
Philosophy [course]

December 12, 2014

Mandating Childhood Vaccination

In 2010 the editors of *The Lancet* retracted the 1998 paper submitted by Andrew Wakefield *et al.*, which claimed to find a link between the measles, mumps, and rubella (MMR) vaccine and autism, citing that many aspects of the study were incorrect¹. Despite numerous publications that state there is likely no link between vaccines and autism, a recent survey conducted by the National Consumers League found that almost a third of all participants agreed that vaccines can cause autism and that, of those aware of Wakefield's paper, only 45% knew the findings had been discredited². This misinformation has, in part, led to the anti-vaccination (anti-vaxx) movement that is contributing to resurgence in vaccine preventable diseases (VPD) in developed nations. According to the CDC, in 2012 the number of reported cases of pertussis (for which we have a vaccine) was the highest it had been since 1955, with the major incidence rate and death occurring in infants³. The CDC also reported the United States is realizing the highest number of measles cases, another VPD, since the documentation of measles elimination in the US during 2000⁴. These alarming statistics call for measures to ameliorate the resurgence of these diseases and their subsequent impact on families and healthcare systems alike.

Here I will argue that all children, barring the severely immunocompromised and those with confirmed vaccine-related allergies, should be required to receive vaccinations for all vaccine-preventable childhood diseases. Appealing to consequentialist theory, I will argue that mandatory vaccination will serve, at least, to prevent decrease in overall happiness by reducing preventable death of young children. I will assume that if mandatory vaccination is a policy that prevents a decrease in overall happiness then it [the policy]

ought to be implemented. I will also address the harm principle, defined briefly as the right to practice autonomy insofar as no harm results to others, in light of the repercussions of unvaccinated individuals on herd immunity. Finally, I will acknowledge the appeal to autonomy presented by those who argue against mandating childhood vaccinations and show that inconsistencies in abilities to offer truly informed consent weaken this argument.

To begin I will suppose, as John Stuart Mill writes, “[Actions] are right in proportion as they tend to promote happiness, wrong as they tend to produce that reverse of happiness. By “happiness” is intended pleasure, and the absence of pain; by “unhappiness,” pain and the privation of pleasure⁵.” In this vein, I argue that if mandatory vaccination is a policy that prevents a decrease in overall happiness then it [the policy] is a right action that ought to be implemented. Assuming that lack of action (i.e. failure to vaccinate a child) is action in and of itself, the preventable death of children and infants, as a result of infection from a VPD, would appear to be wrong insofar as it is an action that “produces the reverse of happiness” or, at least, causes a decrease in happiness. Mandatory vaccination would mitigate the number of deaths caused by VPD, thereby preventing the decrease in happiness caused by VPD mortalities. So long as mandatory vaccination is a policy that can be implemented, where it is conceivably possible to mandate the policy by law, it follows that, as the vaccination policy prevents a decrease in overall happiness, then it ought to be implemented.

I additionally contend that failure to vaccinate a child violates the harm principle due to subsequent effects regarding the elimination of herd immunity. Herd immunity is a phenomenon by which an individual can be protected from a disease when other individuals in the population gain immunity, either by vaccination or through recovery

from infection. Two implications of this phenomenon are that the probability of contracting a disease is lower if the individual's contacts have been vaccinated and that vaccination of the entire population is not necessary to eradicate a particular disease. There are frequently misconceptions regarding these conclusions, which I will address as they pertain to my future argument. Anti-vaxxers may argue that it is unnecessary to vaccinate their children because they will be protected by herd immunity. While in theory this might be true, there are several practical features that significantly diminish the strength of this argument.

The extent of vaccination required to achieve herd immunity is based on " R_0 ," an intrinsic property of the infectious agent defined as the number of individuals that become infected from one infected individual in a susceptible population. For early childhood diseases, such as measles, this value is quite high. This means that a very high percentage of the population must be vaccinated to achieve herd immunity. Furthermore, those that are immunocompromised or allergic to vaccine components subtract from the population that can be unvaccinated to still achieve herd immunity. If the population of vaccinated individuals drops below this threshold, say through the anti-vaxx movement, then individuals that *must* rely on herd immunity (immunocompromised and those allergic to vaccines) lose protection and are susceptible to disease. To be clear, I am not arguing that former is an eventuality, merely a possibility that ought be considered given the seriousness of the repercussions.

For the sake of this argument I assume that we are not to violate the harm principle, defined here as the right to practice autonomy insofar as no harm results to others. Consequently, parents may choose not to vaccinate their children so long as no harm to

others comes as a result of their decision. If failure to vaccinate children leads to the elimination of herd immunity and if elimination of herd immunity results in harm to immunocompromised individuals, then harm may come to others as a result from failure to vaccinate. As previously discussed, unvaccinated children can decrease the percent of protected individuals to fall below the threshold required to achieve herd immunity (i.e. the elimination of herd immunity). It is possible that this elimination could result in infection and potentially death of immunodeficient individuals, where they were formerly protected by herd immunity. I acknowledge the argument that requiring vaccination for the sake of protection of others is not consistent with rights associated with autonomy and will address this in full later.

Assuming the above scenarios, I conclude that harm comes to others as a result of a parent's decision not to vaccinate their child. Given that we are not to violate the harm principle, I further conclude that parents cannot choose to not vaccinate their children. This notion is consistent with my previous claim that mandatory vaccination is a policy that ought to be implemented as it prevents a decrease in overall happiness.

Why would parents choose not to vaccinate their children? As discussed in Dubé *et al.*⁶, there are several historical, political and socio-cultural factors that contribute to the anti-vaccination movement. Some of the contributing factors are past experiences, religious and moral convictions, and resources available. I will not address any of these contributors further here. Instead, I would like to focus on how parent perception of the importance and risk of vaccinations, which is heavily influenced by controversies regarding vaccine safety presented on traditional, Internet, and social media platforms, affects their decision not to vaccinate. This perception is also influenced by increased patient involvement in health

decisions, where questioning the relevance of vaccines is a consequence of active participation of the patient (or in this case a guardian acting on behalf of the child) in decisions concerning their health. I will address these influences on the perception of vaccine importance and risk in the context of the counterargument I alluded to earlier, which is that mandatory vaccination is inconsistent with rights associated with autonomy.

I will begin with the influence of increased involvement of patients in health decisions. It would seem that mandatory vaccination is a very paternalistic policy in that it diminishes the autonomy of patients (rather the guardians of patients) to be involved in decisions regarding their health. It could be argued that this violation of autonomy would, in fact, serve to diminish happiness for a subset of individuals. I would not disagree with any of these assertions. However, I do not think that they provide reason to reject my conclusion that mandatory childhood vaccination is a policy that we ought to implement. It seems there are regulations that arguably mitigate the rights of autonomous agents for the common good. For example, it is illegal to drink and drive. It can be argued that mandating how much an individual can drink, and what they can or cannot do while drinking, impinges upon their right to act as an autonomous agent. However, driving under the influence of alcohol causes more accidents, which detracts from the common good. Similarly, I cannot elect not to pay taxes. If I do not support the government to which I am paying the taxes, but am required to do so, it would seem that this action is a violation of my autonomy. However, it is argued that that money is distributed in such a way that allows society to function, promoting the common good. An individual may, with good reason, argue mandatory vaccination diminishes autonomy, but it does not follow that for this reason we cannot implement such a policy.

Those who argue that mandatory vaccination is inconsistent with rights associated with autonomy assume that parents, acting on behalf of their children, may offer a type of informed consent to refuse vaccination. As defined in *Bioethics: Principles, Issues, and Cases*, informed consent “refers to the action of an autonomous, informed person agreeing to submit to medical treatment or experimentation⁷.” Furthermore, Faden and Beauchamp argue that, in one sense of the term, informed consent exists when a patient has, “(1) substantial understanding and (2) in substantial absence of control by others (3) intentionally (4) authorize(d) a professional (to do intervention I)⁸.” Informed refusal is when conditions 1-3 are satisfied but the patient instead refuses the intervention. It seems then that it can be argued that parents, exercising their right to autonomy (on behalf of their child) may offer informed refusal, and that refusing to respect this refusal is a violation of their autonomy.

I argue that inconsistencies in ability to offer informed refusal, in that conditions 1 and 2 may not be satisfied in Faden and Beauchamp’s framework for informed consent, weaken this argument. As discussed earlier, Dubé *et al.* concluded that parent perception of the importance and risk of vaccinations is heavily influenced by the media. The media, focusing on vaccine controversy, may serve to facilitate unwarranted skepticism regarding the safety and efficacy of vaccines or, at least, may not provide a balanced portrayal of the opinions among the scientific community. If parent perception is strongly influenced by the media, and if the media does not do an adequate job of informing the public of the benefits and risks associated with vaccines, as I have argued they haven’t, then it is unlikely that parents can have the substantial understanding necessary to offer informed refusal. Likewise, it seems as though the influence that the media has on parent perception of

vaccines could be considered a form of control, especially if it is the only source available to some individuals to inform their decision. If this is true, parents' ability to offer informed refusal may also be diminished by this control.

Here I have argued that a policy ought to be implemented that requires all children, with exception of immunodeficient individuals, receive vaccinations for all VPD. I reached this conclusion by appealing to consequentialist theory, claiming that as mandatory vaccination will mitigate death from VPD and prevent a decrease in overall happiness it is a policy that ought to be implemented. I also discussed how failure to vaccinate children could conceivably result in loss of herd immunity, which may result in infection and death of immunocompromised individuals that *must* rely on herd immunity for protection. I then applied the harm principle and concluded that, in accordance with the scenario I presented, a parent's decision not to vaccinate their children would cause harm to these immunodeficient individuals, therefore parents cannot refuse to have their child vaccinated. Finally I discussed the reasons why parents choose not to vaccinate their children and addressed the influences of parent perceptions regarding the benefits and risks of vaccines in the context of the counterargument that mandatory vaccination is inconsistent with rights associated with autonomy.

Emerging epidemics of VPD present challenges for health care workers and society at large. Although I have argued here that mandatory vaccination would be a potential solution to this problem, I both acknowledge and agree that this course of action is decidedly paternalistic in nature. It is my hope that continued development of medical technologies and epidemiological investigations may offer different solutions to this problem.

Works Cited

- 1). The Editors of The Lancet. "Retraction-Illeal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive development disorder in children." *The Lancet*. 2010. Web.
- 2). NCL Vaccine Study November 21, 2013 © Harris Interac7ve
- 3). Pertussis Outbreak Trends." *Centers for Disease Control and Prevention*. 27 Aug. 2014. Web.
- 4). "Measles Cases and Outbreaks." *Centers for Disease Control and Prevention*. 04 Nov. 2014. Web.
- 5). John Stuart Mill, "What Utilitarianism Is," in *Utilitarianism*, 7th ed. (London: Longmans, Green, and Co., 1879).
- 6). Dubé *et al.* "Vaccine hesitancy." *Hum. Vaccin. Immunother.* 2013. Web.
- 7). Vaughn, Lewis. *Bioethics: Principles, Issues, and Cases*. New York: Oxford UP, 2010. Print.
- 8). Faden, R. Beauchamp, T. *A History and Theory of Informed Consent*. 1986: 276-86.