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A Guide to Vaccine Policy Change at a National Level

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Abstract

Health policy is in a near constant state of improvement. In order to solidify those improvements, health policy requires assistance from the upcoming generations of healthcare workers to push for those changes. Due to the outdated vaccination policy in the American Nurses Association (ANA), many states continued to issue exemptions based upon unsupported religious preferences. This helped to worsen the outbreak of measles in 2018-2019. The Previous ANA Policy on Vaccinations as of July 21, 2015 stated the ANA supports immunization exemptions only for the following reasons: Medical contraindications and Religious beliefs. Educate and train future health care professionals how to identify, implement and change vaccination policy at a national level. The John Hopkins Nursing Evidenced-Based Practice Model was used as its foundation is based upon quick implementations of change and education. Measles outbreak in 2019 resulting in 1,249 cases and 22 outbreaks. These cases have been linked to the lack of herd immunity and, specifically, the exploitation of religious exemptions. On June 21, 2019 the ANA board assembled and accepted our proposal to remove religious exemptions leaving only medical exemptions. A three-part series of articles was then written and published in the ANA-California magazine discussing this process. Limiting vaccination exemptions will improve herd immunity and improve medical reimbursement. Health policy change will be sought out and less intimidating through educating and guiding future healthcare providers. Healthcare policy is an integral part of the healthcare system. Numerous opportunities for students to improve healthcare policy is lost due to factors such as minimal education and understanding of this process.

Healthcare students must feel comfortable and confident to implement health policy change.

A Guide to Vaccine Policy Change at a National Level

Background

Health policy should be an ever-improving pillar of healthcare. In order to solidify those necessary improvements, health policy requires assistance from the upcoming generations of nurses and providers to push for those changes that match with today's events.

In 2019 three students traveled to Washington D.C. to take one of those much-needed healthcare policy changes and implement it into practice. In 2018 a wave of unvaccinated children caused one of the first major reoccurrences of a once believed to be eradicated disease in the United States. Because of this event, three DNP students were given the opportunity to change healthcare policy and help alter the trajectory of the measles outbreak. The endorsement of religious exemptions has been a long-standing staple of the American Nurses Association (ANA) policy regarding vaccinations.

The ANA approved and issued the following immunization position statement on July 21, 2015:

"ANA supports exemptions from immunization only for the following reasons:

1. Medical contraindications
2. Religious beliefs" (ANA, 2015).

Due to this outdated vaccination policy in the ANA, many states have continued to issue vaccine exemptions based upon no longer supported religious preferences. "Allowance of religious and philosophical exemptions was associated with lower MMR and DTaP vaccination coverage and higher exemption rates" (Shaw et al., 2018). This resulted in an outbreak of measles that moved voraciously across states such as New

York, Oregon, Washington, Michigan, Nevada, and Arizona. Measles has been an illness that our healthcare system has been vaccinating against since 1967 with the complete measles, mumps and rubella vaccine (MMR) available in 1971. However, the severity of contracting this virus has been long forgotten in today's society. This is one of many reasons for the lack in vaccination coverage to continue herd immunity in the United States. To achieve herd immunity, the MMR vaccination percentage threshold needs to achieve or maintain at or above 90 to 95% because of the extremely high contagion properties of the disease (Oxford Vaccine Group, 2016). This issue became so profound and widely discussed as it was realized that outdated verbiage and available state exemptions contributed to the largest outbreak of Measles from 2018 to 2019. The incredulous part that is at the forefront is that measles was previously deemed 'eradicated' in 2000.

In the 2018-2019 measles outbreak in the United States, the mayor of New York declared a public emergency in Rockport County and mandated that the unvaccinated citizens of Williamsburg, Brooklyn receive the MMR vaccination or receive an imposed fine of $1000.00 (Pager & Mays, 2019). The measles outbreak finally ended in October of 2019.

Because of this outbreak, our healthcare system's policies on vaccinations for adolescents required an in-depth assessment of what exemptions were truly necessary.

> "Nearly everyone in the U.S. got measles before there was a vaccine, and hundreds died from it each year. Today, most doctors have never seen a case of measles.

> More than 15,000 Americans died from diphtheria in 1921, before there was a vaccine. Only two cases of diphtheria have been reported to CDC between 2004 and 2014. An epidemic of rubella (German measles) in 1964-65 infected 12½ million Americans, killed 2,000 babies, and caused 11,000 miscarriages. Since 2012, 15 cases of rubella were reported to CDC." (Vaccine, 2019).

Unfortunately, but routinely, patients cite philosophical or religious exemption clauses to avoid inoculation. Those individuals against routine vaccination of children have varying religious backgrounds and use their religious as reasoning behind withholding vaccinating their children. This has been proven incorrect and unsupported by all major religious bodies. "Most religions have no prohibition against vaccinations; however, some have considerations, concerns or restrictions regarding vaccination in general, particular reasons for vaccination, or specific vaccine ingredients" (Grabenstein, 2013).

When one attempts to make rhyme or reason out of the measles outbreak and how such a massive population fought ferociously to deny their children's' inoculations, it becomes clearer as to the 'how' when the rise of social media and easily accessible platforms to share personal opinions are considered. This tactic, rampant throughout social media platforms, is steeped in apprehension resultant from exposure to misinformation such as the debunked vaccine and autism correlation. "We should not have exemptions that are not based in science if someone has a medical exemption, that is science. If someone does not want a vaccine because they saw a scary video online, that is not science…Our main effort must be the proper communication of science, facts, and truth" (Krisberg, 2019). Throughout this event, many nurses and providers were at an

impasse as to how we move forward and protect our communities. Having such a difficult and, at times, argumentative conversation with parents on the importance of vaccination became even more daunting when national medical organizations were still supporting religious exemptions. The only way to change this was to have someone step forward and propose the country's current medical concerns align with those organizations' policies. Through much debate and consideration of the science and evidence-based practice behind adolescent vaccinations, exemptions and current national health concerns, the ANA's policy on vaccine exemptions necessitated a removal of religious exemptions. Updating vaccination policy at a national level has been one of a collection of changes that has begun to move our country towards herd immunity that will help protect future generations.

Nurses remain the forefront of patient care; their cultivated relationships with patients are instrumental in achieving positive outcomes. Empowering nurses with the ability to initiate informative and comprehensive discussions about healthcare policy change is essential to push medicine into the light of today's world.

Purpose of Project

The purpose of this project was to both share the experiences of presenting a healthcare policy change at the ANA's 2019 conference and to also educate and train future health care professionals how to identify, implement and change vaccination policy at a national level. This project specifically focused on healthcare workers in all levels of education, certification and licensure. If you were to go to your local healthcare center and ask a random healthcare worker if they have ever been a part of healthcare policy change or even understand how to begin the process of changing policy, it is

highly unlikely any answer other than ‘no’ would be received. This is due to several factors which include lack of social media awareness, lack of utilizing social media to focus on a person’s profession, guidance and information given during certain levels of education, and instilling confidence in our current and future healthcare workers that they can be the one to make a change on a community, state and, even, national level.

The mere thought of the process of policy change is both daunting and foreign to many healthcare workers. Students must have this training and at an easily accessible and comprehensive level. It is our duty as the healthcare leaders of today, who will one day teach and/or train the next generation, to begin this process now.

As a result of instilling this guide to healthcare policy change, including vaccine policy change, it was anticipated that one of the many side effects included rates of herd immunity increasing and resulting in eradication or near-eradication of many preventable and deadly illnesses.

EBP Model/Frameworks

John Hopkins Nursing Evidenced-Based Practice Model (JHNEBP) was used in this project as its foundation is based upon quick implementation of changes and nursing centered education. This education is specific to vaccination concerns as well as the larger picture of national policy change. The tools this model provides are easy to use and well structured.

This 3-step Model seeks out the most assistive scientific evidence that translates into current practice. The aspects of quick implementation of changes and nursing centered education focus are just two areas that are very important in order to see a positive change. Vaccination compliance and education can be very difficult to enforce

due to religious doctrines and rapidly changing personal beliefs. Also, with the new changes made in 2017, the model now provides even more guidance to obtain accurate and favorable outcomes. “Existing tools were modified, and 3 new tools were added which address: analysis of the stakeholders, implementing and tracking the action plan and the active dissemination of the EBP findings. These changes were designed to help make the EBP process easier for practicing nurses.” (Vera, 2019).

One of the goals of this model is to quickly and effectively arm nurses with the most accurate information in order to provide the best care and clinical decision making. This is imperative if the tide of healthcare policy, specifically education and guidance, is to change. Nurses are primarily the focal point in a patient’s healthcare visit to receive various education, and it is imperative that they are educated how to answer questions appropriately that align with the most current policies. Changing the policy on vaccination exemptions as it pertains to religious reasoning is the starting point of which this model will flow out to our various healthcare workers.

Evidence – Literature review

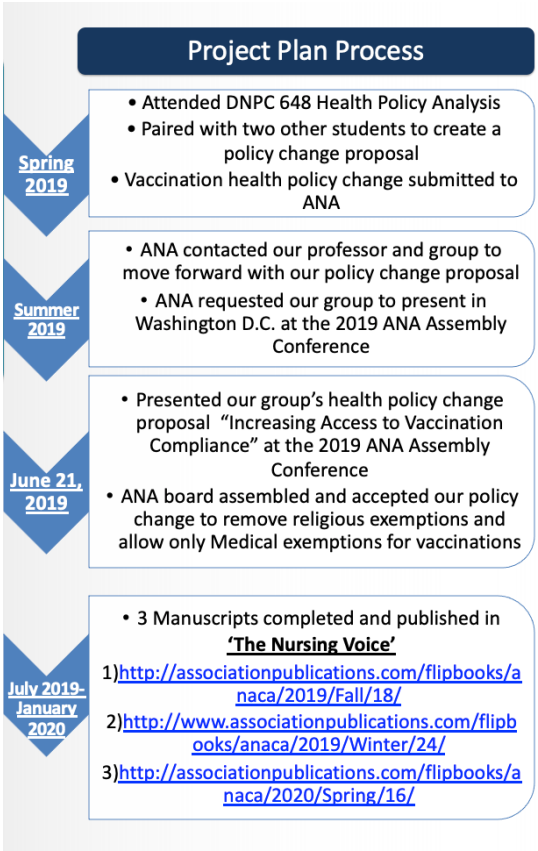
There is a lack of structured programs to train nurses to effectively discuss and encourage policy change, especially when met with resistance. Policy change is not a common focus in medical programs, and this must be improved. While other educational topics exist, healthcare policy and the process of change is not typically found among them until you are at a PhD or Doctoral level. Medical professionals require an education that provides, at minimum, a foundational base in what healthcare policy is, how it affects us all and the step-by-step process of achieving real change. Many nurses that are

both new grads as well as near retirement are uncomfortable or have limited knowledge to easily engage in conversation regarding healthcare policy change.

The policy change approved through the ANA was completed by nurses in a Doctor of Nursing Practice program. These students had minimal knowledge how to take even the first step towards policy change. The result was incredible; however, fore knowledge of this process would have assisted in more confidence and comfort in reaching for such a major change. Three DNP students with little to no background in healthcare policy change were able to change a national policy in the ANA, this is obtainable.

Figure 1

Project Plan Process



Interventions

In Spring of 2019, I was assigned to a group of three in DNPC 648 Health Policy Analysis class. Each group was given the task of choosing a health policy topic to propose a change. These topics ranged from post-partum to hospice concerns. We chose the topic of vaccination change. This topic was not one I or my fellow colleagues were well educated on at the time. After researching the ongoing issue of the measles outbreak in our country, we chose to look at recommending to the ANA to remove religious exemptions.

We found out shortly after that, our proposal had been accepted. We were elated and had no true idea what this meant. Because of the unfamiliarity in health policy change, we all were left excited but unaware of what to expect next. That was when the ANA requested a manuscript, outlining the background of vaccinations and why removing religious exemptions is necessary.

We were then contacted again through our professor, Dr. Burkard, to request we attend the annual ANA conference to present our proposal to the committee board as well as the representatives from various states.

Our group traveled to Washington D.C. and presented our proposed policy change "Increasing Access to Vaccination Compliance". To our utter amazement we were met with a standing ovation. It was surprising how many questions and conversations were provoked because of this controversial topic.

On June 21,2019 the ANA Board accepted our policy change to remove religious exemptions and leave only the medical exemption as reasoning to not receive adolescent vaccinations.

Upon returning to San Diego, we requested the opportunity to share our experience and what we learned with our cohort. It was wonderful to be given the platform to open a dialogue about health policy change in our class. In addition to these discussions, it also allowed us to educate our fellow collogues that this is obtainable and how to implement health policy change at a national level.

Cost Benefit Analysis and Sustainability

A cost-benefit analysis was completed to show the financial benefit in vaccinating a child in order to save not only money in the future but also to save that child from growing into an adult that contracts measles. An adult with a history of measles can also experience side effects of this virus decades later including hearing loss, blindness and subacute sclerosing panencephalitis (SSPE) that can lead to death.

There are four million children in the United States under the age of 18 years: 7.9% have not been vaccinated (CDC). Utilizing this information, the following can be calculated: there were a total of 1,249 cases of measles in 2019. Each count is a child from birth to 18 years of age. Multiplying the possible exposures and potential cases times those 18 years it will equal to 22,482 potential cases of childhood measles. “Based on historical data, the CDC has estimated that approximately 1 in 4 of cases of measles in the US result in hospitalization, and 1 in 1000 cases results in death.” (Chovatiya & Silverberg, 2020). If out of those 22,482 cases 1 out of 4 result in hospitalization we are looking at 5,621 hospitalizations. An average stay for a measles patient is approximately 4.6 days and costs $37,725. If those 5,621 individuals are hospitalized for 4.6 days on average, we are looking at a total cost of 212 million.

To look at the comparison of cost savings, the cost for MMR vaccine is $82.49. Taking the 7.9% not already vaccinated per the CDC it will cost $26 million to vaccine each child. Each vaccination requires a medical team including a medical assistant (MA), a physician or provider, and the cost of the vaccine itself. MA's pay range, depending on state, is roughly 16$ per hour. A typical clinical day is 8 hours with 6 of those hours dedicated to vaccinations only. Using that same daily schedule with a physician or provider the calculation of pay for services is approx. $60 per hour. If it took each MA and provider 10 minutes to order and administer, then they could administer vaccines to 6 children per hour. Each of those children will require a second dose which has already been ordered by the provider and will only require the MA to see the patient at that visit. Dividing that by the MA and provider's pay per hour per child plus the cost of the MMR vaccine x 2 there is a resulting cost of $107.82 per fully vaccinated child. In order to vaccinate the remaining 7.9%, it will cost $26 million. This number may seem extraordinary; however, this is compared against the astronomical hospitalization costs.

The cost-benefit analysis will then equate to $37,724.60 (per hospitalization) /$107.82 (per child to vaccinate fully) = 349.88.

For every dollar spent there will be a savings of $349.88.

ROI (return on investment): $212 million hospitalization avoided / $26,606,056.22 to vaccinate = 697%**.**

Evaluation/Results

On June 21, 2019 the Board of National American Nurses Association assembled and accepted our proposal change to remove religious exemptions and allow only medical exemptions. A three-part series of articles was then written and published in the

ANA-California magazine that include our experiences, future of medical education to include health policy change and the future effect this policy change will have.

Figure 2

Snapshot of Passed Outdated Vaccine Verbiage

Chair O'Sullivan presented the recommendations of the Professional Policy Committee for Dialogue Forum 1: *Removal of Outdated ANA Language to Increasing Access to Vaccination Compliance*. President Grant opened the floor for discussion After discussion, the Membership Assembly considered the following motion.

> ***Motion #27**, The Membership Assembly approves the following recommendations resulting from Dialogue Forum 1: Removal of Outdated ANA Language to Increasing Access to Vaccination Compliance:*
>
> 1. *ANA adopts the revised immunization and vaccine policy statement that includes*
>
>   a. *removal of the religious exemption, and*
>   b. *Require mandated annual medical exemption recertification*
> 2. *ANA, C/SNAs, and IMD:*
>   a. *Advocate for increased funding for social marketing education campaigns, incentives for vaccine-compliant parents, and reimbursements to providers who have high vaccination compliance.*
>   b. *Advocate for the establishment of standardized, state and/or federal immunization database.*
>   c. *Promote use of existing immunization resources, like ANA's Immunization materials and the Centers for Disease Control and Prevention (CDC).*
>
> *(**Carried:** 93.4% in favor; 6.6% opposed)*

Implications for Practice

By limiting vaccination exemptions to medical contraindications only, it will help save lives by improving herd immunity. Increasing vaccination rates will also improve medical reimbursement. Each vaccine given in a medical setting reimburses the provider a set amount depending on insurance and type of vaccine.

Providers caring for unvaccinated patients may likely have to treat patients with measles in the future. The likelihood of this may be higher than anticipated. Possibly permanent hearing loss has a 1:10 chance of effecting a patient with measles, encephalitis

has a 1:1,000 chance of occurring which can be devastating to the patient and family if this cannot be reversed or causes brain damage. The fear of death occurring with contracting measles is much more prevalent than once thought occurring approximately in 1:1,000 patients with measles.

These experiences may result in the provider experiencing negative effects including things such as burn out, emotional fatigue, or even a misdiagnosed patient receiving incorrect treatment due to not commonly seen unvaccinated measles effects later in life.

By moving forward with educating medical professionals how to go about changing and improving health policy, it will be less intimidating, more widely accepted and sought out through educating and guiding future healthcare providers. Training future healthcare workers to be confident and passionate about health policy will result in a proactive approach instead of the reactive state our healthcare system was in during the 2019 measles outbreak.

Conclusion

Three students attended the health policy course as part of our nurse practitioner program. We were not familiar with health policy nor how to go about changing it. Through many hours of hard work, research and discussions, we were able to accomplish something never even considered when our program began. A major change was needed in the vaccination world and we were able to assist in making that change happen due to both a program that supported and pushed us to obtain more than we could have thought of as well as a little luck. Three students traveled to Washington, D.C., presented at the American Nurses Association 2019 conference and had their policy passed into effect. After that presentation and a short celebration, three Nurse Practitioners returned home to

share the experience as well as encourage fellow classmates to seek out health policy change.

Health policy is an integral part of the healthcare system. These policies are what drive decision making and improve care in all medical settings. They are the spine to the body of medicine. Numerous opportunities for students to improve policy is lost due to factors such as minimal knowledge, education and understanding of this process as well as a lack of confidence that this is obtainable. In order to accomplish this, programs must change to include a more in-depth and explanatory health policy course. The students of both today, and the future, must feel comfortable and confident to implement policy change to improve healthcare that will reflect best practices on a global scale.

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