Individual Rights vs. Public Health: The Vaccination Debate
by Mahesh Vidula

A pediatrician enters Examination Room B, ready for a routine check-up with a two-month-old infant. He greets the mother, and begins to discuss the next step in infant care: receiving the required vaccinations. As he starts to ask the mother to schedule an appointment with the receptionist, she interrupts, "Sorry, doctor. My child will not be immunized."

The Centers for Disease Control (CDC) defines vaccination as the injection of weak disease-causing agents that help the body develop immunity against specific infectious diseases (CDC, How Vaccines Prevent Disease 2009). Scientists hope that "through vaccination, children develop immunity without suffering from the actual diseases that vaccines prevent" (CDC, How Vaccines Prevent Diseases 2009). States often require that children receive vaccinations against particularly dangerous diseases, such as polio, varicella (chicken pox), diphtheria/tetanus/pertussis (DTP), Haemophilus influenza B (Hib), and measles/mumps/rubella (MMR) (Goodman 2007: 266). In the U.S., unvaccinated children may suffer severe consequences, such as being prevented from attending schools, camps, sports, and other organized group activities (Park 2008). While proponents of mandatory vaccinations believe that these procedures are absolutely necessary for maintaining public health, opponents argue that compulsory immunizations infringe on the rights of individuals to control their own bodies and the bodies of their minor children.

The controversy surrounding compulsory vaccinations in the United States is not new. In 1809, Massachusetts passed a law that "granted city boards of health the authority to require vaccination 'when necessary for public health or safety'" (Mariner 2005: 582). When the state required all residents to receive a smallpox vaccine in 1902, 46-year-old Henning Jacobson declined the vaccine, claiming that he had suffered "bad reactions to earlier vaccines" (Mariner 2005: 582). Due to his refusal of the vaccine, he was fined five dollars by the state. After an unsuccessful challenge to the fine in the Massachusetts State Supreme Judicial Court, he appealed in 1905 to the United States Supreme Court in the famous case, Jacobson v. Massachusetts (Mariner 2005: 582). Despite Jacobson's argument that compulsory immunization violated his Fourteenth Amendment right to personal liberty, the Supreme Court ruled against him (Jacobson v. Massachusetts, Oyez Project). According to the 1905 Supreme Court ruling, the state had the right to mandate the smallpox vaccine since "[t]he safety and the health of the people of Massachusetts are for that Commonwealth to guard and protect" (Jacobson v. Massachusetts, LSU Law Center).

Similar to the Supreme Court decision in Jacobson v. Massachusetts, contemporary advocates for mandatory vaccinations contend that immunizations are necessary to maintain public health. For one, vaccinations have effectively curbed the spread of several deadly infectious diseases in the United States and around the world. For instance, before the development of the poliomyelitis vaccine by Jonas Salk in the 1950s, "13,000 to 20,000 cases of paralytic polio were reported each year" (CDC 2007). Poliomyelitis is a highly contagious and dangerous viral infection; children under five are most commonly affected.
Since the polio virus affects the nervous system, some children who contract the disease become paralyzed and may even lose breathing ability (WHO: Poliomyelitis). In the early to mid 20th century, some children with polio had to use an iron lung, a machine to pump air into their lungs, to breathe (Figure 1). In the 1930s, these devices often cost as much as a home (National Museum of American History, The Iron Lung). However, by 1964, the widespread use of the polio vaccine essentially eradicated the disease in America (Figure 2) (Health and Human Services). As described by science journalist Alan Dove, "The benefit to the United States alone for [the polio vaccine] runs into the trillions of dollars. The social impact has been incalculable. The crutches, wheelchairs, and iron lungs of polio victims have at last been banished from children's and parents' nightmares" (PICO).

Other dangerous infectious diseases virtually eliminated in America by vaccinations include diphtheria and pertussis. Both diphtheria and pertussis can cause severe breathing complications in children (CDC Diphtheria). Over 206,000 people were reported to have diphtheria in 1921, and there were 150,000-260,000 cases of pertussis per year (CDC 2007). Following the distribution of vaccines for these diseases, the number of reported disease events fell dramatically, and scientists believe that the immunizations directly lowered the incidence of disease (CDC 2007). For instance, recent studies report that there are currently 97.56% fewer pertussis cases in the United States, than would be expected without mass immunization, due to compulsory vaccination programs (Health and Human Services). Moreover, as the CDC argues, "[those] same germs exist today, but babies are now protected by vaccines, [and so] we do not see these diseases as often" (CDC, How Vaccines Prevent Disease 2009). For these reasons, supporters of mandatory vaccinations argue that immunizations in the United States have been very effective. After noting the large impact of vaccinations on American public health, philanthropists such as Bill and Melinda Gates have begun funding vaccine research and distribution to improve the quality of health in third world countries (Gates Foundation).

In addition, advocates of compulsory vaccinations believe that through immunization, a person not only avoids contracting the disease himself, but also prevents spreading the illness to others (Why Immunize 2009). According to a study by Salmon et al. from 1985 to 1992 in the United States, the incidence of measles increased by 35 times in children without the vaccination (Omer et al. 2009:1983). Additional studies showed that unvaccinated children had a higher risk for developing mumps and pertussis as well (Omer et al. 2009:1983). While aiming to identify the reasons for lower rates of disease in some communities, researchers found that "[school] immunization laws have had a remarkable impact on vaccine-preventable diseases in the United States" (Orenstein and Hinman 1999:S19).

Although proponents believe that vaccines are important in ensuring personal safety, they also support the necessity of immunizations for preserving the health of the community. In an interview with USA Today, Dr. Lance Rodewald, Director of the CDC Immunization Services Division, suggested that receiving vaccinations is a social responsibility, since an unvaccinated sick person can infect many more people (Leblanc 2007). As Dr. Rodewald stated, "When you choose not to get a vaccine, you're not just making a choice for yourself, you're making a choice for the person sitting next to you" (Leblanc 2007). Moreover, several studies indicate that disease incidence rises in communities "when there is geographic aggregation of persons refusing vaccination" (Omer et al. 2009:1983). For example, in a 1987 measles outbreak at a Colorado school, unvaccinated children infected 11% of vaccinated students (Feikin et al.
Supporters also encourage healthy children to receive vaccinations, to protect other children unable to be vaccinated due to health conditions or young age (Omer et al. 2009: 1984). Some children may fail to respond to vaccines due to weak immune systems, and therefore rely on "other parents to keep germs out of circulation by vaccinating their kids" (Szabo 2010). As a result, supporters of compulsory immunizations believe that parents of healthy children have a moral responsibility to have their offspring vaccinated (Szabo 2010).

According to mandatory immunization advocates, vaccines also prevent disease outbreaks for future generations. For example, the CDC argues that if vaccinations ceased, "[diseases] that are almost unknown would stage a comeback [and before] long we would see epidemics of diseases that are nearly under control today" (CDC, Why Immunize 2009). In August 2008, The New York Times reported 131 cases of measles from January 2008 to July 2008 in the United States; the majority of infected patients had not received the measles (MMR) vaccination (Harris 2008). Besides gathering data on infectious disease incidence, the CDC has also projected the number of cases of certain diseases expected if vaccinations were discontinued. For instance, the CDC predicted that if people did not receive the MMR vaccination, 2.7 million individuals around the world would die of measles every year (CDC 2003).

Moreover, advocates argue that compulsory vaccinations may eradicate diseases for future generations. Drawing from the success of the smallpox vaccine, which eliminated the smallpox virus and made it unnecessary for future generations to receive the vaccine, the CDC contends that other diseases may similarly be eradicated if immunizations continue. The CDC states, "If we keep vaccinating now, parents in the future may be able to trust that diseases like polio and meningitis won't infect, cripple, or kill children" (Why Immunize 2003). Due to the significant global health benefits of immunization, public health officials such as immunologist Anthony Fauci argue that any small risks associated with vaccinations are "acceptable" (Frontline, The Vaccine War). In the 2010 public television documentary, Frontline: The Vaccine War, Fauci addresses the risks of vaccination:

What is the risk of injecting something into someone's arm? The risk is that a certain proportion of people will get swelling and a little bit of pain, lasting from an hour to a day. That is a very acceptable risk. A very, very, very small percentage of people will get an allergic reaction... And then there's a subset of a very, very, very, very small percentage of those who actually can get a serious reaction. But if you look at that, the risk of that is so minisculely small as to be completely outweighed by the benefit.

Overall, immunization supporters believe that compulsory vaccinations are justified, since they protect the public health in the present and future, and tend to have acceptable risks.

Although proponents tout the efficacy and need of vaccinations in the United States and other countries, opponents argue against compulsory immunization for a variety of reasons including harmful side effects, individual liberty, and religious freedom. Compared to all the other reasons for avoiding immunization, "the most frequent reason for nonvaccination, stated by 69% of the parents, was a concern that the vaccine might cause harm" (Omer et al. 2009:1985). It is widely known that vaccines have possible side
effects, which are published by the CDC. For instance, a reaction to the varicella vaccine can range from a rash to severe infection (CDC 2010). Freed et al. found in 2010 that despite reassurances from the CDC and FDA that vaccines "undergo a rigorous review of laboratory and clinical data to ensure the safety, efficacy, purity and potency" (FDA 2009), some parents continue to believe that vaccinations have strong potential to hurt their children (Freed et al. 2010: 654). Although no strong scientific evidence exists to support these claims, some people also fear that vaccinations may predispose children to Type 1 diabetes (Levitsky 2004:1382).

The most prevalent concern among some contemporary American parents is whether vaccinations will result in autism (Freed et al. 2010:657). The fear that vaccinations cause autism in some children gained prominence in 1998 when British researcher Dr. Andrew Wakefield published an article in The Lancet that suggested a link between autism and the MMR vaccine (Harrell 2010). Moreover, research groups found that several vaccines contained thimerosal, a mercury compound to preserve vaccines (Park 2008). Since at high exposures, mercury may "cause neurologic damage, the presence of organic mercury in several common vaccines. aroused particular concern" (Levitsky 2004:1381). For instance, the National Autism Association urged the CDC to remove thimerosal from vaccines, and suggested that it contributed to the rise in autism cases since "at the same time that the incidence of autism was growing, the number of childhood vaccines containing thimerosal was growing" (National Autism Association). Although The Lancet later retracted Wakefield’s article due to his unethical scientific method, and several later studies showed no link between autism and the MMR vaccine or thimerosal (Harrell 2010), a study by Freed et al. in 2010 reported that "[more than] 1 in 5 [parents], continue to believe that some vaccines cause autism in otherwise healthy children" (2010:657). In his Time article, journalist Karl Taro Greenfield suggests that parents may continue to believe that autism is caused by vaccinations due to their distrust in scientific research and reliance on their emotions (2010). When a prominent anti-vaccination activist was asked about the lack of scientific proof linking vaccinations to autism, she replied, "My science is [my son]. He’s at home. That’s my science" (Greenfield 2010).

However, some parents opposing vaccinations do have faith in science, but believe that the research is misguided or incomplete. In Frontline:The Vaccine War, parents express their frustration towards research groups that claim that autism is not linked to the MMR vaccine or thimerosal. They believe that some psychological transformation occurred in their children after receiving the vaccine, and yearn for a scientific understanding of why their children suffered. As one parent expressed, "My kid got six vaccines in one day, and he regressed. You don’t have any science that can show me the regression wasn’t triggered by the six vaccines....We need to ask the question as to why the regression took place" (Frontline:The Vaccine War). In their view, epidemiological studies do not prove the safety of vaccines. Instead, these parents encourage scientists to investigate the physiological effects of receiving the vaccine load. In the documentary, one parent declared, "You have to do bench science. You have to look at the human body and what occurs in terms of changes in immune function, brain function. You can’t just do epidemiology where you’re comparing groups of children against each other" (Frontline:The Vaccine War). Therefore, before completely dismissing the possibility that vaccines can lead to negative side effects, some parents ask for more thorough scientific studies that analyze other vaccines, ingredients, and other risk factors that may predispose a child to a vaccine reaction (Frontline:The Vaccine War).
Parents may also distrust the integrity of a state mandate, which can lead to their opposition to a particular vaccination. Gardasil, a vaccine created by Merck, prevents cervical cancer by targeting the human papillomavirus (HPV) (Savage 2007: 666). In 2007, Republican Governor of Texas Rick Perry mandated that all girls entering sixth grade must be vaccinated with Gardasil (Peterson 2/2/2007). In his plan, uninsured girls between ages nine and eighteen would receive free vaccinations, and Medicaid would cover women between 19 and 21 (Peterson 2/2/2007). However, due to the incensed debate that followed this decision, and the state’s overall rejection of this idea, Perry’s order was vetoed and revoked on April 25, 2007 (Blumenthal, 4/26/07).

A major source of opposition to the mandatory HPV vaccination resulted from the link between the Texas government and Merck, which drew suspicion around the motivation for the executive order. According to internal documents, Merck donated $5,000 to Rick Perry and another $5,000 to eight lawmakers on the same day the chief of staff held a meeting to discuss whether to mandate the HPV vaccine (Peterson 2/21/07). Merck had also previously made a $6,000 donation to the governor’s reelection campaign (Peterson 2/2/07). Therefore, the financial connection between the Texas government and Merck gave some Texans the idea that the vaccination mandate was not in the interest of safeguarding women’s health, but rather for improving Merck’s financial situation (Figure 3).

Furthermore, some people may follow certain religions that oppose vaccination mandates. People seeking religious exemption from vaccinations argue that "the free-exercise clause of the First Amendment mandates state accommodation for members of religious groups who object to the vaccinations on religious grounds" (First Amendment Center). For instance, Christian Scientists prefer spiritual healing to Western medicine, and therefore do not completely support vaccinations (DeLacy Lecture). The founder of Christian Science, Mary Baker Eddy, wrote in 1896, "A calm, Christian state of mind is a better preventive of contagion than a drug, or than any other possible sanative method; and the 'perfect Love' that 'casteth out fear' is a sure defense" (Eddy, "Contagion"). Therefore, rather than relying on medications or vaccinations, Christian Scientists prefer "watching [their thoughts], guarding against influences that would pull [them] down, and daily taking time for silent, sacred moments alone with God" (DeLacy Lecture) while fighting diseases. Since vaccinations are against their religious beliefs, Christian Scientists often file for religious exemptions from compulsory immunizations.

However, this refusal of vaccinations has had negative repercussions for some Christian Scientists. In 1989, 15 Christian Scientists in Boston were infected with measles, after a "worshiper carrying the virus attended Sunday school services at the Christian Science campus" (Smith 2006). In 2006, a Boston Christian Scientist also contracted measles (Smith 2006). In both cases, to control the spread of measles, the Massachusetts Department of Public Health asked the infected Christian Scientists to remain isolated from the public, and to refrain from interacting with uninfected people (Smith 2006). In an interview with The Boston Globe, Boston's Chief Medical Officer Dr. Alfred DeMaria commented that Christian Scientists tend to comply with quarantines, since "[they] see it as the other side of the coin for not being vaccinated" (Smith 2006).

Additionally, some opponents of compulsory vaccinations cite "herd immunity" as a reason to avoid immunizations. The concept of "herd immunity" is that if many people are vaccinated in a community,
those not vaccinated will still enjoy protection since "the disease has little opportunity for an outbreak" (CDC Glossary). With regard to childhood vaccinations, some parents believe that "if everyone else is protected, then so is [their] child. So why take even the minute risk of any vaccine side effect" (Calandrillo 2004: 361). Therefore, it is clear that some opponents of mandatory vaccinations believe that they can "take advantage of the benefit created by the participation of others in the vaccination program while refusing to participate and share equitably in the risks and obligations of the program" (Diekema 2009:92). However, proponents often argue that herd immunity is falling due to the increasing numbers of people failing to receive vaccinations (Calandrillo 2004:361).

Finally, opponents of compulsory immunizations do not believe it is their social responsibility to protect the public health, and they instead value their individual and family rights. After understanding the possible severe effects of vaccinations on their children, some parents refuse to take the risks associated with immunization. In their view, protecting the lives of their children holds greater importance than maintaining the health of the community. For example, a suburban Chicago mother, who declined vaccinations for her two daughters, asserts:

I don't care about maintaining herd immunity, or protecting the health of the other sick children in the neighborhood. It's not about them, it's about my children. Who will protect my children if they develop some disability after receiving the vaccinations?...The only person who can protect them is me, and I am doing that by making sure they don't get any problems from vaccinations....I can make this choice for my children (Personal interview 3/25/10).

Similarly, other anti-vaccination parents believe that it is unreasonable to expect parents to risk their children's lives for the sake of public health (Frontline: The Vaccine War). In The Vaccine Wars, one parent states, "Physicians have to get over the idea that they can tell people what to do and people are going to do it without questioning." The fuel for this belief may be that parents desire to be the decision makers for their children, instead of having the government impose rules. If they succumb to the government's every request, even those that could potentially harm their children's health, some parents believe that they may slowly lose control over their children. As the suburban Chicago mother emphasizes, "What right does the government have over my children? I gave birth to them; no one else did. I have the right to choose what's best for them... Soon, the government may ask me to talk to my kids in a certain way or feed them only some foods. These are my children, and I make the choices" (Personal interview, 3/25/10).

The controversy surrounding compulsory vaccinations involves a wide variety of individuals, with different personal beliefs. Proponents of mandatory vaccinations focus on disease statistics, which demonstrate the need of immunizations in maintaining public health. However, opponents argue against these measures since they value their own personal liberty and children's safety over public health, and they strive to protect their offspring by avoiding required vaccinations. From these two different perspectives, one primarily appealing to facts and the other largely to emotions, it is important to recognize the larger issue at hand. The debate regarding mandatory immunizations reflects the underlying conflict of individual rights versus the public good. Proponents of compulsory vaccinations may believe...
that improving and maintaining public health holds greater importance than preserving a person's individual right to control his body. On the other hand, opponents may fear a growing lack of control over their bodies and the bodies of their minor children. They may reasonably imagine a future society, where people no longer have the right to decide how they wish to treat their bodies. As the compulsory immunization controversy continues, pediatricians should no longer assume parental consensus that children will automatically receive vaccinations.

**Works Cited**


