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The Moral Obligation We Have to Our Community to be Vaccinated

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The Moral Obligation We Have to Our Community to be Vaccinated

By Alexandria Shinaut

Abstract

Vaccines have shown to be one of modern medicine’s greatest achievements due to their effectiveness in either greatly limiting or eradicating the spread of many infectious diseases. Vaccines work best to prevent against the spread of disease when the threshold for that vaccine has been met, a phenomenon known as community immunity. This immunity can be met in only one way, through individual immunizations. Knowing these facts, I explain how it is a moral obligation to the community to vaccinate our children and ourselves. My claim for this sense of a moral obligation to our community is supported fully by the logic of a rule utilitarian consequentialist. I will also explain how the logic of Rawls’ principles of justice can lead to the same conclusion, even though Rawls is a known critic of utilitarianism. I hope that the outcome of this paper leads others to believe that vaccinations are an obligation in addition to our desire to increase the well-being of not only ourselves, but also for others.
Introduction

In this paper, I argue that vaccinations are necessary for the health of our communities and that we should vaccinate out of a moral obligation as community members. This argument is based in the logic of a rule utilitarian. The logic of John Rawls’ theory of justice emphasizes and supports the importance of this moral obligation to vaccinate. In light of the arguments, vaccination as a preventative measure to stop the spread of disease should be a desire that we as community members freely embrace without government mandates.

This paper will proceed in six parts. Part I will explain the anti-vaccination movement and reasons for vaccination opposition. I will then include a defense for vaccines. Part II will explain individual and community immunity, and the importance of vaccine effectiveness. Part III will focus primarily on the ethics of vaccinations; I will argue my claims in part III from the perspective of a rule utilitarian by defending the rule to vaccinate, in order to successfully prevent the spread of disease in the form of any outbreak. My point will be argued by using literature from utilitarian authors and scientific research articles that further emphasize the need to vaccinate. Part IV will differentiate between and clarify the exceptions to the moral rule that a utilitarian consequentialist would allow for. In part V, I focus on the logic of John Rawls’ theory of justice to emphasize the importance of this moral obligation to vaccinate. I will describe Rawls’ theory of justice and explain how this theory leads to the same conclusion I came to with the logic of rule utilitarian, that vaccinations are our moral obligation.
Part I:

The Anti-Vaccination Movement and Defense for Vaccines

The development of vaccinations is arguably one of the world’s greatest achievements. Vaccines have been able to conquer serious diseases such as smallpox, polio, and measles. The power a vaccination has to aide in preventing disease should make people feel safe when receiving it. However, there has been the opposite reaction from a group of people. This group of people comprises what is known as the anti-vaccination movement.¹ People in this movement are afraid that vaccinations are harmful, ineffective, and/or overall not worth getting. This movement has caused the return of diseases, such as measles, that were previously eradicated in developed countries such as the United States.²

The anti-vaccination movement is described by David Gorski of the website Science-Based Medicine (SBM) as “an organized subculture which blames modern vaccinations for a wide range of health problems.”³ The movement believes that it is more natural to get the vaccine-preventable disease in order to achieve immunity rather than simply receiving the vaccine⁴. Gorski writes that anti-vaccinators believe that the “natural” way is always a better way of approaching immunity. The anti-vaccinators have two arguments against vaccines: that vaccines are ineffective and that vaccines are dangerous.⁵ Anti-vaccinators think that if there is a potential for a vaccination to cause harm, improvements should be made, and the vaccination should not be administered until proven completely safe. As Gorski has shown, some anti-vaccinators even believe

² Ibid.
⁴ Ibid.
⁵ Ibid.
that the scientific data on vaccines are untrue and altered by the medical field in order to increase a profit. Gorski points out a claim made by anti-vaccinators that there are large amounts of formaldehyde, antifreeze, aborted fetal parts, food, clothing, as well as other frightening ingredients included in vaccines. A common anti-vaccine argument today says that vaccines cause autism according to Gorski’s research. In addition, he says that it is common to hear claims stating that vaccines cause autoimmune diseases, asthma, and weakening of the immune system.

In defense of the anti-vaccinators argument, Gorski thinks that it is fair to say that vaccines are not perfect and not always 100% effective. They can cause side effects that range from mild to severe. However, the logic anti-vaccinators have against vaccines is called the Nirvana fallacy. This fallacy “compares a realistic solution with an idealized one, dismissing or even discounting the realistic solution as a result of comparing to a ‘perfect world’ or impossible standard.” The anti-vaccinators conclude that vaccines are bad because they are not perfect. This group looks at the side effects of vaccines and exaggerates the likelihood of these adversities occurring. While there is room for vaccines to improve, there is ample evidence to prove that they are effective. An example of this evidence is shown by the eradication of smallpox. Modern medicine is a balancing act of risk versus benefit. It is good to ask questions about what you put into your body and what you are putting into your child’s body. While it is important to ask these questions, it is also as equally important to look at the evidence to back up the answers to those questions.

6 Ibid.
7 Bennett, Bo. "Nirvana Fallacy." Logically Fallacious.
8 Gorski, David. What Does “anti-vaccine” Really Mean? « Science-Based Medicine
9 Ibid.
It is reasonable to understand why some anti-vaccinators have concerns about the ingredients of vaccines. Gorski explains that formaldehyde is a naturally occurring byproduct of human metabolism, and the little bit of formaldehyde found in vaccines is overwhelmed by the human byproduct. The claim that aborted fetal parts are found in vaccines comes from research about how vaccines are made. The confusion stems from how the research is performed.\textsuperscript{10} Viruses used to create grown in human cells that are derived from an aborted fetus.\textsuperscript{11}

This type of questioning the effectiveness of vaccines has historical precedent. In 1796, Edward Jenner successfully created the first smallpox vaccine.\textsuperscript{12} He did so by injecting a boy with cowpox. Many people had concerns regarding this action. Some feared that by injecting cowpox into themselves, they would become cows. This fear was proved to be unfounded, not only by science but also by history.

During the 1990’s there was a significant increase in diagnoses of autism. At the same time, there was also a significant increase in the numbers of vaccinations given to young children.\textsuperscript{13} These trends led many people to assume that vaccines caused autism. In 1998, a researcher named Andrew Wakefield studied the measles, mumps, rubella (MMR) vaccine and its relationship to autism.\textsuperscript{14} Wakefield’s findings showed that there was an association between the MMR vaccine, autism, and bowel disease, leading Wakefield to believe that once a child received the MMR vaccine, autistic behavioral changes and bowel disease symptoms would occur. This study sparked the attention of

\textsuperscript{10} While I do not think that objecting to vaccinate because of how the vaccine was perfected for human safety constitutes an ethical reason to not be vaccinated, the morality of how a vaccine is tested for effectiveness is not what I intend to discuss further. Rather, I intend to focus on the proven effectiveness of the vaccine as a premise.
\textsuperscript{11} Gorski, David. What Does “anti-vaccine” Really Mean? Science-Based Medicine
\textsuperscript{12} Riedel, Stefan. "Edward Jenner and the History of Smallpox and Vaccination."
\textsuperscript{13} Novella, Steven. "The Anti-Vaccination Movement." CSI.
\textsuperscript{14} Wikipedia. MMR Vaccine.
the world, causing researchers internationally to begin to test the theory themselves.

Some studies showed that in areas where autism diagnoses increased, MMR vaccinations were not increased, thus disproving Wakefield’s theory. Other studies found no correlation between autism, bowel disease, and MMR vaccinations. Another study showed that when administering the MMR vaccine was decreased, the diagnosis of autism was not decreased.\(^\text{15}\)

Those anti-vaccinators who believe that autism is caused by vaccinations fall victims to the post hoc ergo propter hoc fallacy, which mean “after this, therefore, because of this”. Their flawed logic begins with a diagnosis of autism. The anti-vaccinators, like anyone else, wonder how this child could have developed this disease. The anti-vaccinators then conclude that because the diagnosis occurred after routine vaccines were given to the child, that vaccinations are the cause of autism. Why do the minds of anti-vaccinators stop here? Is it not possible for there to be other external factors that cause autism? Why are internal factors such as genetics not being questioned for the anti-vaccinators? With there being no evidence backed by scientific communities that vaccinations cause autism, would it not be possible for one to use the same (flawed) logic of the anti-vaccinators to make the claim that chemicals and hormones found in non-organic meat products are the sources of autism? Or even that increased rates of global warming are playing a role in the increased rates of autism?

**Part II:**

**Individual and Community Immunity**

Do we owe the action of vaccinating ourselves to others in our community? If a person does not want to vaccinate due to reasons that involve themselves and not because of a spite they have towards the community, why should this person care about increasing community well-being? Isn’t this persons’ well-being just as important as the well-being of a community? What specifically causes us as community members to want to prevent the spread of disease among community members? In this section, I will begin to answer these questions by way of explaining why a failure to vaccinate on an individual level creates potential harm done towards other individuals on a community level. To begin, I must first provide definitions of what is meant by “individual immunity” and “community immunity”.

There are two ways that an individual can develop active immunity to a disease, compared to the passive immunity children get from their mothers during birth. The first way is to come in contact with the agent that causes the disease. The second way is to be vaccinated. Vaccines prepare the body to fight diseases without revealing the symptoms of the disease. Vaccines perform this task by injecting a modified strain of the pathogen into the body. When the modified strain comes into contact with immune cells called lymphocytes, cells produce antibodies whose sole job is to protect against stronger strains that may be exposed to the body in the future.\(^\text{16}\) Vaccinations are an effective way to develop immunity to a disease. Developing immunity this way a much safer alternative, since acquiring a disease’s causative agent has the possibility to lead to disease, permanent damage, or even death.

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Vaccinations not only provide immunity to individuals, but they also provide protection to communities from infectious disease outbreaks.\(^\text{17}\) Depending on the vaccine, individual immunity can provide long-term and even lifelong protection against a disease for an individual person. Community immunity is, in a sense, a result of increased individual immunity because in order for community immunity to be successful, a certain percentage of individual immunity must be met.\(^\text{18}\) Community immunity benefits not only those who are unable to receive vaccinations but also those who are not fully immunized. When community members do not become vaccinated, they put others around them at risk for developing diseases. Those who are unable to be vaccinated due to age, pregnancy, chronic disease, and immunodeficiency disorders are simply a few that are placed at risk for developing vaccine-preventable diseases as a result of their community not vaccinating.\(^\text{19}\) With that being said, I believe that it is easy for one to agree with the statement that vaccinations work best when most members of a community are vaccinated.

To answer my first question on why we owe the action of vaccinating to others in the community, we must first understand vaccines as more than an issue of personal morality and benefit. Rather, we must understand them as an issue of morality in which an increase of the community’s well-being is the result. The phenomenon of community immunity explains this need for a moral framework that takes into consideration that vaccinations increase community well-being. Community immunity is dependent on individual immunity. Without individual immunity, vaccine preventable diseases have the potential to spread occur within a community. For example, when an individual is

\(^\text{17}\) "Why Vaccinate?" History of Vaccines RSS.  
\(^\text{18}\) Willingham, Emily, and Laura Helft. "What Is Herd Immunity?" PBS.  
\(^\text{19}\) "Community Immunity ("Herd Immunity")." Vaccines.gov.
deciding if it is to her benefit to be vaccinated, this individual must recognize that if she chooses to vaccinate against a particular disease she is not only increasing her own well-being but she is also increasing her entire community’s well-being. This individual would also realize that when others individuals choose to vaccinate they are increasing her well-being as well as their own.

Vaccinations can prevent outbreaks of disease. Preventing the outbreak of a disease has been shown to save lives and increase the quality of life. Studies show that when vaccination rates fall below a certain percentage, disease begins to occur in the form of an outbreak. A threshold percent is the percentage of a community that needs to be immunized in order to prevent a disease outbreak. For example, diseases such as influenza that have a lower infectious rate will have a lower threshold percentage than a disease such as measles, which has a higher infectious rate, and thus a high threshold percentage. To give some perspective, influenza, a less contagious disease, had a 6.1% threshold during November of 2015, meaning that at this time only 6.1% of a community needed to receive the flu vaccine to prevent a flu outbreak. Measles, a more contagious disease, always has an 83-94% threshold meaning that 83-94% of a community needs to receive this vaccine to prevent a measles outbreak. When the threshold is not met, those who are not vaccinated are at risk of developing the disease.

To answer my next question of why individuals ought to care about increasing community well-being, I will describe an example where two parents had chosen not to have their child vaccinated which resulted in an outbreak within a community. In January

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20 Willingham, Emily, and Laura Helft. "What Is Herd Immunity?"
22 Influenza surveillance reports are constantly changing depending on the time of year and the strength of the disease, making it difficult to identify what the general threshold percentage for influenza is.
23 Willingham, Emily, and Laura Helft. "What Is Herd Immunity?"
2008, there was a measles outbreak in San Diego, California that began with an
unvaccinated boy who traveled to Switzerland with his family. He returned home with a
fever and a sore throat and received laboratory tests. Ten days later these laboratory tests
returned showing positive results for measles. The boy encountered unvaccinated
children at school as well as the doctor’s office. As a result, nine other unvaccinated
children contracted measles.²⁴ Had the boy been vaccinated, he likely would not have
gotten measles and ultimately would have not passed this disease onto others who were at
risk. Had the children at school and the doctors’ office been vaccinated, they would have
had a very unlikely chance of contracting measles from this boy. However, if the children
at school and the doctors’ office fell under the category of those who were not able to
receive vaccines, then even more of an emphasis is placed on those who are able to
vaccinate to do so to prevent outbreaks such as this one. It is reasonable to assume that it
was not the family’s intention, when deciding not to vaccinate their child, to cause an
outbreak. Nevertheless, this example shows the importance for a community to meet the
recommended threshold percentage as well as the importance of caring for community
immunity on an individual level.

According to the CDC, “In the prevaccine era, 3 to 4 million measles cases occurred
every year, resulting in approximately 450 deaths, 28,000 hospitalizations, and 1,000
children with chronic disabilities from measles encephalitis.”²⁵ We are currently in the
vaccine era. As a result, the number of reported cases of measles has dropped to fewer
than 100 cases per year. This decrease in reported cases is not only true for measles, but
also many other diseases that are vaccine preventable. Facts like this prove the

²⁴ “Outbreak of Measles.” Centers for Disease Control and Prevention.
²⁵ Ibid.
importance of why individuals within a community should aim to work together to meet threshold percentage in order to benefit the community’s immunity. Assuming that health is, generally speaking, a desirable outcome, these facts help to answer my final question of why community members should want to continue to prevent the spread of disease amongst their community.

It is essential to my paper to make the reader aware that vaccines are not 100% effective. Even after being vaccinated, an individual is still at a risk for becoming infected with the disease\(^{26}\). However, a vaccinated individual has a lesser chance of allowing a disease to infect the body compared to an unvaccinated individual who has a higher chance of allowing disease to infect the body. For example, if only 82% of a community instead of the required threshold of 83-94% is vaccinated, then that community is at risk for a measles outbreak. Since 18% of the population of the community either choose not to be or were not able to be vaccinated, one may assume that the individuals, who choose to not get vaccinated even though they are capable to, are aware that they are putting themselves at risk for contracting measles. This is not the complete story, though, because although this 18% has put themselves at risk, they have also put the 82% of the of the community that is vaccinated, at risk for contracting the disease. This problem of falling below the threshold percentage goes beyond dealing with a person’s own well-being but rather raises an issue of moral obligation to other community members.

**Part III:**

Our Moral Responsibility to Vaccinate from the Logic of a Rule Consequentialist

In this section of my paper, I want to establish a moral obligation to keep not only ourselves but also our communities’ disease free. As explained previously, vaccinations cannot reach their full potential unless threshold percentage for community immunity has been met. Those who are not able to vaccinate rely on community immunity to be met in order to be protected against disease. Community immunity is an important factor that must be met in order to increase the number of diseases that have been eradicated or controlled. I will be arguing the points on the importance of individual and community immunity using the logic of a rule consequentialist. After defining consequentialism and utilitarianism, and distinguishing between act and rule consequentialism, I will explain why I believe that our community must turn to rule consequentialism when making decisions about vaccinations. To conclude this section, I will argue why community members ought to vaccinate.

Consequentialist moral reasoning argues that the morality of an act depends on the consequence the act produces.\(^{27}\) Consequentialists aim for morality by spreading happiness and preventing suffering. Our primary moral obligation lies in producing the right kind of consequences.

An example of consequentialism is utilitarianism. Jeremy Bentham, the founder of utilitarianism, said, “Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do.”\(^{28}\) The goal of any ethical theory is to tell us our duties. Balancing pleasure and pain in an

attempt to find satisfaction in our desire, our ethical duty lies in a decision that produces the best outcome for individuals and communities. When choosing between maximizing pleasure and minimizing pain, we are ultimately distinguishing between the right and wrong action. The right action brings the most net total pleasure and any wrong action fails to optimize pleasure and utility. The principle of utilitarianism according the John Stuart Mill says that, “actions are right in proportion as they tend to promote happiness; wrong as they tend to produce the reverse of happiness. By happiness is intended pleasure and the absence of pain; by unhappiness, pain and the privation of pleasure.”\textsuperscript{29} According to Mill, the world’s good is made up of the good of the individuals that constitute it.\textsuperscript{30}

For utilitarianism, acts that are morally right when they maximize the happiness of the community\textsuperscript{31}. Happiness, as defined by Jeremy Bentham, is that which has pleasure and that which lacks pain.\textsuperscript{32} It is important to note that when Bentham is referenced in regards to pleasure, he is not referring to pleasure only in a physical sense. Physical pleasure can be an outcome of the pleasure brought about as a result of the right action, but it is not the primary goal of utilitarian thinkers such as Bentham and Mill. For example, physical pain could serve as a pleasure in the case of an intense workout where one feels pain in the form of soreness. This pain would be seen as pleasurable for gym enthusiasts because it is a sign of muscle growth. There is happiness in this pain. Happiness includes all types of pleasure in regards to well-being. This clarification is

\textsuperscript{29} Heydt, Colin. "John Stuart Mill." Internet Encyclopedia of Philosophy. 
\textsuperscript{30} Ibid. 
\textsuperscript{32} Ibid.
important and necessary to make given the topic of my paper revolves around the health
status of individuals’ bodies. Vaccinations can cause pain that later results in pleasure.
Take, for instance, the pain which comes from the needle entering an individual’s body,
and the pleasure which comes in the form of immunity. A vaccine can result in happiness
and good health for those who receive them and those within their community.

For utilitarian thinkers, the process used to work out which action to perform that will
yield the most pleasure and happiness is called the Hedonic or the Utilitarian Calculus.
The calculus is designed to help organize the users’ thoughts, by rating the value of
pleasure or pain an action could bring, and to keep them directed towards the goal of
happiness. This process works when discussing the morality of a choice one can make
that will directly affect his or her community, children, and self. In the calculus, the value
of pleasure and pain is measured by its intensity, duration, certainty, propinquity,
fecundity, purity, and if multiple people are to be affected by the decision, it is also
measured by its extent.

Consider, for example, deciding whether to tell a lie or not. Lying in most cases is
considered to be morally wrong. But how can a person know if lying will always produce
a morally wrong outcome? For example, consider a person who has been badly injured in
a car crash and is in critical condition at a local hospital. When her family arrives the
doctor tells them that it is not likely that she will survive. However, there is a small
chance that she will survive. The injured person does not know of her condition. Is the
family obligated to tell the truth to their loved one? Or would it be more beneficial for the
injured person to remain hopeful that she will recover and spend her last bit of time

33 "The Hedonistic Calculus." The Hedonistic Calculus.
happy and hopeful? The family has to make a decision about which action will yield the most happiness for all included in the situation by using the calculus. How intense is the pleasure or the pain of keeping the truth from or telling the truth to the family member? How long will the pleasure or pain of keeping the truth from or telling the truth to the family member be? What is the probability that pleasure or pain will occur by keeping the truth from or telling the truth to the family member? How far off in the future is the pleasure or pain of keeping the truth from or telling the truth to the family member? What is the probability that the pain will lead to other pains by keeping the truth from or telling the truth to the family member? How many persons are affected by the pleasure of keeping the truth from or telling the truth to the family member? Will keeping the truth from the family member themselves pleasure and will the injured family member experience pleasure or pain from keeping the truth from the family member? Questions like these are necessary for the family to ask themselves before making the choice that will lead to happiness and moral rightness.

There are two different types of utilitarians: the act utilitarians and the rule utilitarians. Act utilitarians believe utility is maximized by evaluating the consequences of each individual action. Practically, act utilitarians rely on rules of thumb rather than strict rules that one must obey in every situation. For example, if a person A were hiking a mountain and came across person B who was hanging off of a cliff and yelling for help, person A would not have time to think about whether he should or should not save person B. Person A would rely on a rule of thumb about helping others and help pull person B up from the cliff. However, if person A had been aware of a serial killer on the loose in that area and person A were to recognize person B as the serial killer, if person A had
time to reason out the situation, person A might conclude that more utility and happiness would be produced by leaving the serial killer to die. Most likely person A would act on instinct and save person B. While trusting general moral rules is permissible for act utilitarians, according to J.J.C. Smart, it is fundamentally the evaluation of each individual action that is morally relevant for the act utilitarian.\(^{34}\)

An act utilitarian would consider the example from earlier—about whether or not to lie to a family member about how she does not have a good chance of surviving from a car crash—by referring to the calculus and answering its questions. Although as a rule of thumb lying is not considered morally right, an act utilitarian would choose to lie if the lie would to produce overall happiness and relieve unhappiness. The decision to lie in this particular case does not mean for an act utilitarian that lying to the best moral choice in future cases. If lying were to increase suffering and unhappiness, it is then an immoral action which should not be taken.

Alternatively, rule consequentialists decide “what rules are good reasons for acting in a certain way in particular cases.”\(^{35}\) This logic differs from an act utilitarian’s inasmuch as rule utilitarians use the utilitarian calculus to establish and follow permanent rules rather than choosing from general rules of thumb for each situation. Rule utilitarians build these rules to maximize utility if followed in all like situations. An example of rule consequentialist thinking could be about sanctity of marriage. A husband and wife might consider divorce if they were very unhappy and not in love with the other anymore. The couple knows that they both would be much happier if they were not married, and the


\(^{35}\) Ibid.
longer they stay married the unhappier they will become. However, at the couple’s wedding they both committed to the traditional wedding vow “till death do us part”. This vow is a promise and if the couple were to break the promise and get a divorce then they will weaken the significance of a marriage vow. The more prevalent divorce becomes, the less holy this promise will appear in the eyes of younger generations who have not made the commitment yet. When a promise is broken, future couples who are unhappy might conclude to end the marriage sooner because they do not view marriage to be as strong of a commitment as past generations did when divorce was less prevalent. In this example, applying the utilitarian calculus is necessary in the decision making process to produce the result of overall happiness. Although it may seem it is more rational and beneficial for the happiness of the couple if they get a divorce, it is more important in rule consequentialism to honor the promise of marriage vows and to promote the social utility of marriage in the eyes of their offspring. Because establishing rules for all to live by is the only way to consistently produce overall happiness, it is this structured thinking that leads to increased utility and increased morality with a community.

A rule utilitarian would look to the previous example about whether or not to lie to a family member about how they do not have a good chance of surviving from a car crash, by referring to the calculus and answering its questions just as the act utilitarian did. However, a rule utilitarian would reach a different conclusion. If the family members choose to lie, they would be making the statement that lying in this situation meant that it is okay to lie in future situations. Rule utilitarians would not agree with this. They would conclude that telling the truth is the best rule to follow because even though there might
be pain in telling the injured family member that she will probably not survive, there is, in total, more utility produced when truth-telling is an established a rule in society.

Following rules provides certainty within a community as well as establishes utility for a community. If we follow a rule, we are doing so because others in our community are following the same rules. Although a rule utilitarian may not reach maximum happiness in every situation by following a rule, utility within a community is increased by individuals following rules. Following a rule provides a sense of security within a community. Take for example, stopping at a red light. At a four-way intersection, stopping at a red light and proceeding on green lights is a rule that establishes utility within a community. Community members follow the rule to stop and go depending on the color of the traffic light because others in the community follow the same rule.

The logic of a rule utilitarian consequentialist is the right view to have for the topic of why it is a moral obligation to one’s community, children, and self to vaccinate. Although individual immunity may in some cases not produce happiness, overall happiness is achieved within a community because a rule is followed. Individuals must refer to the calculus to reach the desired outcome. Threshold percentage of a disease prevents disease outbreaks from occurring. Community immunity can only be reached when threshold percentage of a disease is reached. In order to reach these levels of immunity, a certain amount of vaccinations on an individual level must be required. To reach community immunity, rules within a community must be established and acted out by the individuals within the community.

For rule utilitarians, following the rule to vaccinate is considered the best moral decision because it provides certainty within a community. This level of certainty within
A community increases the well-being of a community. A desired goal of a vaccine is happiness and overall good health for one’s self and their community. Here, the best decision to be made to reach this result is for one to vaccinate because of the strong positive social impact from this choice.\footnote{Ibid.} Pain and pleasure are the sole motives behind all human actions and I believe that pleasure will come from vaccinating and pain will result from not vaccinating.

The choice to vaccinate is considered morally right, by rule utilitarians, because its consequence creates the best outcome for the community as well as establishes a precedent for individuals to refer back to. When a precedent has been set regarding public health matters, people in a community often find comfort in knowing that the majority of people are abiding by the same rules. Take, for example, hand washing. It is common knowledge that washing your hands with warm water and soap prevents the spread of germs and diseases within a community. Is it correct for a community member who washes their hands to assume that others within the community are washing their hands as well? Is it correct for community members to wash their hands because they are assuming that others will follow the same rule? A rule utilitarian would answer yes to this question because utility is increased by all members of a community following the same rule maximizes utility. The same logic can be applied to the topic of this paper. It is correct for community members to vaccinate when they are assuming that others in their community are vaccinating as well. When discussing the choice that produces well-being and happiness for the largest number, it is necessary for a community to take on this ethical rule to determine which choice creates the most beneficial outcome. So this choice is the moral obligation to each member of the community.
Choosing a rule that results in one not vaccinating is morally wrong because although the certainty of the rule still applied, maximal pleasure is not achieved. Most pleasure within the community is reached when there is an absence in disease. If an individual were to conclude that a vaccine does not achieve overall happiness, he would decrease utility within a community by not vaccinating. The consequence from not vaccinating does not constitute a benefit to the community, but rather only to the individual. It is a fulfillment of their desire that only has their individual self interest in mind and not the interest of the community. This logic does not coincide with community immunity mentality. As explained previously, when individual immunity is not met, community immunity and disease threshold is not met which results in a disease outbreak.

The logic of an act utilitarian does not always support the rule to vaccinate because of his sense of moral obligation to one’s community, children, and self. An act utilitarian’s logic would require every single person’s individual needs to be assessed by using the calculus for each circumstance before they decide to vaccinate. If act utilitarianism says that one should be exempt from vaccinating because he or she is worried that vaccines are ineffective as well as dangerous, like most anti-vaccinators do, he or she might not be obligated to vaccinate because, depending on other factors, more overall pleasure would come from not vaccinating. As stated previously, the utilitarian calculus would conclude that the best decision for the situation would be that which provides the most utility.

An act utilitarian would say that a good act is one that increases utility in a community. If individuals correctly perform the calculus and make decisions based on what brings the most happiness, community utility will be increased because everyone

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will make decisions that help to improve themselves. For example, determining if utility with come from being given the measles vaccine. An act utilitarian would want to increase utility within a community by promoting the decision that promotes a decrease of measles. An act utilitarian would also want to promote the use of the measles vaccine when it would increase utility for an individual to be vaccinated against measles. If the threshold percentage of measles is 83%, an act utilitarian would conclude that in order to increase utility within a community, a minimum of 83% of a community would need to vaccinate against measles. If 17% of a population says that vaccinating against measles will decrease their utility, an act utilitarian would conclude that the action to not vaccinate increases utility. However, if an extra 1% of the population says that their overall utility will be decreased by vaccinating against measles, an act utilitarian would conclude that utility within a community would decrease. Dropping below disease threshold would put the community at risk of a measles outbreak to occur. By others not vaccinating, the utility of some others may be violated. The problem with this decision is the inconsistency of act utilitarian logic. It is not beneficial for a community to follow such an inconsistent theory. The logic of an act utilitarian does not meet the needs required for community health to increase.

A consequentialist would conclude that the decision to vaccinate to prevent against diseases like smallpox, measles, and polio is a required moral act. They would conclude this because vaccinations maximize good consequences. A utilitarian would make the decision to vaccinate because if a standard of right action is being met, the action is morally sound.\textsuperscript{38} The principle of a rule utilitarian may be considered by some to be

imperfect, however the action of this type of ethic leads to optimal results.\(^{39}\) Because this ethic can sometimes be imperfect, it is necessary for those acting in this way to review whether the principle of utility is satisfying the consequence of the action.\(^{40}\) For example, if one is trying to decide whether to have her child vaccinated or not, she must refer back to the rule pertaining to vaccinations and perform the utilitarian calculus. If there is no rule established for a particular situation, a rule consequentialist would determine a rule to follow based on which outcome would lead to the most optimal result if followed in every similar situation. To continue with my example, a rule consequentialist would look at the consequences of vaccinating. One result of the decision to vaccinate is that the child might suffer from the negative side effects from the vaccines. Another result is that the child will benefit from the positive effects from the vaccine. Let us say the child is to receive the Human Papillomavirus (HPV) vaccine. Some negative side effects of HPV could be: pain, redness, and swelling at injection site, fever, headaches, nausea, abdominal pain, and dizzy or light-headedness. More severe side effects could also include allergic reactions\(^{41}\) that have a very small chance of leading to death.\(^{42}\) The positive side effects of the HPV vaccine is that the recipient will be protected against cervical cancer, oropharyngeal cancer,\(^{43}\) and genital warts. Receiving the vaccine would also help prevent the spread of this pathogen. Is the possibility of temporary pain, swelling, and fever worth it if an individual has the ability to prevent against cancer? Is the small possibility of having an allergic reaction worth it to protect your child and your

\[^{39}\text{Ibid.}\]
\[^{40}\text{Ibid.}\]
\[^{41}\text{However, there are ways to anticipate if one will have an allergic reaction prior to receiving the vaccine.}\]
\[^{42}\text{"Vaccines: VPD-VAC/HPV." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention.}\]
\[^{43}\text{Cancer forms in the cells of the tissue of the throat, base of tongue, tonsils, soft palate, and walls of pharynx}\]
community against a cancer causing disease? These are questions necessary for an individual to consider while going through the utilitarian calculus before establishing and acting out the rule to vaccinate.

A rule utilitarian would conclude that it is his duty to vaccinate even if there is a chance of developing the mentioned temporary side effects because more in the community are going to benefit from the decision to vaccinate in the long term and establishing a rule that will increase the well-being of individuals is how communities reach overall happiness. Although an act utilitarian might come to same conclusion, this conclusion might not be reached as consistently as it would be using rule utilitarian logic. Not all who follow the rule to vaccinate will achieve immediate personal happiness. Some will develop the negative side effects of the vaccine. Unfortunately, the temporary suffering of others will increase the pleasure of good health for the community.

Therefore, it is necessary for individuals to continue to receive vaccines even if in the past they have experience the negative side effects. The individuals who suffer from the negative side affects will, however, in the long-term, optimize utility for all in preventing the spread of disease to others and to themselves.

**Part IV:**

**Amendments to the Rule**

I believe that there are some who can not vaccinate and who do so for valid reasons. I refer to those with allergies to ingredients in vaccines, those with immunodeficiency disorders, those who are pregnant, and those who are of certain ages. In this section, I will explain how these limitations present in the lives of these people are valid reasons not to vaccinate and in accordance to the rule of rule utilitarian consequentialists. Then, I
will explain that those who fall under this category are not considered to be immoral in the eyes of their community members. Next, I will give examples of exceptions that have been used in the past to not be vaccinated. Finally, I will explain why some of those attempted excuses do not follow the logic of a rule utilitarian and are ultimately to be considered immoral acts.

As stated earlier, those who I believe should be exempt from the rule set by the logic of rule utilitarianism to be morally obliged for vaccinating are infants, pregnant women, those with immunodeficiency disorders, and those who have allergies to ingredients in vaccinations. When the consequence of a vaccination is not able to increase individual and community well-being because it leads to a negative outcome, the moral responsibility of the decision to vaccinate becomes pointless, unnecessary, and potentially harmful. A rule utilitarian would agree that because a vaccine’s main goal is to develop immunity to a disease so in the future when the body is presented with a stronger form of the disease it is able to fight off the harmful side effects, it would be counterproductive to require all persons to receive vaccines regardless of whether or not the vaccine became harmful to the recipient. A rule utilitarian consequentialist can write such amendments to the rule of vaccinating. Rule utilitarians can do so as long as the amendments do not cause disease threshold to fall below the required percentage.

In addition to those who are not physically capable of receiving vaccines, I also believe that children who are under the age of medical care consent qualify as being excused from this rule. Laws have been set in place to determine at what age an individual must attend school for, may obtain a driver’s license, work, drink legally, smoke tobacco legally, and give consent to medical care. Before the age of 14-17
depending on the state the child is a resident of, “children are considered to be legally incapable of consenting to their own medical care”\textsuperscript{44} In such cases, it is the child’s legal guardian who is given the power to consent to what medical care a child receives. However, there are exceptions to the rule. If a child under the age of medical consent is married, pregnant, a parent, or emancipated they are then legally capable of consenting to their medical care. In situations where a child is under the age of 14-17 depending on the laws of where the child lives, a rule utilitarian would conclude that when the child’s guardian does not consent to the child to be vaccinated then they are responsible for the immoral decision. The legal guardians are the ones who are responsible for depriving the community of the consequence that would create the greatest good. This reasoning is also why a rule utilitarian would not think that the burden of this immoral act to one’s community is not the child’s fault.

Pregnant women, those with immunodeficiency disorders, and those with allergies to ingredients in vaccination should not feel like they are letting their community down by not vaccinating themselves. A rule utilitarian would say that they are not obligated to vaccinate because they are not medically capable of receiving vaccinations. For example, a pregnant woman cannot receive the Rubella vaccination because it can cause birth defects. As stated previously, the main purpose of vaccinations is to support healthy living and prevent disease. When vaccinations are not doing so in individuals the vaccine no longer has a purpose of preventing individual immunity and becomes pointless for vaccinations to be administered. This is only the case for these types of people. When vaccines do not promote individual immunity, community immunity cannot thrive.

\textsuperscript{44} Age of Legal Medical Consent.” The Free Dictionary.
These people who qualify for the exemption are dependent on community immunity to be met in order to maintain a disease-free society. Community immunity is dependent on the moral reasoning of a rule utilitarian consequentialist in order to be successful. The welfare of our community members ought to be a major concern for the individuals in a community. We owe it to our community to keep them as disease free as we ourselves can provide to them. Not all of us in a community have been pregnant, are allergic to vaccinations, or have an immunodeficiency disorder that caused us to rely on others to vaccinate. But, we all were once newborn babies whose immune system was not stable enough to handle vaccinations until a certain point. We then left the hospital and entered a disease filled world. Hopefully, we did not catch any preventable diseases while waiting for our immune system to grow stronger. If we did not catch a disease, we know that our community did its role in protecting human welfare and increasing community immunity. Knowing that our community increased its immunity should amplify our obligation to do the same via vaccinations. We should want to provide the same safety for future generations that past generations provided for us. If we do fall susceptible to disease because of a lack of community immunity, it should amplify our obligation to vaccinate just as much as the previous example. We should not want future generations of communities to fall ill and possibly die because of a grudge we are holding against our community.

There are those who do not qualify to be exempt from this rule, for example those who do not believe they should receive vaccinations for religious purposes. A religious exemption does not promote any type of public health like medical exemptions do. Because of the lack of health associated with religious exemptions, we cannot write such
exceptions into the rule for the same reasons we did in the medical cases. If religious exemptions are to be allowed at all, they would have to be admitted on other grounds. I do not believe there are other grounds. Medical exceptions like pregnancy, immunodeficiency disorders, allergies to vaccine ingredients, and age can all provide an increase in health within a community, while religious exemptions do not result in an increase in health. I will go into further explanation on this subject in the following section.

**Part V:**

**Our Moral Responsibility to Vaccinate from the Logic of Rawls’ Principles of Justice as Fairness**

I want to now argue that we have a moral obligation to vaccinate from the logic of John Rawls’ theory of justice. I will begin by describing the principles of justice according to Rawls. Next, I want to critique the theory provided by rule utilitarian consequentialism through Rawls’ theory of justice. This critique will provide an opposing opinion of the rule utilitarian theory saying that rule utilitarianism is not the only correct ethical theory to follow. Finally, I will explain how Rawls’ theory leads to the same conclusion I came to with from the logic of rule utilitarian consequentialism: that being vaccinated is our moral obligation.

John Rawls developed a thought experiment he refers to as the original position. The point of this experiment is to validate a set of principles of social justice for whomever is participating in the experiment. Rawls asks, “What principles of social justice would be chosen by parties thoroughly knowledgeable about human affairs in

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general but wholly deprived—by the “veil of ignorance”—of information about the particular person or persons they represent?" The veil of ignorance is significant to this experiment because it allows for the participants to remain equal with all other participants. For example, the veil blocks the participants’ knowledge of enjoying extra assets, having talents, or what their social and historical background is while participating in the experiment. The participants do not know who they will be in this hypothetical world. Rawls concludes that because of this ignorance, participants will want to maximize the minimum level of well-being in their society in order to ensure the highest of all possible lowest standards. These rules are needed to ensure that the best choice is concluded. Although this thought experiment is purely hypothetical, it sets up the moral position presumed necessary for the concluding choice to be fair.

The first principle of justice as fairness guarantees to all “an equal claim to a fully adequate scheme of equal basic rights and liberties, which scheme is compatible with the same scheme for all.” The second principle of justice as fairness must satisfy two conditions: the requirement of “fair equality of opportunity” as well as the greatest benefit provided to the least advantaged person. For example, an application of the first principle of justice would be freedom of speech. All persons should be allowed to express their opinions and thoughts without censorship. This right is not determined by their socioeconomic class, political affiliations, gender, age, etc. An application of the second principle of justice would be distributing food stamps to low-income houses. These families are worst off because they do not make minimum wage, but by providing them with food stamps, they are being compensated for being worst off.

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46 Ibid.
47 Ibid.
48 Ibid.
Would rational participants that are shielded by the veil of ignorance choose utilitarian principles or Rawls’ principles? One could say that the participants would easily choose utilitarianism if they lacked the information to maximize their expectation of well-being. The utilitarian calculus is designed to help the participant determine the greatest good for the greatest number of people. Rawls’ problem with utilitarianism is where the root of the theory’s motivation for justice comes from. Rawls critiques this moral reasoning saying that utilitarianism “does not take seriously the distinction between persons". Rawls thinks that there should be no sacrifice imposed on one individual for the benefit of others unless the individual who suffers the burden is compensated for the pain he or she endures.

The principles of justice differ from utilitarianism in two ways. One is that while utilitarianism aims to maximize the greatest good for the greatest number of people, the principles of justice aim to maximize a person’s minimum gain. The second is that the principles of justice aim to improve rights.

Relating Rawls’ principles to the question of whether or not we have an obligation to vaccinate, it would seem as if, according to the first principle, persons have a right to choose if they want to receive the vaccination or not. This statement seemingly affirms their basic rights and liberties as citizens. The right to this decision is equal to all. It is the choice of the individual to decide if vaccinations are something he would like to receive. Many anti-vaccinators believe that what the do to their body is a basic right that they possess. This statement is completely true in the abstract. However, Rawls’ first principle of justice guarantees “an equal claim to a fully adequate scheme of equal basic

rights and liberties, *which scheme is compatible with the same scheme for all.*” Is a right to reject vaccination compatible with other’s rights? If person A believes that it is her basic right to vaccinate and person B believes that it is his basic right to not vaccinate, conflict occurs. If person B does not get vaccinated and develops a disease that is spread to person A, then one could argue that person A’s basic rights to life and liberty have been violated. The phenomenon of community immunity calls into question whether the right to refuse vaccination is truly compatible with the basic rights and liberties of all.

I want to now look at why using religion as a reason to be exempted from vaccinating is not sufficient for increasing fairness within a community. I am not attempting to disagree with religious doctrines reasoning for why vaccines should not be used. However, I am saying that using a religious belief to object to vaccination does not promote fairness within a community. When it comes to the issue of vaccinations, I believe we can agree that the first principle of justice protects religious liberty, but not to the point that religious liberty becomes a threat to others. Equality is not produced when basic rights are infringed upon and equal opportunity is not provided. As explained in a previous example, having beliefs towards particular subjects and acting upon those beliefs are a basic right. However, when acting upon that belief decreases health and safety within a community, that action should not be taken in order to safeguard fairness within a community.

Rawls says, “[i]n justice as fairness, men agree to share one another’s fate.”50 This quote is referring to what is known as the difference principle explained in the second principle. All persons have different abilities that can be used to help benefit others around them. In Rawls’ moral framework, those with abilities should demonstrate them

50 Ibid.
when appropriate. Regarding vaccines, if one person has the ability to vaccinate and her neighbor does not, she should contribute her ability to her neighbor who is less advantaged by vaccinating. By doing so, she has provided her neighbor with an equal opportunity to being disease free. Her ability to vaccinate and her choice to vaccinate is necessary because her neighbor’s fate is also her own fate.

“‘What terms of cooperation would free and equal citizens agree to under fair conditions?’” 51 I believe that citizens would agree that all persons should vaccinate if it is an ability that they possess. If they do not possess the physical ability to vaccinate, they must benefit from those who are able to vaccinate. If a person is able to vaccinate but later suffers a difficulty from the act, then that person should be compensated for their disadvantage. For example, I would assume that a person participating in Rawls thought experiment would say that it is fair that all who are physically capable of receiving a vaccine ought to, but if they develop a negative side effect from the vaccine they should be compensated by those around them. This example identifies a fair condition that citizens would agree to. It is a fair condition because all citizens who receive a vaccine will know that they are using their ability to vaccinate to help benefit those who cannot vaccinate. They will also know that if a negative side effect should arise, they can count on other citizens to use their abilities to benefit the citizen suffering.

**Conclusion**

Vaccines, in my opinion, are the greatest accomplishment of modern medicine. Although there are some anti-vaccination groups who do not agree with the effectiveness of vaccines, vaccines are powerful and essential to increased community health and well-

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51 Ibid.
being. The logic that anti-vaccinators use does not support the claim that they should be exempt from receiving vaccinations. Their claims have been proven to be illogical. Vaccines work best to prevent against the spread of disease when the threshold for that vaccine has been met. Community immunity can only be met when a community’s individual immunity rates are high enough to limit the spread of vaccine preventable disease(s).

Knowing that anti-vaccinator’s logic is invalid and knowing how vaccines are most effective and beneficial, I established a sense of moral obligation that we have as community members to do our part to increase disease prevention. This sense of obligation stems from the logic of rule utilitarian consequentialists. I proved this theory to be logical for this topic based on how this theory aims to maximize utility of a community as well as to establish a rules or guideline for all to follow when becoming vaccinated or not. There are some who are excused from the obligation to vaccinate themselves and this list is limited to; those under the age of medical consent, pregnant women, those with allergies to ingredients, and those with immunodeficiency disorders. This list of amendments to the rule must not grow, otherwise community immunity cannot be met.

Rule utilitarianism is the best logic to use in the case of vaccinations. This logic produces an increase in community health. This increase can be measured by the spread of disease in the form of outbreaks. When community members follow the rule established by rule utilitarianism, disease outbreaks decrease within communities. Act utilitarianism does not produce the same outcome. The logic of act utilitarianisms does not always produce an increase in public health within a community.
Rawls principles of justice, like rule utilitarianism, lead us to choose to vaccinate in order to improve community well being and produce utility. By guaranteeing equal basic rights and liberties and fair equality of opportunity, Rawls’ logic points towards using vaccinations as an important preventative measure to increase utility within a community.

I believe that critics of my topic will agree with my defense for vaccines from philosophical theories I have used in my paper. By using two differing theories to produce the same outcome I believe I have established a sense of moral obligation that community members have to each other to vaccinate.

One last topic I want to discuss is that of vaccinations, as a preventative measure, to stop the spread of disease among our community members is a desire that we should freely want to take on without the force of a mandate from the government. I am not attempting to discuss a political question nor am I attempting to create or suggest a new mandate for vaccinations. I am, however, attempting to explain why we ought to desire to vaccinate while also showing how vaccine mandates are not necessary in a world where people all desire to vaccinate.

One might ask “Shoul dn’t we all have the desire to do the right thing?” Although this question may seem rhetorical, it is still a necessary topic to discuss. If we are only vaccinating because we are legally obligated to, are we considered to be doing what is right for the sake of our community’s health? Or are we considered to be doing the right thing for our community by obeying the law? I believe the second is correct because when a person only intends is to make a decision based on a legal obligation he is holding his legal obligation as more important than his community’s health and well-being. The first cannot be correct because vaccinating to fulfill a legal obligation takes away our
individual desire to do the right thing for our community’s health. We are not doing the right thing for the right reason in this example. If it were not a legal obligation to receive certain vaccinations to attend a school or a job, would those who in the past only vaccinated to satisfy their legal obligation choose to vaccinate in the future? One could assume that they most likely would not make this decision. We lack our individual desire to vaccinate when we solely to do to obey a law. Shouldn’t our decision to vaccinate stem from the desire that we have to prevent the spread of disease? I believe that being vaccinated ought to be our desire for pleasure and for human wellbeing. Only vaccinating because of legal mandates does not make one a morally responsible person to his community. It is necessary that we use the logic of rule utilitarian to establish a moral rule for vaccinations. I find it important to note that when I say “rule” I am not referring to a law or a legal mandate. I am referring to a rule as a way to act out our civil duties. A moral rule to vaccinate as a preventative measure is simply a guideline for us to act out our civil duties to our community, our children, and ourselves in a morally responsible way. We should then take this moral rule and make it our personal desire. A desire that should not in any way stem from the legal mandate that is currently in place to increase the number of people vaccinated.

For example, in the early 19th century, the state of Massachusetts provided the board of health authority to require vaccinations “when necessary for public health or safety.”52 The board of health was given this authority after smallpox mortality rates began to rise. In 1902, when a local smallpox outbreak occurred, the Massachusetts board of health

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issued a mandatory smallpox vaccination for all healthy adults. Those who failed to comply were penalized a fine. One man by the name of Henning Jacobson choose to not receive this vaccine, claiming he had a bad reaction from vaccines in the past. When Jacobson was charged with the penalty he appealed his case to the Supreme Court claiming that this law had violated his 14th amendment right to personal liberty. The Supreme Court agreed with the Massachusetts’ decision to grant the board of health authority over the matter because during the 19th century the Supreme Court confirmed that states have the power within their borders to pass laws that promote “health, peace, morals, education, and good order of the people.” The conclusion of this case left the country with many questions. Some of those questions were; did the state overstep its authority by legally requiring its citizens to be vaccinated? Was the safety of the public justified by this particular restriction? Was this restriction enforced by reasonable regulations?

I believe that the safety of the public did justify this action from the Massachusetts Board of Health. I also believe that the enforced action had reasonable regulations. However, I think that the state did overstep its authority to require its citizens to be vaccinated. The government was projecting its own desire onto its people in the form of a legal mandate. Regardless of whether or not the result from this action produced a positive outcome, I do not believe that the government should force its people to act in favor of the government's desires. While it is good for the government to have this desire, it should be the desire of the people to vaccinate.

53 Ibid.
54 Ibid.
It should be our desire to follow the moral rule to vaccinate because we as a community should aim to stay as healthy as we can for others and ourselves. Generally, when we are healthy we are also happy. A major principle of utilitarianism is that the consequence of an action promotes happiness.\textsuperscript{55} Here, happiness is being used as a broad term\textsuperscript{56} describing one’s entire medical history, not a current, short lasting emotion of happiness. However, happiness should not be the only consequence of the action to vaccinate that promotes us to act in this way. The importance of the morality of vaccinations is what should drive our desire.

Although consequentialist logic is not concerned with the intention of a person’s action, I believe that this section is still valid for the topic of this paper. Vaccinating the right choice because it is the choice that produces the most overall happiness. Therefore, as community members we should vaccinate our children and ourselves out of a moral obligation and desire that we have to our community member.

\textsuperscript{56} Ibid.
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