

Mandating Vaccines For The Greater Good

Morgan P. Bryant

Thomas Moore Honors Program, Sacred Heart University

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Dr. Mark Jareb and Dr. Amanda Moras

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Infectious diseases are caused by germs like bacteria, and viruses and are passed from person to person. These types of diseases can be spread through direct contact with someone who is sick, through indirect contact like touching something that has germs on it, through insect or animal bites, or through contaminated food or water. Infectious diseases can cause many problems to the person who is infected but can also be spread causing harm to the public health. People who are infected with these diseases can either show symptoms or not show any, meaning they are asymptomatic and when people don't know they are sick because they don't show any signs, they are more likely to go out and spread their disease to many other people. There are treatments for these diseases but the best way to prevent getting infected is to get vaccinated. Vaccines are among the most effective tools available for preventing infectious diseases, as well as the complications that accompany them.

Vaccines are made from very small, very safe amounts of weakened or killed viruses or bacteria which then allows your immune system to learn to recognize and attack the infection if you are exposed to it later on in life (Kaneshiro, 2018). Your body is able to kill off the disease by developing antibodies which will stay in the body in case you are exposed to the same disease again. Vaccines are used to prevent disease rather than fight or treat the disease once you have caught it. In the last century, vaccination has been the most effective medical intervention to reduce death and morbidity caused by infectious diseases and is believed that vaccines save about 2-3 million lives per year worldwide (Delany & De Gregorio, 2014). The impact of vaccinations on the health of the world's people is so strong that, with the exception of safe water, no other modality, not even antibiotics, has had such a major effect on mortality reduction and population growth (Plotkin et al., 2008). These two quotes show how much of an impact

vaccinations have made on the health of individuals, as well as the public health and how well they fight off infectious diseases.

Vaccines have been around for centuries and have grown to protect people from so many diseases including but not limited to Chickenpox, Influenza, Hepatitis A and B, HPV, Measles, Polio, Whooping Cough and so many more. These types of diseases are called vaccine-preventable diseases because getting the immunization will help prevent you from getting the disease. According to the Centers for Disease Control and Prevention, “Many diseases that used to be common in this country and around the world can now be prevented by vaccination and thanks to a vaccine, one of the most terrible disease in history – smallpox – no longer exists outside the laboratory” (CDC, 2018). This goes to show that due to vaccines, a terrible disease like smallpox that affected hundreds of millions of people is now gone just from a simple shot. Vaccines aren’t only used to protect the vaccinated individual, but also protect others from getting a vaccine-preventable disease because these diseases can be spread so easily. While vaccines have proven how effectively they work, many people still do not believe in them and refuse vaccinations. Some may argue that vaccinating their child is dangerous and could lead to autism, while others refuse due to religious or personal beliefs. Many schools require children to get vaccinated before starting, yet some parents think that this requirement is taking away their rights and they refuse to vaccinate their children. Despite the possible infringement on one’s rights, vaccines should be mandated because they are for the greater good of not only the vaccinated individual but the overall public health.

When babies are born, they have immunity to some diseases because they get antibodies through their mothers whether it is passed along through the placenta or from breastfeeding. While this is helpful, this immunity goes away during the first year of life and then the baby

doesn't have those antibodies anymore, so they aren't protected against diseases unless they get vaccinated. Before vaccines, many babies and children died from diseases that could've been prevented from vaccines and while those germs still exist today, the diseases aren't as common because babies are protected by vaccinations. Without the immunity from their mothers, if an unvaccinated child is exposed to a disease germ, the child's body may not be strong enough to fight the disease (CDC, 2018). This could cause severe problems to the child and could even result in death. In order to avoid this in children, we need to vaccinate them to protect them from diseases. The CDC also states that a vaccine is a safer substitute for a child's first exposure to a disease because the germs in the vaccine aren't as strong as they are in the actual disease (CDC, 2018). When a child gets vaccinated, their body is exposed to the antigen that causes the disease and their immune system produces specific antibodies to fight it. Once their body is exposed to the disease through a vaccine, the antibodies created will stay in their immune system. This is beneficial because if a child, becomes exposed to a disease that they got a vaccine for, their body will be able to fight it off without the child becoming sick. This immunity will stick with them throughout their life and their immune system will continue to reproduce those antibodies to kill off the disease.

While immunizing individual children is beneficial to themselves, it also has a positive impact on the public's health which is a very important reason that many schools mandate vaccinations before the children start. In the United States proof of immunization or exemption documentation is required before children can go to school and studies have shown that making a vaccination a requirement for enrollment in childcare and school can help to increase rates of vaccinations (Omer et al., 2019). By having this requirement in place, more and more parents are vaccinating their children and keeping them, as well as other children, safe. If a child comes in

contact with an infectious disease that they got the vaccine for, they are not going to contract that disease and since they don't contract it, they won't be able to pass it on. This is important because some children might not be able to get vaccinated due to medical reasons, so by being surrounded with children that are vaccinated, they are much safer than if those children weren't. This can only work if children are required vaccines and they receive them, otherwise vaccine-preventable diseases can have a re-outbreak.

Measles is one of the most transmissible viruses known to infect humans, and before there was a vaccine, it infected over 95% of all children and was responsible for over 4 million deaths each year (Mina, 2017). The measles vaccine has been around for decades and has been so effective that measles was eliminated in the United States in 2000, until 2018. During 2018 and 2019, there were over 300,000 measles cases worldwide (Omer et al., 2019). Measles is a highly contagious and infectious disease and can be spread so easily. According to the CDC, the majority of cases were among people who were not vaccinated against measles (CDC, 2020B). If people who weren't vaccinated traveled and got this disease, they become sick and they also can pass it on to many other people. The measles vaccine has proven its effectiveness by eliminating the disease but since people thought it was gone, they stopped getting vaccinated which led to this outbreak. Measles was eliminated in the US, but if people are traveling, they could easily contract this disease as well as many others. Since this re-outbreak, many states, including New York, are making vaccination for measles, and other diseases, a legal requirement so that we can protect ourselves and each other from these infectious diseases (Omer et al., 2019).

Human papillomavirus, or HPV, is the most common sexually transmitted infection and can cause genital warts, oropharyngeal cancer, a variety of genital cancers in men and women, and is the main cause of cervical cancer (Dunne & Park, 2013). While not every HPV infection

causes cancer, it is still better to prevent getting any type of this infection by getting vaccinated. Most people who are sexually active will contract human papillomavirus at some point in their lives, and most of those who get it will not know they have it. According to Dr. Lui, a pediatrician at Rush, “as many as 80 percent of people in the U.S., both men and women, will at some point contract HPV” (Lui, 2014). Their immune systems will fight off this disease, but since they don’t know they have it, they will easily spread it to others who may have adverse complications like genital warts or cancer. HPV infections have the potential to be so severe and since there isn’t a cure for HPV, it could result in serious complications like death. It is very important to vaccinate children before they become sexually active because HPV cannot be treated, it can only be prevented.

Another valid reason for mandating the HPV vaccine is that it will help those who are more susceptible to this disease. Recent studies have revealed that racial disparities in rates of cervical cancer, and cervical cancer mortality, are even larger than previously estimated and black and Hispanic women suffer disproportionately from cervical cancer (Bayefsky, 2018). Many of these disparities are related to an inability to access care in order to get screened for cancer. While there have been countless programs to help minorities get vaccinated, a lot of people in these minority groups don’t know about this vaccine and what it does. They may not have the costs, they may lack the understanding of health, or they might not even have a physician that recommends the vaccine which all contributes to the lack of vaccination. “For mandated vaccines there is no evidence of racial disparity in rates of vaccination and black and Hispanic children receive these vaccines at comparable rates to others, suggesting that mandates would be an effective tool in reducing disparities in vaccination and cervical cancer” (Bayefsky,

2018). This goes to show that mandating vaccines will allow for these minority groups to decrease their rates of cervical cancer and other HPV-associated-diseases.

Since HPV is transmitted sexually, many parents have refused to vaccinate their children because at ages 11 and 12, when the vaccine is recommended, parents believe that it isn't necessary. When the vaccine was first introduced, many people believed that it wasn't up to the government to decide whether or not children should be vaccinated against HPV and that mandating vaccination will infringe on parental autonomy (Bayefsky, 2018). Parental autonomy is a parent's rights to raise their children and to make all the decisions for their children unless it affects their health and/or welfare. Many parents suppose that this vaccine will encourage their kids to become sexually active and/or to start having sex at a younger age. This vaccine has proven how effective it is at not only protecting the vaccinated individual, but also protecting their sexual partners from potentially harmful complications of HPV. The validity of mandating the HPV vaccines, as well as others, doesn't rely only on the interests of the vaccinated individual, but the positive effect it'll have on the public health. By mandating vaccines, people are limiting the spread of diseases, and the state is promoting to common good, allowing it to override parental autonomy (Bayefsky, 2018). While this might seem like an infringement on a parent's rights, this vaccine should be mandated in order for pre-teens to develop antibodies against HPV before they start having any type of sexual activity, in order to protect themselves as well as many others.

An important topic to think about when mandating vaccines is mandating the influenza immunization for health care workers. Influenza is a vaccine-preventable disease that affects about 20% of the U.S. population every year and causes about 250,000 to 500,000 deaths every year worldwide (Steckel, 2007). Many people are against getting the flu vaccine because they

don't want to get sick, but this immunization contains non-infectious, inactivated viruses, therefore it cannot cause the vaccinated individual to get sick. Influenza is a threat to the public health, and even if you aren't high risk, you can still get sick and spread the disease to others who may be at a higher risk. Like other diseases, some people can get the flu but not show any symptoms and if this happens, they will increase the spread which will affect many other people. The vaccination will not only prevent infection in the vaccinated individual but will prevent a larger outbreak from happening, which benefits everyone. Health care workers, no matter where they work, come in contact with up to hundreds of people a day. Some patients may be immunocompromised, some may be healthy, some might be old, and some might be young. If a health care worker that works in the ICU doesn't get their flu shot and then gets the flu, they are putting so many susceptible patients at risk every day. These patients, like many others in hospitals, are already fighting with something else in their body, and their immune systems might not be strong enough to fight off the flu, leading them to many complications including death.

Nurses' primary commitment is to the patient and in order for them to put their patient first and make sure they're healthy, they are obligated to take some risk like getting the flu shot (Olsen, 2006). Health care workers, especially nurses, are there to make sure their patients are safe, and healthy. Your patients are your priority, and it is your job to keep them well. By having hospitals mandate the influenza immunization, they are decreasing the risk of infecting patients by preventing health care workers from getting the flu. The flu shot, unlike other vaccines, is updated every year so it is one vaccine that you have to continuously get. The reason being, is that there are many strains of the flu and they continue to grow, so the vaccine from 2015 won't be as effective as the one from 2020. If a patient is in a hospital seeking care, they need the best

help that they can get. Nurses, like other health care workers, can either work with older patients, cancer patients, new moms, newborns, etc. If a nurse refuses to get a flu shot, she is putting anyone and everyone she comes in contact with at risk for getting the flu and depending on who he or she is working with, can result in severe consequences. By relying solely on health care workers voluntarily getting their flu vaccines, not enough would follow through, therefore making it a mandatory thing would result in better outcomes. “All health and government organizations strongly recommend increasing the vaccination rate among health care workers” (Olsen, 2006). Increasing the vaccination rate will decrease the number of infectious diseases in health care settings and improve the health of the workers and the patients. In order to make this a mandatory vaccine, we have to focus on the ethical principles at hand.

When creating any sort of mandate for a vaccine we must identify those affected by the decision, the ethical principles, and to weigh the benefits. The ethical model set forth by Krantz, Sachs, and Nilstun, focuses on 6 principles: effectiveness, beneficence, necessity, autonomy, justice, and transparency (Olsen, 2006). We must make sure that the vaccines are effective and safe, the benefits must outweigh the risks, and it must target a disease that poses a threat to the public health. While voluntary measures are ethically desirable, compulsory vaccination is essential to prevent specific and serious harm (Olsen, 2006). For diseases that have serious and severe complications and can harm many people, a compulsory vaccination is the best way to protect the public health. The principle of justice is used to protect vulnerable populations. Mandating vaccines is helpful so that people who can't get vaccines due to health issues or are more susceptible to a disease are less likely to get the disease because other's around them will be vaccinated. The last principle, transparency, is set in order to have people respect and follow the mandatory order. People must be educated and there must be known reasoning for making a

vaccine mandatory. Lastly, the benefits must outweigh the risks. With most vaccines, the risks are injection site irritation and some soreness, yet the benefits include increased individual health, reduced infections, and an improvement in the public health (Olsen, 2006). By mandating vaccines, we will benefit ourselves and others because the number of infectious diseases will decrease, as well as the potential complications associated with said diseases.

As it was stated earlier, allowing states to mandate vaccines can infringe on parental autonomy but states weren't always able to override people's rights when it comes to vaccines, until the Supreme Court Case of *Jacobson vs. Massachusetts*. The case involves a man who refused to get a vaccine that was required by law, or compulsory, and the United States Supreme Court decided that states have the right to mandate vaccination because every person is "necessarily subject" for the common good (Colgrove & Bayer, 2011). In other words, the US Supreme Court allowed for states to require vaccines because they are promoting the health of the public. The Supreme Court decided that states have the right to mandate vaccines as long as the vaccination is "for the common good," "necessary for the public health or the public safety," "reasonable" and not "arbitrary or oppressive" (Bayefsky, 2018). The state's main concern should be the greater good of its people and by mandating vaccines that will protect others, they have the right to overrule one's rights. This may seem like it's taking away a person's right because it is forcing them to get vaccinated, but the concept of solidarity asks us to move beyond the simple "utilitarian calculus" that the health of many should trump the autonomy of the individual (Bayefsky, 2018). As individuals, we have obligations to protect ourselves as well as others in our society and by mandating vaccines, we are protecting ourselves from getting infectious diseases, as well as protecting others by limiting the spread.

Even though there is much evidence that vaccines do more help than harm, many people, mainly parents, are “antivax.” Parental autonomy allows for a child’s parent to make decisions for them until they are of appropriate age to make their own decisions, so it is usually the parent’s decision on whether or not they vaccinate their child. When it comes to why parents either refuse or hesitate to vaccinate their children, there are 4 main categories: religious reasons, personal beliefs, safety concerns, and a desire for more information from healthcare providers (Mckee & Bohannon, 2016). As of right now, all states in the United States allow medical exemptions to vaccines which can mean either the patient is immunocompromised or is allergic to the vaccine. This is because if the patient gets the vaccine, the vaccine will cause more harm than good to these individuals therefore allowing them a valid reason to refuse. While it is important to respect parent’s beliefs, by educating them on the benefits of vaccines, they should change their mind. They need to be educated on infectious diseases and how harmful they can be to their children, and also how effective vaccines are. They should be educated also on the side effects of vaccines but know that the benefits of each vaccine outweigh the risks of the side effects or adverse effects. While it is imperative that we respect a parent’s ideas, if the vaccine will help not only their child but the greater good and health of the society, then they should be mandated with the only reasonable exemption being medical reasoning.

Another reason parents refuse to vaccinate their kids, is because of the idea that vaccines, especially MMR, cause autism in children. There have been many books, articles, and stories written about how people believe that vaccines cause autism in children and three specific hypotheses have been proposed: the combination measles-mumps-rubella vaccine causes autism by damaging the intestinal lining, which allows the entrance of encephalopathic proteins; thimerosal, an ethylmercury-containing preservative in some vaccines, is toxic to the central

nervous system; and the simultaneous administration of multiple vaccines overwhelms or weakens the immune system (Gerber & Offit, 2009). The MMR vaccine is usually given first at around 1 year old, and then the second dose at about 4-6 years old or earlier. Andrew Wakefield, a British gastroenterologist, was the first to say that the MMR vaccine causes autism because 8 children started showing symptoms of autism after 1 month of receiving an MMR vaccine (Gerber & Offit, 2009). This paper he published caused many people to not vaccinate their children, yet it has been proven wrong. There have been countless studies done that has proven this theory wrong, and the main finding is that “the chances of developing autism were the same in children who received the MMR vaccine and those who did not; there was no increased risk for autism after MMR vaccination in subgroups of children according to sibling history of autism, autism risk factors, or other childhood vaccinations or during specific periods after vaccination” (*The MMR Vaccine Is Not Associated With Risk for Autism* 2019). Another concern was that thimerosal, an ingredient in vaccines, is toxic to the central nervous system yet the CDC has proven that there is no link between thimerosal-containing vaccines and autism spectrum disorder (CDC, 2020A). While many parents still believe that vaccines have a link to autism spectrum disorders, it was widely proven that neither the components of vaccines (thimerosal) or multiple vaccines (MMR) are associated with the development in autism in children.

As it has been proven, vaccines are the best way to prevent infectious diseases as well as adverse complications associated with them. By administering vaccines, especially starting at a young age, you are allowing the vaccinated individual’s body to become strong and be able to fight off diseases that could cause harm to the individual. Luckily, since the body will be able to recognize and fight off the disease, the individual will stay healthy. While this is beneficial to the vaccinated individual, this is also favorable to the health of the community. Infectious diseases

are easily and widespread and can affect many people in many different ways, but by mandating and getting vaccines, these diseases are less likely to spread because they won't be infecting people any longer. The effectiveness of vaccines has been proven by the elimination of smallpox, and while it is possible to do with many other infectious diseases, it can only happen if people get vaccinated. There are many reasons why parents refuse to vaccinate their children, but the benefits of vaccines outweigh the risks, and are implemented to keep everyone safe. Even though people might believe that mandating vaccines is taking away their rights, vaccines should be required because it was proven that they benefit not only the vaccinated individual, but also the public health.

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