerns, very similar to CDC (2017e) finding. This finding is consistent with the study

by Garcell et al. (2015) in which most of declination responses did not have the proper justification and warranted further investigation.

### **Implications**

There is an abundant amount of research that indicates that when a mandate is used it can increase the vaccination compliance and is often the most effective intervention (Jung et al., 2017). Even though the immunization rate nearly doubled to 86%, the goal of 90% was not met. The enforcement of the directive played a significant role in improving the compliance rate, it was only one part of the multi-pronged interventional strategy. The combination of the mandatory centralized reporting of immunization status, declination form, and face-to-face education all contributed to the success of the project.

Even though the declination form clearly stated that masking would be utilized when an employee declined, there was no official mechanism to track compliance. Based on the number of employees who opted to decline immunization, there should have been at least 147 employees wearing masks. Based on observations by the OH staff and the DNP student, there were many individuals who were nonadherent and none who were noted to be wearing masks, as expected in the directive. The employees right to privacy precluded the enforcement of masking as supervisors could not be made aware of the influenza decision without disclosing confidential employee information. It was left to the employee to comply with the mask, as indicated, although that did not occur. There were also two employees who did not provide proof of outside vaccination, but without enforcement from management, there were no consequences beyond reporting the information to the director.

Regardless of the barriers to enforcement, the use of the interventions that included the directive, improved compliance significantly. The strategy used can be transferred to any facility

that needs to improve rates without the use of a mandate. The interventions utilized were a consensus from both leadership trying to reach the Healthy People 2020 goal and the union that was trying to maintain employee autonomy.

New employees were also required to be adherent with the directive and were given 2 weeks to submit the immunization decision. Since the directive was enforced in January there have been 76 new employees with only seven declinations, a 91% vaccination adherence rate. One can speculate that since influenza vaccine is required at most other institutions, the new employees are already familiar with this type of policy and entered into the system without resistance to the policies.

### **Limitations**

A limitation of this project is the continually varying number of employees. It is almost daily that there are people leaving related to termination, extended sick leave, or military leave. Every 2 weeks there are approximately 5-10 new employees. This made it difficult to manage immunization status and records of the current employee. There were also several documentation sites that include the two computer systems along with the paper declination forms that must be maintained and validated. Unfortunately, the directive was not utilized and enforced to full capacity. While it was enforced with the requirement of declination documentation, there were no repercussions for nonadherence. The issue of enforcement remains an unclear issue that will need to be addressed in future years.

### **Sustainability**

To sustain the improvement in the attempt to meet the Healthy People 2020 goal of 90%, there are several actions that should continue along with a few newly identified opportunities. Since there was a discrepancy in providing documentation to OH, education should be provided

to all employees regarding the expectation of documentation submission along with accepted routes. Secondly education should be provided to the supervisors in the form of a script since they were tasked with enforcement of the directive. Enforcement of the directive should be started earlier, December 1. When the directive was enforced, during the project, all three elements were improved: documentation, immunizations, and declination responses. Ensuring the gain is made as early as possible since it takes about 2 weeks for the influenza immunization to become effective is required to reduce influenza risk. Also standardizing the method of declination requiring them all to be submitted in person to OH will ensure education is provided. Utilizing the information from this year's declinations will also allow focused education based on most of declination reasons.

### **Conclusions**

The overall success of the project makes it worthwhile to maintain. While the research has identified that the key to a successful intervention to improve influenza immunizations is multipronged and complex, the successful combination of interventions varies by system. The combination used at the clinical site for this project appeared successful and can be maintained with a few additional adjustments. If the directive continues to be enforced, the recommendation is to enforce it, to ensure that everyone will be adherent by December 1st of every influenza season, increasing the immunizations earlier in the season and prior to the peak of the influenza season. Additionally, a disciplinary plan for the individual employees who remain non-adherent with the directive for both reporting but also the masking would be essential to enforce. If there is an enforcement plan in place, compliance should increase. It is likely that since there was no evidence of enforcement this season it is setting precedence for future seasons. This speaks to the importance of support by leadership.

Additionally, since the vaccine is already offered at no cost, improvement on tracking and documentation is recommended to streamline the process. With employees having the ability to receive the vaccine at the flu clinic there were many employees who were documented as patients. This created extra work for both the employee and OH by having to look up proof in one system and transcribing it into the other system. In the future it is recommended that all employees come through Occupational Health clinic for their immunization or have the flu clinic hand out small vaccination proof cards that the employees can give to Occupational Health nurses. It will also be recommended that the required annual influenza education be changed and due in August so that the information will be up-to-date prior to the start of the season.

This influenza season has shown to be one of the deadliest and widely spread in the last several years. While the CDC has yet to publish the final 2017-2018 influenza season data, locally there has been a total of 20 deaths and over 12,000 cases, which is three times more than last year (The City of El Paso, 2018). This increased incidence has elevated the perceived risk and may have contributed to the increased compliance with influenza immunization as the Health Belief Model suggests (Jones, et al., 2015).

As an APRN with a DNP shaping the health care system is an integral part of the profession. All the essentials of the DNP were utilized in this project (AACN, 2006). The first essential is utilization of the scientific underpinnings for practice that the DNP used the wide foundational base of knowledge and translated it into practice demonstrated by the script for declination responses. Additionally, the DNP utilized systems leadership for QI; all the different layers of the project that can be integrated into action to improve patient care demonstrated this. By providing a comprehensive literature review the DNP identified trends in the current research and tailored them into interventions that will best fit the setting enabling improvements in

practice. By maximizing the use of technology, the DNP could track progress and evaluate interventions. With the information that was gathered by the project implementation, the DNP can sustain improvements through policy. When implementing a project at the systems level, successful interdisciplinary collaboration is essential such as in this project between all disciplines, the union personnel, and leadership. By the DNP implementing this project, the safety and health promotion of both the patients and employees has improved as health care workers influenza rates improved. The nursing profession is always changing and the DNP will be at the forefront of change by utilizing the research that has already been performed by their counterparts and integrating into practice that improves patient outcomes.

The DNP prepared nurse is an integral part of the nursing profession. To be fully effective as an interdisciplinary professional there are several essentials that need to be integrated into practice; advocacy, policy, research, system thinking, technology, extraprofessional collaboration, and science (American Association of Colleges of Nursing, 2006). When focusing on this process improvement project, integrating research into the intervention was a necessity as it established evidence that supports the change to improve the processes of a system. Redman, Pressler, Furspan, and Potempa (2015), discussed how DNP-prepared nurses are essential in translating research into practice to improve patient outcomes. The value of the DNP-prepared nurse is becoming increasingly evident as they become more utilized and consequently a more vital part of the national health care system.

In the strategic planning of the quality improvement project, my mentor, a DNP-prepared supported me as I utilized national benchmarks to identify the problem and worked to identify the gap and develop feasible solutions. The pre-existing Influenza Committee, which is a multidisciplinary team consisting of representatives from police, logistics, union, infection

control, primary care, Occupational Health and pharmacy, continues to focus on reporting and distribution of the influenza immunizations. The leader of the committee is a DNP-prepared nurse who provides valuable input on the national goals, new initiatives, and educational opportunities.

Functioning in the role of the APRN with a DNP degree, I became an indispensable member of the quality improvement team. Analysis of the Occupational Health clinic through system thinking allowed me to see the relationships between the facility and the Occupational Health clinic. The effects of national directives and the gaps identified for implementation is now recognized as a critical challenge for the facility. Once the gaps had been identified, by performing a thorough assessment, evidence-based interventions could be recommended that have been proven effective in similar organizations.



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Appendix A

VACCINE INFORMATION STATEMENT

**Influenza (Flu) Vaccine  
(Inactivated or Recombinant):  
What you need to know**

Many Vaccine Information Statements are available in Spanish and other languages. See [www.influenza.org/viv](http://www.influenza.org/viv)  
 Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Véase [www.influenza.org/viv](http://www.influenza.org/viv)

**1 Why get vaccinated?**

Influenza ("flu") is a contagious disease that spreads around the United States every year, usually between October and May.

Flu is caused by influenza viruses, and is spread mainly by coughing, sneezing, and close contact.

Anyone can get flu. Flu strikes suddenly and can last several days. Symptoms vary by age, but can include:

- fever/chills
- sore throat
- muscle aches
- fatigue
- cough
- headache
- runny or stuffy nose

Flu can also lead to pneumonia and blood infections, and cause diarrhea and seizures in children. If you have a medical condition, such as heart or lung disease, flu can make it worse.

Flu is more dangerous for some people. Infants and young children, people 65 years of age and older, pregnant women, and people with certain health conditions or a weakened immune system are at greatest risk.

Each year thousands of people in the United States die from flu, and many more are hospitalized.

Flu vaccine can:

- keep you from getting flu,
- make flu less severe if you do get it, and
- keep you from spreading flu to your family and other people.

**2 Inactivated and recombinant flu vaccines**

A dose of flu vaccine is recommended every flu season. Children 6 months through 8 years of age may need two doses during the same flu season. Everyone else needs only one dose each flu season.

Some inactivated flu vaccines contain a very small amount of a mercury-based preservative called thimerosal. Studies have not shown thimerosal in vaccines to be harmful, but flu vaccines that do not contain thimerosal are available.

There is no live flu virus in flu shots. They cannot cause the flu.

There are many flu viruses, and they are always changing. Each year a new flu vaccine is made to protect against three or four viruses that are likely to cause disease in the upcoming flu season. But even when the vaccine doesn't exactly match these viruses, it may still provide some protection.

Flu vaccine cannot prevent:

- flu that is caused by a virus not covered by the vaccine, or
- illnesses that look like flu but are not.

It takes about 2 weeks for protection to develop after vaccination, and protection lasts through the flu season.

**3 Some people should not get this vaccine**

Tell the person who is giving you the vaccine:

- **If you have any severe, life-threatening allergies.**  
If you ever had a life-threatening allergic reaction after a dose of flu vaccine, or have a severe allergy to any part of this vaccine, you may be advised not to get vaccinated. Most, but not all, types of flu vaccine contain a small amount of egg protein.
- **If you ever had Guillain-Barré Syndrome (also called GBS).**  
Some people with a history of GBS should not get this vaccine. This should be discussed with your doctor.
- **If you are not feeling well.**  
It is usually okay to get flu vaccine when you have a mild illness, but you might be asked to come back when you feel better.



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

#### 4 Risks of a vaccine reaction

With any medicine, including vaccines, there is a chance of reactions. These are usually mild and go away on their own, but serious reactions are also possible.

Most people who get a flu shot do not have any problems with it.

Minor problems following a flu shot include:

- soreness, redness, or swelling where the shot was given
- hoarseness
- sore, red or itchy eyes
- cough
- fever
- aches
- headache
- itching
- fatigue

If these problems occur, they usually begin soon after the shot and last 1 or 2 days.

More serious problems following a flu shot can include the following:

- There may be a small increased risk of Guillain-Barre Syndrome (GBS) after inactivated flu vaccine. This risk has been estimated at 1 or 2 additional cases per million people vaccinated. This is much lower than the risk of severe complications from flu, which can be prevented by flu vaccine.
- Young children who get the flu shot along with pneumococcal vaccine (PCV13) and/or DTaP vaccine at the same time might be slightly more likely to have a seizure caused by fever. Ask your doctor for more information. Tell your doctor if a child who is getting flu vaccine has ever had a seizure.

Problems that could happen after any injected vaccine:

- People sometimes faint after a medical procedure, including vaccination. Sitting or lying down for about 15 minutes can help prevent fainting, and injuries caused by a fall. Tell your doctor if you feel dizzy, or have vision changes or ringing in the ears.
- Some people get severe pain in the shoulder and have difficulty moving the arm where a shot was given. This happens very rarely.
- Any medication can cause a severe allergic reaction. Such reactions from a vaccine are very rare, estimated at about 1 in a million doses, and would happen within a few minutes to a few hours after the vaccination.

As with any medicine, there is a very remote chance of a vaccine causing a serious injury or death.

The safety of vaccines is always being monitored. For more information, visit: [www.cdc.gov/vaccinesafety/](http://www.cdc.gov/vaccinesafety/)

#### 5 What if there is a serious reaction?

What should I look for?

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or unusual behavior.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 and get the person to the nearest hospital. Otherwise, call your doctor.
- Reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor should file this report, or you can do it yourself through the VAERS web site at [www.vaers.hhs.gov](http://www.vaers.hhs.gov), or by calling 1-800-822-7967.

VAERS does not give medical advice.

#### 6 The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines.

Persons who believe they may have been injured by a vaccine can learn about the program and about filing a claim by calling 1-800-338-2382 or visiting the VICP website at [www.hrsa.gov/vaccinecompensation](http://www.hrsa.gov/vaccinecompensation). There is a time limit to file a claim for compensation.

#### 7 How can I learn more?

- Ask your healthcare provider. He or she can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call 1-800-232-4636 (1-800-CDC-INFO) or
  - Visit CDC's website at [www.cdc.gov/flu](http://www.cdc.gov/flu)

#### Vaccine Information Statement Inactivated Influenza Vaccine

08/07/2015

42 U.S.C. § 300aa-26

Office Use Only



Appendix B

September 26, 2017

VHA DIRECTIVE 1192  
APPENDIX B

HEALTH CARE PERSONNEL INFLUENZA VACCINATION FORM

I am a VA: \_\_\_Employee \_\_\_ Volunteer \_\_\_ Trainee (residents, interns and students)

I received the seasonal influenza vaccine this flu season (required documentation is attached.)

I decline to receive seasonal influenza vaccine at this time for the following reason:

Select the single answer that best fits your reason:

- I do not like needles.
- I have a philosophical or religious reason for not receiving the vaccine.
- I have an allergy to the vaccine or one of its components.
- I am concerned about the side effects/safety of the vaccine.
- I have never had the flu and don't think I will this season.
- I have another reason. (Please explain)

\_\_\_\_\_  
\_\_\_\_\_

I acknowledge that VHA policy requires health care personnel to receive the influenza vaccine every year. I understand that if I decline to receive the vaccine and/or to provide proof of vaccination by November 30 or within two weeks of beginning employment if after November 30, I must wear a face mask according to requirements and guidelines within the Directive 1192, Seasonal Influenza Prevention Program. I understand that violation of the directive may result in disciplinary action.

I have read and fully understand the information on this form and have been given the opportunity to have my questions answered.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (print): \_\_\_\_\_ Last 4 SS# \_\_\_\_\_

Dept./Serv: \_\_\_\_\_ Supervisor: \_\_\_\_\_

*Employees and volunteers provide this form to the facility Employee Occupational Health Office. Trainees provide this form to the Designated Education Officer.*

\_\_\_\_\_



## Appendix C

*Evaluation of the Specific Aims of the Quality Improvement Project*

<b>Specific Aim #1</b>	<b>Evaluation</b>	<b>What to evaluate</b>	<b>How to get information</b>	<b>When/how often</b>	<b>Who is responsible</b>
By 30 April 2018, influenza immunization rates among health care workers will increase from the previous rate of 43% to above 90%.	Activity	Number of employees that have received the immunization from the facility provided routes and outside sources or declined	Reports will be pulled from OHRS where all immunizations given in-house and from outside providers will be recorded.	Immunizations will be recorded in real time as given and a summative report pulled on 30 April 2018	All of the nurses in the Occupational Health department will enter records as they are given. DNP student will compile data.
	Outputs	Number of employees who have received the influenza vaccine.	Reports contain all employees at the facility as denominator and vaccinated as numerator.	Reports will be pulled at the end of the month to track progress towards goal.	Occupational nurse will pull report monthly.
	Outcomes	Participant behavior will change to be more accepting to the immunization.	The number of declinations versus the number of immunizations given versus the number who refuse to participate in either.	The report will be pulled at the end of the influenza season, May 31 <sup>st</sup> , 2018, to determine declination levels	The Occupational Health nurses will obtain declinations or give vaccines and pull reports.
	Impact	Will have no findings on surveys for low influenza vaccination rates.	The survey findings from mock or Joint Commission reports.	Mock surveys are done annually and Joint Commission every 3 years.	Quality department is responsible for mock surveys and Joint Commission is an outside paid inspector.

<b>Specific Aim #2</b>	<b>Evaluation</b>	<b>What to evaluate</b>	<b>How to get information</b>	<b>When/how often</b>	<b>Who is responsible</b>
By 30 April 2018, achieve face-to-face contact with all health care workers who have not either declined or accepted the influenza immunization.	Activity	The number of employees that have already been contacted through passive interventions; cart, clinic, or walk-in flu clinic and those that need face-to-face contact, the unaccounted.	Report is pulled via the Occupational Health EMR.	18 January 2018, start face-to-face approach 22 January 2018	Occupational Health Nurse, Influenza team, DNP student
	Outputs	The number of employees that have been contacted and identify percent accounted with active face-to-face approach.	Evaluate reports for vaccination, declination, or refusal to participate in program utilizing the declination form represented in appendix B. Those who refuse to sign will be annotated.	22 January-April 1st 2018	Occupational Health Nurse
	Outcomes	Individuals increase compliance when actively approached	Summative report of those immunized or declinations	April 1 <sup>st</sup> 2018	Occupational Health Nurses
	Impact	Evaluate the number of workers who received immunizations after face-to-face contact.	Evaluate immunized after face-to-face active approach taken place in EMR report.	End of flu season April 30 <sup>st</sup> 2018	Occupational Health Nurses

<b>Specific Aim #3</b>	<b>Evaluation</b>	<b>What to evaluate</b>	<b>How to get information</b>	<b>When/how often</b>	<b>Who is responsible</b>
By 31 May 2018, increase education to 90% of employees that have not been vaccinated by the end of November 2017.	Activity	Determine if employee is going to accept or decline vaccination and educate according to the need.	Employees will fill out declination forms that identify a reason for declination. Available- See Appendix B or receive immunization	At every face-to-face interaction	Occupational Health nurses will approach individuals and provide education.
	Outputs	Employees are educated to influenza facts when approached. Employee will change from declination to accepting vaccination.	Responses on the declination form.	At every declination	Employee getting or declining vaccination
	Outcomes	Employee's responses to declinations based on lack of knowledge.	Declination form responses.	At every immunization	Occupational Health nurse and influenza team
	Impact	Employee vaccination rates will increase and declinations related to lack of knowledge will decrease.	Occupational Health EMR for declinations and vaccinations.	April 30 <sup>th</sup> 2018	Occupational Health nurses

## Appendix D

*Scripted Education for Declination Responses*

Top Reasons	Response
Do not want flu vaccine related to: 1) not liking vaccinations, 2) possible side effects or 3) fear of needles	Each year there are new variations of the flu. Risk of reaction is very small, typical reaction is soreness or flu like symptoms, minor compared to flu. A very small needle is used and the CDC no longer recommends the nasal mist.
Do not trust vaccine recommendations or flu vaccine; not thought to be effective.	Influenza vaccination is the best protection from the flu. Last year the vaccine was about 48% effective, influenza vaccine protects the health care worker and vulnerable patients, large number of vulnerable patients treated in the facility. Even though you can still get a different strand of the flu the symptoms are lessened with the vaccine.
Do not perceive the risk the flu or do not feel that it is necessary since there is not patient contact.	Spread by air through coughing or touching infected surfaces. Last year 7000 individuals died from influenza with over 130,000 cases, patient contact can occur at any location in the facility; elevators, cafeteria, entry way.
Religious objection or allergic to vaccine.	There are several types of vaccines that contain different variations of the vaccine to account for live viruses, preservatives, or egg allergies to accommodate for religious and allergy objections.

*Note.* Top reasons based on the top reasons stated by the CDC (2015)

## Appendix E



**DEPARTMENT OF VETERANS AFFAIRS**  
El Paso VA Health Care System  
5001 N. Piedras Street  
El Paso, TX 79930-4211

17 November 2017

To Whom It May Concern:

Ashley Roman has my permission to conduct a Doctor of Nursing Practice (DNP) project for UIW with the employees at El Paso VA in which she will champion a new process of face-to-face contact for all employees who have yet to receive or decline the influenza vaccination prior to 18 January, 2018. I am aware that the project involves face-to-face contact with all employees that have yet to accept or decline the influenza vaccine along with providing education at the time of contact. The process improvement will involve data review of the number of employees that have complied with influenza vaccination, declined the vaccine, and locations of where vaccinations take place, observations of interactions to the flu cart and face-to-face interactions. The purpose of the quality improvement project will be to immunize the late adaptor health care employees of the El Paso VA to obtain the benchmark of 90%. Late adaptors are defined as any health care employee that has not been immunized or declined the immunization prior to December.

I support this project entitled, "Influenza Immunization for Health Care Workers" I can be contacted at 915-564-7908 for further information.

Sincerely,

A handwritten signature in black ink, appearing to read "L. S. Enzel".

Lenore S. Enzel, MS, RN-C, NE-BC, CLNC  
Associate Director of Patient Care Services, Nurse Executive

**El Paso VAHCS**  
5001 N. Piedras Street  
El Paso, TX 79930-4211  
915-564-6100

**Eastside El Paso Outpatient Clinic**  
2400 Trawood Drive, Suite 200  
El Paso, TX 79936  
915-217-2428

**Las Cruces Outpatient Clinic**  
1635 Don Roser  
Las Cruces, NM 88001  
575-522-1241

**Social Media:**  
[www.elpaso.va.gov](http://www.elpaso.va.gov)  
[www.facebook.com/vael Paso](https://www.facebook.com/vael Paso)