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Jennifer A. Magpie

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Evidence Based Practices for Increasing Flu Vaccine Rates in Native Americans

by

Jennifer A. Magpie

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### **Abstract**

This paper examines evidenced based practices for increasing influenza vaccination rates in Native Americans from a review of literature. Practices for increasing rates included addressing barriers to accessing vaccine in reservation communities, providing culturally competent education to increase awareness of the safety and efficacy of the flu vaccine, implementing community wide access to vaccine, and working with local and tribal health representatives to develop policies to respond to flu outbreaks, medication and preventative care to tribal members to reduce complications that arise from contracting the flu virus.

The literature gives examples of increasing vaccination awareness and education, however more research is needed to address vaccination adherence, vaccination schedule compliance and methods to dispel perceptions and attitudes of mistrust regarding the safety and efficacy of the flu vaccination that would compel patients to make informed decisions about vaccination for themselves and their children.

The influenza virus affects millions of people each flu season, the peak activity for the virus occurs the months of October through February. Influenza is reported to public health agencies by health care providers, for the purposes of tracking where flu activity is, which strains are virulent and the effects of the virus on morbidity and mortality, however the exact number of people affected is not recorded (Centers for Disease Control [CDC], 2014).

The Centers for Disease Control report that the influenza virus may have more serious complications for Native Americans than for other racial groups. Native Americans are at higher risk for developing serious side effects and being hospitalized from the influenza virus due to the poor social and economic factors that are common to them as a racial group (CDC, 2017). In addition to their poor social determinants to health Native Americans have high rates of chronic

diseases such as diabetes, kidney disease, and hypertension which compound the risk of influenza complications (CDC, 2017). Vaccination has been shown to reduce the incidence of the influenza virus, and a yearly flu vaccination is recommended by the Advisory Committee of Immunization Practices (Almario, May, Maxwell, Ren, Ponce, Spiegel, 2016).

Native Americans face many barriers to quality health care that are contributing factors to poor health outcomes. From a social perspective, pervasive poverty, lack of transportation, perceived racism from health care providers, lack of health insurance, language barriers, and living in isolated reservation areas are among the determinants that promote some of these barriers to care. Understaffing and underfunding of the Indian Health Services is also a critical barrier in gaining access to quality health care for this group (Gonzales, Lambert, Fu, Jacob, and Harding, 2014). With these factors in mind, there is a need for evidence based practices to increase flu vaccination rates and decrease complications from the influenza virus. Increasing flu vaccination rates in this population should include education to eliminate misconceptions about the influenza vaccine and benefits of receiving a yearly vaccination.

### **Purpose**

The purpose of this research is to examine evidence based practices for increasing flu vaccine rates in Native Americans. This population experiences some of the worst health outcomes of all racial and ethnic groups in our country. A campaign to increase awareness and compliance of the benefit of a yearly flu vaccination may serve to reduce poor health outcomes and increase preventative health behaviors in Native Americans. This research will include a review of literature of successful campaigns to increase vaccination and possible reason for immunization resistance in indigenous populations.

The goal of annual influenza vaccination for Healthy People 2020 objectives is currently set at 70%. Presently, children under 17 years of age are vaccinated against the influenza virus at a rate of 46.7%. Adults 18 years of age and older are vaccinated at a rate of 38% (Healthy People, 2017). Rates for adult Native Americans and Alaska Natives during the 2012-2013 flu season was 43.4%, and for AN/AI children the rate was 52.5%. The rates in this group, while higher than other racial groups also fall well below the stated Healthy People 2020 objectives (CDC, 2017).

### **Significance**

The significance of the study will provide education and workflow processes for providers and nurses to raise awareness and increase favorable attitude towards flu vaccinations. Each year, there are approximately 43% of patients who receive the flu vaccine, leaving an estimated 57% of patients who decline vaccination despite recommendations for a yearly flu vaccine for all people over 6 months of age. Factors for declining a flu vaccine vary, in a study conducted by Santibanez and Kennedy (2016) the most common reasons for refusing the flu vaccination were patients felt that they were unlikely to get very sick from the flu virus, they never get the flu, they were not in a high risk group, they were concerned about the side effects of the flu and they were concerned about getting the flu from the vaccination.

In Native American reservation communities, the rates of unvaccinated children may be higher despite the presence of Indian Health Service and free health care available at these locations. The vast health disparities that Native Americans face justifies the need for additional education resources and clinical workflow processes to increase positive health outcomes for these patients. The compliance with vaccination recommendations may decrease complications of the virus, up to and including hospitalization. Hospitalization for Native Americans can be

detrimental to their overall health and wellbeing, as many in this population face further isolation away from home, in unfamiliar settings with language barriers and with health care workers who may not be familiar with the cultural customs and beliefs of these patients.

In addition to the physical health of the patient population and community at large, there is need to consider the psychological health of the indigenous population and the long lasting effects that illness and the implications of illness have on these patients, their families and the reservation as a whole. Education outlining the benefits of the influenza vaccination, contributing to overall physical health and mental well-being, will serve to improve health outcomes for this population.

### **Theoretical Framework**

The Health Belief Model was developed by United States Public Health Workers explains and predicts health behaviors based on a patient's attitudes and beliefs (Jones, Jensen, Scherr, Brown, Christy, and Weaver, 2015). There are six concepts within the model that are used as guides to predict behaviors. The concepts outlined in the theory are the a) perceived susceptibility or risk of contracting a condition, b) the perceived severity of the condition and the consequences, c) the perceived benefits of taking an action to reduce risk or seriousness of a condition, d) the perceived barriers to taking actions and e) self-efficacy, the confidence one has in their ability to act. The concept of cues to action was later added to the Model, whereby receiving a flu vaccination to reduce the chances of contracting the virus describes an individual's readiness to act on positive health behaviors during the projected flu season. The expectation is that by taking this action, a negative health outcome will be avoided (Jones, et al., 2015).

Perceived Susceptibility- This can be difficult to measure. In a year when the flu is widespread, patients may be more inclined to vaccinate themselves and their children. When the season is

mild, patients may feel that there is not a need to vaccinate when the community at large is healthy.

**Perceived Severity-** As previously stated, research shows that Native Americans have a higher likelihood of complications from the influenza virus. The perceived severity of this may not be known without an educational intervention. Indigenous populations suffer from many poor health outcomes, chronic diseases and poor living conditions, and therefore, a complication leading to hospitalization may not be initially perceived to derive from the flu virus itself. The perception that the flu may be more complex due to these other physiological and social factors may not be enough motivation to accept a vaccination.

**Perceived Benefits-** Perceived benefits of receiving an immunization relate to the patient's own health, keeping elders and children in the community free from communicable disease, avoiding complications that may lead to lost work, lost wages, isolation from family. Increasing flu vaccination acceptance is a benefit to the patient, their tribe and the reservation communities as a whole.

**Perceived Barriers-** There are many perceived barriers to receiving preventative health care services such as vaccinations among Native Americans. The belief that the flu can be contracted from the flu virus, or that it is ineffective are both barriers that exist when offering vaccinations to this group. The barriers that are not as easy to address include physical barriers such as transportation, lack of access to health care, cost of vaccinations, language barriers and mistrust of primary care providers.

**Cues to Action-** Identifying patients who have historically refused flu vaccines and providing patient education about the benefits of immunization encourages them to take a proactive approach to making informed health care decisions. Community flu clinics, patient teaching and

educational flyers allow nurses an opportunity to provide evidence based information regarding the benefits of vaccination.

Self-Efficacy- When patients feel that they are empowered to make their own health care decisions, they are motivated to become actively engaged in taking responsibility for their health and well-being. (D. Mark, personal communication, January 29<sup>th</sup>, 2017) Taking steps to preventative health, such as vaccination acceptance, can lead to positive health outcomes for patients and their families. These positive outcomes lead to protective factors that promote a healthier community at large (Jones, et.al.,2015).

### **Definitions**

Health Disparity- Preventable differences in disease, injury, or opportunity to achieve health by socially disadvantaged racial, ethnic populations.

Indigenous- People who inhabited the United States and Canada before the colonization of Europeans.

Influenza- A contagious respiratory illness caused by different strains of influenza viruses.

Native American: A member of any indigenous peoples of the western hemisphere; especially a Native American of North America. Also referred to as American Indian or in Canada, First Nations, Inuit and Metis.

Province- Canadian geographic divisions that are responsible for their own governance under the Canadian Constitution. There are 10 provinces in Canada.

Reservation- A legal designation for an area of land managed by a Native American tribe under the United States Bureau of Indian Affairs.

Vaccine- A biological preparation that improves immunity to a particular disease.

### **Process**

A search was conducted in the Harley E. French Library of Health Sciences at the University of North Dakota. The search engine CINAHL was utilized, with the terms Native American, vaccination declination, and influenza. This resulted in 0 articles. The terms were then changed to Native American, vaccination and influenza. 23 articles were retrieved and results were examined for articles that included strategies for increasing vaccine rates that pertained to Native Americans in the United States, and then for full pdf text availability. This resulted in 2 articles. To broaden the search, articles including Native Americans and Alaska Natives in the United States and Canada were included. The search engine Academic Search Premier was used using the same terms 20 were retrieved. The terms Native American and influenza were used, to broaden the search and 77 articles were retrieved. Another search was conducted with the search engine Academic Search Premier using the terms Influenza vaccination acceptance. A total of 15 articles were selected for review. A broader search was conducted on Pub Med, using the terms Alaska Native, First Nations and flu vaccine netted 4 more articles for use. The articles were determined to be appropriate based on practices within the literature that increased acceptance of vaccinations. Several articles were deemed unacceptable although they were pertinent to Native Americans and vaccine refusal and hesitancy, they did not discuss practices for increasing flu vaccine rates. Other articles discussed prevalence but interventions for increasing flu vaccine rates were not discussed. Another search conducted using the terms Native American, H1N1 in CINAHL resulted in 21 more articles, four more articles were selected from this search. The same search words were used on PubMed resulting in 29 more articles. Articles over 12 years old were not used.

### **Review of Literature**

**Strategies to Increasing Influenza Rates-** Several different strategies were utilized to increase flu vaccine acceptance in Native Americans. A study conducted at the Veterans Administration (VA) used a random sample of patients at an outpatient VA clinic to examine attitudes, barriers and strategies for flu vaccination among racial and ethnic groups, including Native Americans. The study found that the VA has a higher than average rate of flu vaccine coverage than the general population yet within racial groups that were sampled, Native Americans were one of three groups found to be less likely to have received a flu vaccine. During the 2003-2004 flu season, the VA used posters, written reminders, newsletters and appointment cards to increase flu vaccination numbers. Those who were included in the study sample reported that the a reminder from their provider to get a flu shot was the factor behind the decision to vaccinate (Straits-Troster et al., 2006).

In a community campaign on the White River Apache reservation use of several approaches to increasing rates including standing orders to identify high risk patients and patients who had not yet received vaccination, community education, home vaccination visits and immunizing hospital patients and employees, radio reminders and brochures proved to be effective in increasing flu vaccine rates. Radio announcements on the tribal radio station in the Apache language were used to eliminate language barriers. Public health nurses were they key to increasing vaccine rates with home visits, as well as community vaccine clinics. Standing orders were cited as key components, because patients were then given education during medical visits and vaccination rates increased after providers recommended immunization to patients. Health care worker acceptance of the flu vaccine was another important key to the success of the campaign. The authors reported a 72% vaccination rate among the employees at the White River Apache Medical Center. This was far higher than the national vaccine rate for health care

workers in the general population. the study succeeded in increasing rates for the White River reservation. The authors reported with the campaign, rates for influenza vaccination exceeded the 60% goal of vaccine coverage for Healthy People 2000 for those over 65 and met the Healthy people 2010 goal of eliminating disparity for flu vaccine in the Native American population (Traeger, Thompson, and Provencio, 2006).

A qualitative study that examined the factors influencing the Metis tribe in Canada to receive the H1N1 vaccine in 2009. Seventeen focus groups were held in four different communities in Manitoba with 128 Metis tribal members. The Metis people are one of the most at risk populations in the Canadian province of Manitoba for poor health outcomes, with this designation the tribe was given priority status to receive the H1N1 vaccination when it became available. Focus group participants who accepted the H1N1 vaccine cited that family members had the most influence on the decision, followed by health care provider influence. All instances where a provider advised vaccination, the participants chose to be immunized. Most of those who were vaccinated had a perceived risk of contracting the H1N1 virus, and that became the motivating factor for acceptance (Driedger, Maier, Frugal &Jardine, 2015).

Universal vaccination programs in North America targeting Native Americans in areas where they make up larger percentage of the population were proven successful in increasing flu vaccine rates for Natives, in addition to changing vaccine schedules to recommend a flu vaccination for all children six months to eighteen years and funding for all recommended childhood vaccines for Native American children ages zero to eighteen through the Vaccines for Children program (Menzies, Singleton, 2009).

Taking flu vaccinations to sites outside of clinical settings was the focus of an intervention aimed at a low-income community in New York that included Native Americans. Providing flu

vaccinations at locations where other community resources were being offered resulted in 500 flu vaccinations in a two week period. The immunizations were offered at a location that was distributing holiday gifts and likely to be a high traffic area. During the immunization campaign, a survey was conducted to gather information on vaccination attitudes and use for future educational efforts to increase vaccination compliance (Suryadevara, Bonville, Rosenbaum, & Domachowske, 2014). Buchwald, et al., (2000) stated that flow sheets, nurse prompting initiatives and patient reminders have been shown to increase patient acceptance of preventative measures in clinical settings.

Other factors used to increase immunization compliance were community informational forums, employing local health personnel who are educated in pandemics, planning for pandemic information distribution with cultural and historical factors in mind, addressing the populations barriers to care and maintaining communication between tribal communities and current public health systems (Groom, Jim et al., 2009).

In the Canadian province of Manitoba, provincial health workers communicated closely with indigenous leaders to support traditional healing, distributing H1N1 kits to areas where nursing and pharmacy services were limited, disseminated information to where H1N1 resources could be located. Local tribal communication with the government proved to be a crucial tool in the response to the influenza outbreak, as the Metis population receives care from the Manitoba province putting health care at a local level and tribal leaders aided in the development of the pandemic preparedness for the province including identifying vaccine priority groups (Richardson, Dreidger, Pizzi, Wu, & Moghadas, 2012).

Dee et al., (2011) suggested that educational vaccination campaigns for minorities to promote increased uptake and acceptance for flu vaccine, community based research, and educating

community members on severe influenza health outcomes may increase the uptake in flu vaccination.

**Barriers to Vaccinations-** Health disparities for Native Americans include the high rates of chronic disease, poverty, substandard housing, lack of running water and poor ambient air quality. Reducing health disparities for this population is difficult and makes increasing access to vaccines and increasing vaccine coverage to Native children crucial. In a retrospective review of 550 medical records from the Seattle Indian Health Board, Buchwald et al., (2000) found a link between younger age and alcohol abuse as reasons for less vaccine coverage. The authors further cite lack of health insurance, cultural beliefs and the clinical setting itself as factors that impede vaccine acceptance. In clinics where minorities make up the largest patient mix, providers see more patients and spend less time with patients during visits and may be skipping over reminders and education for preventative health measures.

Social determinants that pre dispose the Native Americans to complications from influenza include poverty, isolated living conditions and often times they do not have timely access to health care. A total of 426 deaths were reported from the H1N1 virus from April to November 2009. 42 of these were reported to be Native American deaths, which does not sound like many, but Natives comprise just 3% of the population (CDC, 2009).

Groom, Jim et al., (2009) examined vulnerable populations within tribal communities who may be at increased risk during an influenza outbreak due to chronic health conditions or to lack of access to vaccination or to treatment. Native Americans have a greater influenza mortality rate than other populations, with the greatest risk to elderly populations, urban Natives, and those whole live in remote and isolated areas. Lack of access to transportation, limited public

transportation, unemployment, language barriers and poverty are cited as reasons that this population may be under immunized and vulnerable to a pandemic flu outbreak.

**Prevalence of Influenza in Native Americans-** Comparison of pneumonia and influenza mortality rates of Native Americans and Alaska Natives between 1990 and 2009 in a study of the National Death Index linked to Indian Health Service delivery counties to compare death rates from flu and pneumonia. Pneumonia and influenza are listed among the top ten causes of death for Native Americans. H1N1 effects on the Native American population showed that this group had mortality rate four times as high as other racial groups from the swine flu outbreak. Data did not show a direct cause for the mortality rates, but the prevalence of other chronic health conditions in high number was thought to be a factor. In the periods of 1990-1998 and 1999 to 2009, the rates of influenza and pneumonia death was two times higher for Natives compared to Whites in all geographic areas of the United States except for the East. Natives were also less acceptable to preventative care and treatment once influenza was contracted. Programs to promote flu and pneumococcal vaccine were thought to contribute to the decline in the rate of these diseases after 1999, as well as changes in recommendations for pneumococcal vaccine schedules for adults and children (Groom, Hennessey, et al., 2014).

Reviewing data from Medicaid and the Indian Health Service Influenza Awareness System, a system developed to monitor influenza like illness in Native Americans and Native Alaskans throughout the United States, Wenger, et, al. (2011) found that the H1N1 virus may have presented earlier in the year in areas where Natives make up more than 65% of the population. The Native American rate for hospitalization in 2009 due to the H1N1 virus was 56/100,000 people the largest of all racial groups. By comparison, Whites had a hospitalization rate of just 14/100,000 people. Data showed that in Canada, First Nations people also had an increased risk

of complication and hospitalization from the H1N1 virus, suggesting that this population had a longer and disproportionate burden of influenza in 2009 than other populations.

In 2010, a post pandemic workshop examined the burden of the H1N1 virus on the First Nations, Metis, and Inuit populations in Canada. The rate of hospitalization was 2.8 times more likely when living in of these communities. This population was three times more likely to be admitted to an intensive care unit for influenza complications than non-First Nations populations. (Richardson, et al, 2012)

**Influenza Vaccination among Native Americans**-Holm, Vogeltanz-Holm, Poltvaski and McDonald (2010) assessed health behavior risks in Native Americans living in the Northern Plains of the U.S. Native interviewers from communities asked questions from the Behavioral Risk Factor Surveillance System to 404 adults who were selected randomly. The study examined data of Native Americans on reservations in North Dakota, the general population of North Dakota and the United States. At all levels, Native Americans had less leisure time, ate less fruits and vegetables, were more obese and smoked more than their North Dakota and US counterparts in spite of these poor health behaviors, Native Americans scored higher on some preventative measures, including having a flu shot, a pneumonia vaccine and colonoscopies.

Dee, et al. (2011) found that in the 2001 flu season, there was limited vaccination coverage for vulnerable populations, including Native Americans and during the 2003 flu season minority groups had an over represented amount of pediatric death related to influenza like illness. The authors stated that research showed that decreased vaccine uptake in minorities may have been due to negative feelings about vaccines, concerns about side effects from vaccines and not feeling they would contract diseases.

In a poll of 60 open ended questions for different minority groups including Native Americans, Steelfisher, et al., (2015) found that while minority groups were more likely to adopt preventative behaviors against the H1N1 influenza virus such as handwashing and distancing themselves from sick acquaintances and family members they were less likely than whites to accept a seasonal flu vaccine, or to accept the H1N1 vaccination. This is a detriment as the authors stated minority groups had significantly higher disease burden from the flu virus than whites, including complications from other existing chronic diseases and hospitalization.

**Policies for Vaccinations in North America-** The Centers for Disease Control (2017) recommends a vaccination for the seasonal influenza virus to include all person who are age 6 months and older each flu season, these recommendations are accepted as the standard of vaccine practice in the United States and in Canada. The CDC administers the Vaccines for Children Program, an entitlement program which provides childhood immunizations for children between 0 and 18 years of age who may not otherwise be able to afford vaccines. Eligibility for the Vaccines for Children Program includes those who are enrolled in Medicaid, Native Americans, children without insurance coverage and those who are considered under insured, who have health insurance but coverage does not extend to vaccinations.

In Canada, vaccination policy is left up to the provinces, parents face fines in Ontario for not vaccinating their children but in Alberta vaccinations are not mandatory and children can attend school without being vaccinated. There are no regulations from the federal government in Canada regarding vaccination (Walkinshaw, 2011).

In a review of the effects of the H1N1 virus on First Nations communities in Canada, Richardson, et al., (2012) examined the Canadian Public Health workshop to identify gaps that existed in providing pandemic preparedness to indigenous communities. As the response to the H1N1 outbreak was determined by provinces, the successful response from the Manitoba response was examined and used to implement influenza vaccination policies regarding identification of priority groups, workforce coverage and determining eligibility for prioritization of vaccination. Pandemic strategies were examined to increase communication and collaboration with indigenous communities to ensure access to education, prevention and medication for all populations in the provinces.

### **Discussion**

There is evidence in the literature that educational campaigns aimed at Native Americans in increase vaccine uptake is necessary. A gap in this literature seems to be what those interventions may be. A challenge that was noted was that there is not a cookie cutter approach to how to make campaigns relevant to the many different tribes in this country. Since each tribe is unique in their culture, language, customs and health beliefs utilizing community health workers, public health nurses and tribal health leaders to create and disseminate these campaigns. When patients have presented for care, it is imperative for providers, nurses and medical assistants to have identified patients who need vaccination. Missed opportunities for vaccine are detrimental in Native communities where patients can be nomadic, isolated and often do not have reliable means of communication or transportation.

### **Outcome /Dissemination**

Within clinical settings, there are several interventions that can be put into place to maximize vaccination uptake. Dissemination to health care providers and nurses in the form of a Power

Point presentation and question and answer session will provide an interactive learning session. Developing a huddle format between providers and their primary care team at the beginning of each work day identifies patient needs before the patient arrives for their appointment. Checking the past vaccination status of patients to identify vaccine refusal or compliance is key, and prepares the provider to have a conversation with the patient to address concerns the patient may have and to provide evidence based recommendations for the benefits of vaccine. As stated in the literature, when patients are in the clinic, they are more likely to adhere to provider advice and vaccine adherence. Providers may also have access to free or reduced vaccination programs, to further reduce cost barriers. Standing orders for nurses and medical assistants to vaccinate without a provider visits can further reduce cost barriers who then do not have to incur the cost of a provider office visit to receive a vaccination. Outside of the clinic community flu campaigns and clinics can meet these barriers, and well educated community health staff must be prepared to provide evidence based education and health promotion to increase vaccine uptake.

Community educational campaigns must reach all areas of reservations, with an emphasis on the most isolated areas. In addition to providing education, nurses should be meeting patients where they reside in these remote areas to give influenza vaccinations. Educational campaigns should be written in health literate terms without medical jargon, easily accessible to patients, and distributed widely.

Emphasis should be placed on cultural norms and practices to make material culturally relevant and appropriate. If possible, educational campaigns should be distributed in Native languages and in English. The health of the individual should be stressed as well as the health of the community as reservation communities are often social and close knit areas.

**Implications for Nursing** -Increasing flu vaccination rates in Native American communities includes addressing psychological and physical barriers that are identified in the Health Belief Model. Because Natives have many health disparities, it is not possible to address them in a single campaign and focus should be on the population at hand, there must be an understanding of the perceived susceptibility and risk of the influenza virus. This education should include the complications that Natives experience when they have contracted the virus. Because there are barriers accessing care for this group, it is essential to include signs and symptoms of the virus, and treatment options that are available for seeking early care, and may reduce the severity of the illness. Explaining that the illness can exacerbate other chronic diseases, such as diabetes and renal diseases and the effects they have on the body may increase understanding of disease processes. Hospitalization is always a serious effect of disease but for Native Americans it can lead to further psychological complications, such as isolation and language and cultural barriers. Often, reservation communities do not house hospitals and ill tribal members may be sent to hospitals that are many miles away from home and family. Hospitals often do not employ interpreters that speak Native languages, and health care providers may not be familiar with Native American cultures and health care practices, further isolating these patients.

Rhudy, Tucker, Ofstead and Poland (2010) examined attitudes that nurses' display regarding their own flu vaccine acceptance and the affect the education they provide to patients. The importance of nurse decision making lies with their position as patient advocates, patient educators and helping to maintain safety. The nurses in this study were both inpatient and outpatient staff working in the emergency room, surgery and transfusion suites. The nurses polled felt that the decision to immunize was personal, and not a matter of patient safety. If the influenza vaccine was deemed mandatory, 12 of the 14 nurses polled stated that they would

comply. The nurses asked for additional education for themselves regarding the efficacy of the flu vaccine for their own knowledge, and felt that educational campaigns for health care workers would increase vaccine uptake.

Examining personal feelings and attitudes regarding flu vaccine from the nurses delivering vaccination education and advocacy should be included in the planning for any campaign to increase vaccine acceptance.. In many Native communities nurses are regarded as more vested in the health of the community and are considered more trustworthy than medical providers and carry a great deal of influence in health care decisions. Likely nurses providing care in these communities are tribal members themselves or local residents and are accustomed to cultural norms and customs and they can provide culturally appropriate and component advice. If nurses display hesitancy or uncertainty towards flu vaccinations, this can affect the decision of the patient in a negative way (D. Mark, personal communication, January 29th, 2017).

### **Summary**

Dee et al, (2011) calls vaccination “our most effective tool to reduce morbidity and mortality from influenza and reduce disparities” Campaigns to increase acceptance and uptake on the influenza vaccine in Native American communities from health care providers and nurses can increase acceptance of immunization as a common and safe preventative action from influenza and the complications that arise from the virus.

Improving influenza rates for Native Americans improves the health of the whole community. (R Byron, Personal Communication, Jan. 29<sup>th</sup>, 2017) Healthy elders are able to preserve culture and history and teach native language to younger tribal members. Healthy families are empowered to make positive changes regarding behaviors for themselves and their

children. Education provides the cues to action for tribal members to make the changes outlined in the Health Belief model to foster permanent healthy change.

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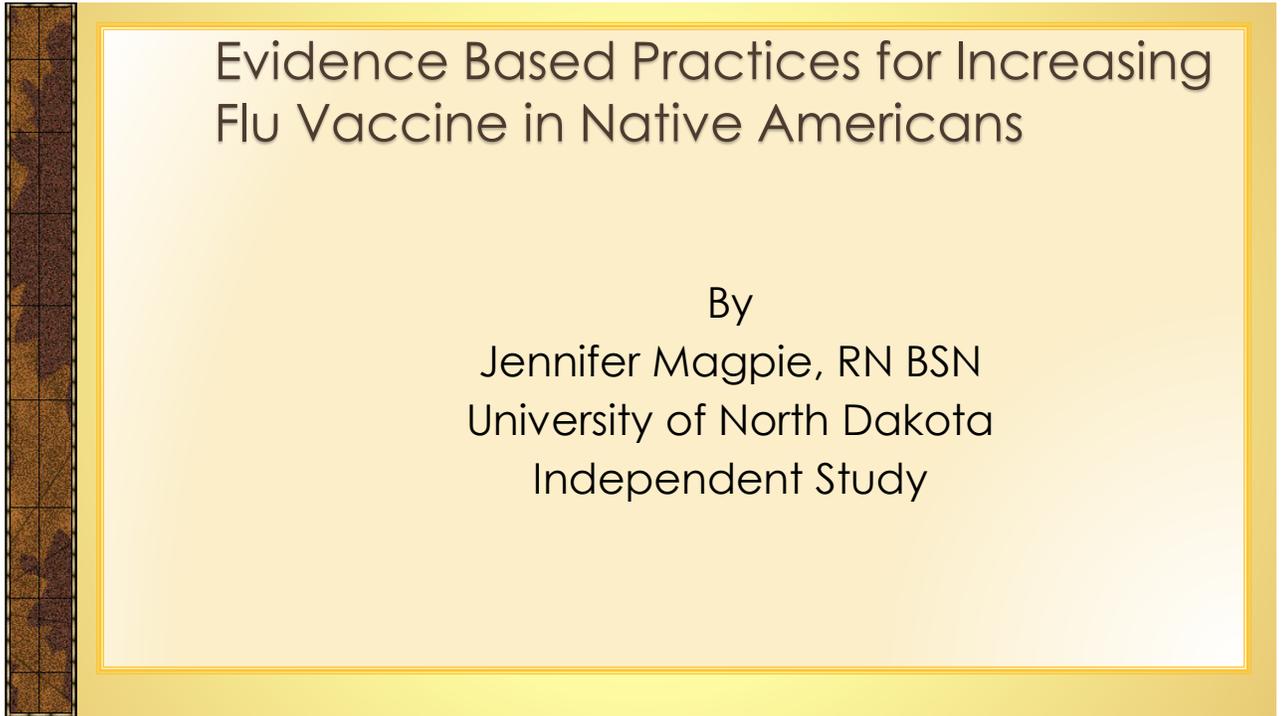
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Appendix A



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Appendix B

## Our Mission is

To improve the wellbeing of everyone by providing assessible, quality healthcare for the whole community



Bighorn Valley Health Center  
10 4th Street West Hardin, MT

Patient Name  
Patient Address  
Anytown, MT

(Click on pamphlet to view)