

EXEMPTIONS TO VACCINE MANDATES: THE PROBLEM AND POSSIBLE REMEDIES

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Vaccines have been one of the most beneficial methods of protecting against diseases and vaccine mandates secure those benefits to both individuals and the general public. Thus, to stop the increasing percentage of people claiming exemptions from state-mandated vaccines, the federal and state governments should consider new measures that would heavily discourage people from seeking such exemptions.

I. A BRIEF HISTORY OF VACCINES & VACCINE MANDATES

Before venturing into current ideas and law concerning vaccinations, a brief history of vaccines is needed. This history will provide some orientation regarding the development of vaccines and both scientific and public responses to these developments.

The first true vaccine, developed by Edward Jenner in 1796, was the smallpox vaccination.¹ After vaccinating a group of twenty-four people, Jenner discovered that his vaccination gave its recipients immunity to smallpox.² Once people accepted the idea of vaccination, it was introduced in England and on the European continent where it caused a drastic decrease in the smallpox mortality rate.³ As early as 1807, Bavaria⁴ required mandatory vaccination, and other European countries soon followed suit.⁵ Not far behind Europe, in 1855, Massachusetts was the first state to require vaccination as a condition of allowing children to attend public schools.⁶

Anti-vaccination sentiment is not a recent phenomenon—rather, it developed as vaccines were introduced.⁷ The arguments made against vaccination came from physicians who attempted to discredit vaccines and from the lay public who often opposed what they saw as interference in God's dominion over people.⁸ This opposition grew and eventually led to Supreme Court cases that questioned the constitutionality of state-imposed vaccination mandates.⁹

In 1905, the Supreme Court decided the case of *Jacobson v. Commonwealth of Massachusetts*.¹⁰ In this case, Henning Jacobson refused to comply with a Massachusetts law that allowed his city's health board to require people over the age of 21 to receive smallpox vaccinations and issue a fine of five dollars to those who refused to

¹ John D. Lantos et al., *Controversies in Vaccine Mandates*, 40 CURRENT PROBLEMS IN PEDIATRIC AND ADOLESCENT HEALTH CARE 38, 41-42 (2010).

² *Id.*

³ *Id.* at 42.

⁴ WOLFGANG BEHRINGER, *Bavaria, EUROPE, 1450 TO 1789: ENCYCLOPEDIA OF THE EARLY MODERN WORLD* v.1 233, 235-36 (Jonathan Dewald ed., 2004). In 1807, after the collapse of the Holy Roman Empire, Bavaria was an independent kingdom ruled by King Maximilian I Joseph. It covered parts of what is today Germany, Austria and the Czech Republic. *Id.*

⁵ Lantos et al., *supra* note 1, at 42.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ *Jacobson v. Massachusetts*, 197 U.S. 11 (1905).

comply with this mandate.¹¹ Jacobson made numerous arguments that the statute was unconstitutional.¹² Primarily, Jacobson asserted that he did not have faith in vaccines and that he had anecdotal and scientific evidence that vaccines could be harmful.¹³ Therefore, he reasoned that forcing him to comply with this mandate violated his constitutionally protected liberty interest.¹⁴ However, Justice Harlan disagreed and delivered the Court's opinion, which rejected all Jacobson's arguments and found the statute constitutional.¹⁵ Citing the state's police power¹⁶, the Court reasoned that the state had the power to protect its citizens from dangerous epidemics and that allowing cities to require mandatory vaccinations as a way of utilizing that power was not unreasonable.¹⁷ The Court stated that although liberty is the greatest right, it does not follow that liberty provides individuals with unlimited authority to act as they please.¹⁸ Comparing the vaccination requirement to being drafted into the armed forces, Justice Harland said the Constitution allowed the government to protect the safety of many over the objection and wishes of a few.¹⁹ Later, the Supreme Court would also uphold as constitutionally sound the requirement that children receive mandatory vaccinations prior to entering public schools.²⁰

II. CURRENT TRENDS IN VACCINE MANDATES & EXEMPTIONS

Today, mandatory vaccination laws typically require parents to

¹¹ *Id.* at 12.

¹² *Id.* at 13-14.

¹³ *Id.* at 34-37.

¹⁴ *Id.* at 36.

¹⁵ *Id.* at 39.

¹⁶ *Id.* at 25; BLACK'S LAW DICTIONARY 1849 (9th ed. 2009) (defining the state police power reserved to the states under the Tenth Amendment as the power of a state "to establish and enforce laws protecting the public's health, safety, and general welfare, or to delegate this right to local governments").

¹⁷ *Id.* at 24-25, 37-39.

¹⁸ *Id.* at 26-27.

¹⁹ *Id.* at 28-29.

²⁰ Lantos et al., *supra* note 1, at 42; *Zucht v. King*, 260 U.S. 174, 176-77 (1922).

submit proof of vaccination before their children are allowed entry to public schools.²¹ These laws come in three basic varieties: (1) vaccinations are mandatory with exemptions available only for medical reasons; (2) vaccinations are mandatory with exemptions for medical or religious reasons; and (3) vaccinations are mandatory with exemptions for medical, religious, or philosophical reasons.²² The methods for obtaining exemptions vary by state but can generally be thought of as falling in one of three levels of difficulty: easy, medium, or difficult.²³ An example of an “easy” exemption policy would be a policy that only requires parents to sign a form available from the school to exempt their child.²⁴ A “medium” level policy would require parents to obtain a form from a local health department or to submit a written statement themselves.²⁵ Finally, a “difficult” exemption policy would require a signed and notarized form or a document from the health department, as well as a written statement from the parent.²⁶

Evidence suggests that the level of difficulty required for an exemption has some effect on whether parents obtain a non-medical exemption for their child.²⁷ The results of one 2001 study show that states with “difficult” exemption policies are more likely to have a lower percentage of children with exemptions than states with “easy” exemption policies.²⁸ This study found that fifteen states had “easy” exemption policies.²⁹ Of these fifteen states, five had a low proportion of children with exemptions, five had a moderate proportion of children with exemptions, and five had a high proportion of children with exemptions.³⁰ On the other hand, nineteen states were deemed

²¹ Jennifer S. Rota et al., *Processes for Obtaining Nonmedical Exemptions to State Immunization Laws*, 91 AM. J. PUB. HEALTH 645, 645 (2001).

²² *Id.*

²³ *Id.* at 645-46.

²⁴ *Id.* at 646.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.* at 647-48.

²⁸ *Id.* at 647.

²⁹ *Id.*

³⁰ *Id.* (defining low as <0.5%, moderate as 0.5-1.0%, and high as >1/0%).

to have “difficult” exemption policies.³¹ Of these states, ten had low proportions of children with exemptions, nine had moderate proportions of children with exemptions, and no states had a high proportion of children with exemptions.³² The numbers from this study suggest that the time and effort required to obtain an exemption in states with “difficult”, as opposed to “easy” exemption policies may discourage parents from seeking exemptions for their children.³³

A separate study, published in 2012, recorded the change in the percentage of people obtaining non-medical exemptions and how the increases differed depending on whether there was an easy, medium, or difficult exemption policy in place.³⁴ This study indicated that from 2006 to 2011, states with easy exemption policies saw a continuous increase in the percentage of people with exemptions from around 1.7% to about 3.3%, or an average annual growth rate of a 13%.³⁵ On the other hand, states with difficult exemption policies did not see as much of a continual increase, with the percentage of people claiming exemptions rising from around 0.8% in 2006 to about 1.3% in 2011, about 8% annually.³⁶ This same study also found that rates of exemptions in states with religious and philosophical exemptions were 2.54 times higher than states with only religious exemptions.³⁷ The results showed that the percentage of people seeking non-medical exemptions grew by about one percentage point from 2006 to 2011.³⁸ Finally, the study notes that the rate of increase in non-medical exemptions accelerated during the 2006-2011 period through an analysis studying exemptions from 1991-2004.³⁹

³¹ *Id.*

³² *Id.*

³³ *See id.* at 647-48.

³⁴ *See* Saad B. Omer et al., *Vaccination Policies and Rates of Exemption from Immunization, 2005-2011*, 367 *NEW ENG. J. MED.* 1170-71 (2012).

³⁵ *Id.*

³⁶ *Id.* at 1171.

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

III. RECENT OPPOSITION TO VACCINATION

Another relevant trend that may have led to legislation allowing for more non-medical exemptions from mandatory vaccines has been a relatively strong anti-vaccination lobby.⁴⁰ While it is difficult to identify the size of the anti-vaccination movement, one paper did identify more than 300 anti-vaccine websites.⁴¹ Nonetheless, the size itself is not particularly relevant because the lobby has demonstrated that it has power and traction.⁴² The movement has been able to attract celebrity sponsors, such as the well-known actress and model Jenny McCarthy, who has been particularly vocal.⁴³ The lobby has also shown it has immense power to influence sentiments toward vaccinations in Europe, where it is thought to have harmed efforts to combat measles.⁴⁴ The influence held by the anti-vaccination movement requires a well thought-out response from both doctors responsible for vaccinating patients and those in the political and legal communities who seek to promote public health and safety through vaccination mandates. In order to provide an effective response, it is necessary to discern what kind of people support or oppose vaccinations, as well as the reasons held by people for pursuing non-medical exemptions.⁴⁵

⁴⁰ Gregory A. Poland & Robert M. Jacobson, *Understanding Those Who Do Not Understand: A Brief Review of the Anti-Vaccine Movement*, 19 VACCINE 2440, 2440 (2001). See also Stuart Blume, *Anti-Vaccination Movements and Their Interpretations*, 62 SOC. SCI. & MED. 628, 634 (2006) (suggesting that classifying collective anti-vaccination sentiment as a movement may be accurate, but may also distract from the causes of anti-vaccination sentiment).

⁴¹ Poland & Jacobson, *supra* note 40, at 2442. (Given that this paper was published in 2001, it is probably safe to assume this number has drastically grown).

⁴² See *id.*

⁴³ *Id.*; see also, e.g., Karl Taro Greenfield, *The Autism Debate: Who's Afraid of Jenny McCarthy?*, TIME (Feb. 25, 2010), <http://www.time.com/time/printout/0,8816,1968100,00.html>; JENNY MCCARTHY & JERRY KARTZINEL, HEALING AND PREVENTING AUTISM: A COMPLETE GUIDE (2009); JENNY MCCARTHY, MOTHER WARRIORS: A NATION OF PARENTS HEALING AUTISM AGAINST ALL ODDS (2008); JENNY MCCARTHY, LOUDER THAN WORDS: A MOTHER'S JOURNEY IN HEALING AUTISM (2007).

⁴⁴ Jim Roope, *Opting Out of Vaccinations Could Get Tougher in California*, CNN (June 5, 2012), <http://www.cnn.com/2012/06/04/health/california-vaccination-opt-out/index.html>.

⁴⁵ See Gary L. Freed et al., *Sources and Perceived Credibility of Vaccine-Safety Information for Parents*, 127 PEDIATRICS S107, S111 (2011) (concluding that parents allow a variety of sources to provide them with vaccine safety information and public health, thus, officials must

Demographic studies comparing parents who support mandatory vaccination and parents who oppose mandatory vaccination find that the two groups differ in regard to three characteristics: (1) race/ethnicity; (2) household income; and (3) household size.⁴⁶ Beginning with race/ethnicity, the study found that parents supportive of vaccination were more likely to be white.⁴⁷ As far as household income is concerned, the study found that parents who were supportive of vaccine mandates were more likely to have higher incomes.⁴⁸ Finally, the study found that parents who support vaccine mandates were more likely to have a smaller household size than parents who opposed the mandate.⁴⁹ Thus, a white, high-income, smaller-sized household would be most likely to be supportive of vaccination mandates.⁵⁰ At the same time, the study also found that certain characteristics of a household do not seem to affect the likelihood of whether or not parents will be supportive of mandatory vaccinations.⁵¹ Such factors included gender, education, and age.⁵²

The same study also looked at the beliefs and behaviors of parents in each group and found that certain beliefs strongly indicated whether or not a parent would support mandatory vaccinations.⁵³ The starkest difference between the two groups was a

recognize different strategies are needed to reach some groups of parents).

⁴⁶ Allison M. Kennedy et al., *Vaccine Beliefs of Parents Who Oppose Compulsory Vaccination*, 120 PUB. HEALTH REPS. 252, 254 (2005).

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.* The study also found parents opposed to mandatory vaccination were statistically more likely to live in states that allow philosophical exemptions. *Id.*; see also Richard Knox, *Measles Resurgence Tied to Parents' Vaccine Fears*, NPR (Apr. 5, 2010, 4:00 AM), <http://www.npr.org/templates/story/story.php?storyId=125570056> (citing Karen Waters-Montijo's finding that those who refuse vaccines in her community tend to be college educated, have larger incomes and believe "in the power of a 'natural' lifestyle--things like organic food and prolonged breast-feeding--to keep their children's immunity strong enough to ward off vaccine-preventable diseases.").

⁵¹ Kennedy et al., *supra* note 46, at 254.

⁵² *Id.*

⁵³ *Id.* at 255.

behavioral difference in the parents.⁵⁴ Out of a sample size of 1527, a mere 1% of parents who supported vaccination mandates said their child would receive only some or no vaccines.⁵⁵ In contrast, 10% of parents who oppose mandatory vaccination said their children would receive only some or no vaccines.⁵⁶ Other noticeably different beliefs between the two groups were that parents opposed to mandatory vaccines were: (1) three times more likely to believe vaccines are given to prevent non-serious diseases; (2)(a) over two times more likely to believe the body can protect itself from vaccine preventable diseases, (b) children receive vaccines for diseases they are unlikely to get, and (c) children get too many vaccines in the first two years of their lives; and (3) just under two times as likely to lack some or all confidence in the safety of vaccinations.⁵⁷

Negative attitudes and beliefs concerning vaccinations are not the only two factors responsible for vaccine opposition. Some people also hold religious or moral objections to some or all vaccinations.⁵⁸ Most recently, the debate over the human papilloma virus (HPV) vaccine has seen strong opposition based on the religious beliefs of certain people and groups.⁵⁹ HPV is transmitted through sexual contact, and is known to cause cervical, penile, anal, and throat cancers.⁶⁰ When administered before a person becomes sexually active, the HPV vaccine provides the recipient with protection from certain strains of the virus while simultaneously preventing the recipient from spreading those strains.⁶¹ U.S. Representative Michele Bachmann has been one of the voices speaking out against the HPV

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ Lantos et al., *supra* note 1, at 38, 51 (2010).

⁵⁹ See, e.g., Matthew D. Staver, *Compulsory Vaccinations Threaten Religious Freedom*, LIBERTY COUNSEL, http://www.lc.org/media/9980/attachments/memo_vaccination.pdf. (last visited Oct. 19, 2013).

⁶⁰ Robert I. Field & Arthur L. Caplan, *A Proposed Ethical Framework for Vaccine Mandates: Competing Values and the Case of HPV*, 18 KENNEDY INST. ETHICS J. 111, 112 (2008); *HPV and Men*, CDC Fact Sheet (2012), available at <http://www.cdc.gov/std/hpv/HPVandMen-fact-sheet-February-2012.pdf>.

⁶¹ Field & Caplan, *supra* note 60, at 112.

vaccine.⁶² In a 2011 Republican Presidential primary debate she asserted that the HPV vaccine is dangerous and will encourage children to engage in premarital sex.⁶³

While no evidence supports her claims, they are claims that unfortunately resonate with many individuals, as evidenced by the fact that her statement concerning the mandate received applause from the debate's audience.⁶⁴

Michele Bachmann's opposition was just one recent instance of vaccine policy receiving coverage by the U.S. media. Media coverage of vaccines is crucial because one study found that 62% of parents who sought exemptions for their children said they relied on the media for information.⁶⁵ Moreover, among the parents who fully immunized their children, an impressive 46% said they relied on the media for information.⁶⁶ This study also analyzed newspaper articles across the United States from 1995-2005.⁶⁷ Of the articles discussing vaccinations during this period, the study found that 37% of them indicated that vaccines were in some way unsafe.⁶⁸ Another number that is perhaps more concerning, given the rise of internet news and the decline of print media, is that a survey of YouTube.com videos revealed that 50% of the videos posted that discussed vaccines were not supportive of them.⁶⁹ Given the large number of people who rely on the media for information on immunizations, it is safe to infer that the media plays a key role in shaping the public's attitude toward vaccines.⁷⁰

Finally, wrapped up in the entire debate over immunizations are

⁶² *The Wrong Message on Vaccines*, 477 NATURE 369, 369 (2011).

⁶³ *Id.*; see also *Keeping Them Honest: Bachmann's HPV Claim*, (CNN television broadcast Sept. 13, 2011), available at <http://www.youtube.com/watch?v=dgaKfMuoXQ8>.

⁶⁴ *The Wrong Message on Vaccines*, *supra* note 62, at 369.

⁶⁵ Hamidah Hussain et al., *Immunization Safety in US Print Media, 1995-2005*, 127 PEDIATRICS S100, S101 (2011).

⁶⁶ *Id.*

Id.

⁶⁷ *Id.*

⁶⁸ *Id.* at S104.

⁶⁹ *Id.*

⁷⁰ See *id.* at S101-11; Freed et al., *supra* note 45; Poland & Jacobson, *supra* note XX.

the common misconceptions about the dangers of vaccines. These are not misconceptions about actual known dangers that accompany immunizations, but patently false beliefs that immunizations cause harms that they do not. One of the most well-known misbeliefs is that some vaccines may cause autism.⁷¹ Some people also incorrectly believe that vaccinations damage the immune system.⁷²

To begin with, no credible evidence supports the assertion of a link between any type of vaccination and autism.⁷³ This belief arose in the 2000s when a now discredited paper⁷⁴ claimed to have found a link between the MMR (measles, mumps and rubella) vaccine and autism.⁷⁵ Another misconception is that vaccinations compromise the recipient's immune system.⁷⁶ Parents who oppose compulsory vaccination often support this belief with the assertion that it is better for the body to gain "natural" immunity from fighting the illness, as opposed to "artificially" gaining immunity through immunization.⁷⁷ Again, there is no evidence that supports this belief.⁷⁸ While these false beliefs are certainly alarming, and it is understandable why they

⁷¹ Poland & Jacobson, *supra* note 40, at 2442.

⁷² *Id.* at 2441-42.

⁷³ *Id.* at 2442; *Vaccines Not Associated with Risk of Autism*, CTRS. FOR DISEASE CONTROL AND PREVENTION, <http://www.cdc.gov/vaccinesafety/Concerns/Autism/antigens.html> (last modified Mar. 29, 2013); *Concerns About Autism*, CTRS. FOR DISEASE CONTROL AND PREVENTION, <http://www.cdc.gov/vaccinesafety/concerns/autism/> (last modified Mar. 29, 2013).

⁷⁴ The study was published in 1998 by Andrew Wakefield et al. and it has since been discredited and retracted from the journal in which it was published. The study was flawed in many ways including: (1) it was commissioned and funded with the intent to use it for pre-planned litigation; (2) the study excluded the allegations of some participants to create the appearance of a desired temporal link; and (3) the study claimed that twelve children had no prior developmental abnormalities when five of them did have documented and pre-existing developmental concerns. The U.K.'s General Medical Council found that Andrew Wakefield engaged in serious professional misconduct and had his name struck from the U.K.'s medical register. Brian Deer, *How the Case against the MMR Vaccine was Fixed*, 342 BRIT. MED. J. 77 (2011).

⁷⁵ *Id.*; Nick Triggle, *Lancet Accepts MMR Study 'False'*, BBC NEWS (Feb. 2, 2010), <http://news.bbc.co.uk/2/hi/health/8493753.stm>.

⁷⁶ Robert M. Jacobson et al., *The Challenge of Vaccine Safety*, 13 SEMINARS IN PEDIATRIC INFECTIOUS DISEASES 215, 216 (2002); Poland & Jacobson, *supra* note XX, at 2441-42.

⁷⁷ Kennedy et al., *supra* note 46, at 253, 256.

⁷⁸ Poland & Jacobson, *supra* note 40, 2442.

would concern the general public, studies have repeatedly shown there is no scientific basis for these beliefs.

IV. BENEFITS & SAFETY OF VACCINES

“Vaccines have been among the most successful and most cost-effective medical technologies ever developed.”⁷⁹ “Since the introduction of the first widely used vaccine against smallpox, vaccines against more than 24 infectious pathogens have been licensed, saving countless lives, preventing needless suffering, and fostering socioeconomic stability.”⁸⁰

The scientific community widely accepts the two statements in the previous paragraph.⁸¹ Despite being a proven and effective tool in the fight against infectious diseases, concerns over vaccine safety have existed and been discussed since the invention of vaccines.⁸² When vaccines were first introduced, those who opposed them thought they were “‘unnatural’ and feared many ills would result from [them].”⁸³ It is of course true that, as a foreign substance being injected in the body, vaccines can cause harm.⁸⁴ Although testing can ensure the general safety of vaccines, it cannot predict all outcomes because every person is different.⁸⁵ As is the case with any type of medicine, vaccines can cause unexpected harms.⁸⁶ An example of this was the harm known to accompany the live-attenuated oral polio

⁷⁹ John D. Lantos et al., *Controversies in Vaccine Mandates*, 40 CURRENT PROBLEMS IN PEDIATRIC AND ADOLESCENT HEALTH CARE 38, 38 (2010). See also Jacobson et al., *supra* note 76, at 215; Daniel C. Douek & Gary J. Nabel, *Vaccines*, 239 IMMUNOLOGICAL REVS. 5, 5 (2011).

⁸⁰ *Id.* at 5.

⁸¹ E.g., Poland & Jacobson, *supra* note 40, at 2440; Lantos et al., *supra* note 79, at 38; Douek & Nabel, *supra* note 79, at 5; Field & Caplan, *supra* note 60, at 111 (“Vaccines are among the crowning achievements of medicine.”).

⁸² Jacobson et al., *supra* note 76, at 215.

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.* at 215-16.

⁸⁶ *Possible Side-effects from Vaccines*, CTRS FOR DISEAS CONTROL AND PREVENTION, <http://www.cdc.gov/vaccines/vac-gen/side-effects.htm> (last updated Aug. 26, 2013).

vaccine.⁸⁷ People knew that the polio vaccine would cause vaccine-associated paralytic polio in 1 out of every 2.4 million cases.⁸⁸ Despite this extremely rare effect of the polio vaccine, the polio vaccine was widely used and was not considered “unsafe”.⁸⁹ This example demonstrates that some amount of risk is inherent in all actions; the risk associated with any action, in this case vaccination, can never be reduced to precisely zero.⁹⁰

To think of this differently, consider using an automobile. Typically, riding in a car is considered a safe activity—at least safe enough that most parents will let their children ride in the car with them. However, despite being considered “safe,” the chances of dying in a car crash over the period of a year are 1 in 6197 (or about 0.0161%).⁹¹

At the same time, the risk of suffering the side effect of the polio vaccine mentioned earlier was insignificant; with only 1 in 2.4 million (or 0.0000417%) of the population contracting vaccine-associated paralytic polio.⁹²

One paper points out, and rightfully so, “[t]he medical and public health professions perhaps have been remiss in not articulating an understandable definition of vaccine safety that would provide a yardstick against which vaccine adverse-effect profiles could be measured and understood.”⁹³ In other words, those in the medical field have not communicated well enough to the public just how safe certain vaccines are.⁹⁴ Although the public knows that the government approved the vaccine and accepted it as safe, they also assume (correctly or incorrectly) that there will be certain

⁸⁷ Jacobson et al., *supra* note 76, at 215-216.

⁸⁸ *Id.*

⁸⁹ *See id.*

⁹⁰ *Id.* at 216.

⁹¹ *Risk of Death and Transportation*, BANDOLIER (2007), <http://www.medicine.ox.ac.uk/bandolier/booth/Risk/transsportpop.html>.

⁹² Jacobson et al., *supra* note 76, at 216.

⁹³ *Id.*

⁹⁴ *See id.* at 218.

side effects at some rate unknown to them.⁹⁵ If, however, they knew the risk of certain side effects—such as 1 out of 2.4 million, or about 386 times safer than using a car for a year, the parent in question may be better able to accept that a vaccine is safe.⁹⁶ As has been pointed out, those employed in the medical field must do a better job of informing people about (1) the safety of vaccines and (2) the dangers of non-vaccination.⁹⁷

In addition to protecting recipients, vaccinating a large enough percentage of a community against a disease will give the entire community “herd immunity.”⁹⁸ Herd immunity is a “level of immunization within the population that effectively eliminates the risk of an outbreak of the disease.”⁹⁹ Thus, those in the community who, for some reason, cannot receive the vaccine will nevertheless remain protected against the disease due to the community’s high percentage of vaccinated people.¹⁰⁰ However, because such a large number of people must be immunized to achieve herd immunity, the costs and effort required can make it difficult to accomplish.¹⁰¹

Because vaccines successfully eliminated infectious diseases such as small-pox and the mumps, some have hypothesized that one reason for the increasing number of people seeking exemptions is due to a generation of adults that lived without seeing the awful symptoms and effects of these diseases.¹⁰² One researcher has identified what he believes to be a “vaccine life cycle,” in which a vaccine is introduced and used by many, people lose confidence in the safety of the vaccine, and finally society regains confidence once

⁹⁵ See *id.* at 216.

⁹⁶ *Id.*; *Risk of Death and Transportation*, *supra* note 91.

⁹⁷ See Jacobson et al., *supra* note 76, at 215-20.

⁹⁸ Jason Abrevaya & Karen Mulligan, *Effectiveness of State-Level Vaccination Mandates: Evidence from the Varicella Vaccine*, 30 J. HEALTH ECON. 966, 966 (2011).

⁹⁹ *Id.*

¹⁰⁰ See *Id.*

¹⁰¹ *Id.*

¹⁰² Jacobson et al., *supra* note 76, at 216.

more in the vaccine.¹⁰³ Whether this is accurate or not, a separate study has indeed suggested that, in the case of the chicken-pox vaccine, state-level mandates were only successful in pushing more parents to vaccinate their children at the beginning of the mandate.¹⁰⁴ However, over time, the mandate's effect on the vaccination rate dropped.¹⁰⁵ This study seems to support the idea that, over an even longer period, when a vaccine reduces the number of people who become ill, mandates will become even less effective as people forget the severity or effects of the disease. It becomes easy for parents to fall into omission bias.¹⁰⁶ That is, the parents view the child suffering a side effect from their action as worse than if the child caught the illness as a consequence of the parents' inaction.¹⁰⁷

V. THE CASE AGAINST NON-MEDICAL EXEMPTIONS

Having considered the benefits and consequences of vaccination as well as how different people today view vaccines, the case can now be made that non-medical exemptions (both philosophical and religious) should be eliminated.

A. Philosophical Exemptions

Philosophical exemptions effectively allow parents to exempt their children from mandatory vaccinations for any reason. While forty-six states (as well as the District of Columbia) allow religious exemptions, only seventeen states provide philosophical exemptions.¹⁰⁸ A problem with philosophical exemptions is that they

¹⁰³ *Id.*

¹⁰⁴ Abrevaya & Mulligan, *supra* note 98, at 970.

¹⁰⁵ *Id.*

¹⁰⁶ Omission bias is when "a person views a bad outcome as worse if it occurred because of an active choice rather than as a consequence of not doing something." To exemplify this in the vaccine context, Jacobson et al. quote a paper by S.J. New and M.L. Senior in which a parent stated, "[i]f he has whooping cough, he catches it, and that's that—but if he had the injection, I'd feel responsible. If anything happened as a result of the vaccination, I would always blame myself." Jacobson et al., *supra* note 76, at 216.

¹⁰⁷ *Id.*

¹⁰⁸ *State Law and Vaccine Requirements*, NAT'L VACCINE INFO. CTR. (2013),

are “soft” exemptions, wherein there exists no criterion to determine what part of the population is eligible for the exemption.¹⁰⁹ Moreover, the number of people who can claim the exemption constantly fluctuates at the mercy of the public’s perception of the vaccine’s safety, usefulness, or other factors. On the other hand, one thing to be said for religious exemptions is that some criteria exist to determine who will claim such an exemption. We know, for instance, that many well-known Christian denominations will not take a religious exemption.¹¹⁰

However, certain Christian groups and congregations have opposed mandatory vaccines on the ground that such mandates violate their religious freedom or that being vaccinated demonstrates a lack of faith in God’s power.¹¹¹ We also can expect that some Muslim groups will fight vaccinations because they view such actions as an attempt to thwart God’s will.¹¹² We cannot look to the general public’s philosophical views on vaccination and determine which members of groups will object to vaccinations.

The reasons these “soft” ground for exemption are particularly

<http://www.nvic.org/Vaccine-Laws/state-vaccine-requirements.aspx>. States with medical exemptions only: Mississippi and West Virginia. States with only medical and religious exemptions: Alabama, Alaska, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Virginia, and Wyoming, as well as the District of Columbia. States with only medical and philosophical exemptions: California. States with medical, religious, and philosophical exemptions: Arizona, Arkansas, Colorado, Idaho, Louisiana, Maine, Michigan, Minnesota, North Dakota, Ohio, Oklahoma, Texas, Utah, Vermont, Washington, and Wisconsin.

¹⁰⁹ See Rota et al., *supra* note 21, at 646-47.

¹¹⁰ See Lantos et al., *supra* note 1, at 51.

¹¹¹ *Id.* at 51; see also Lauren Silverman, *Texas Megachurch at Center of Measles Outbreak*, NPR (Sept. 1, 2013), <http://www.npr.org/2013/09/01/217746942/texas-megachurch-at-center-of-measles-outbreak> (televangelist and founder of the Eagle Mountain megachurch in Texas explained in a broadcast, “[y]ou don’t take the word of the guy that’s trying to give the shot about what’s good and what isn’t.” Current pastor Terri Copeland Pearsons expressed that vaccinations are important but that she has concerns about autism, children being over-vaccinated, and that members should put their faith in God. “So I’m going to tell you what the facts are, and the facts are the facts, but then we know the truth. That always overcomes facts.”).

¹¹² Lantos et al., *supra* note 1, at 51.

problematic can be seen in an analysis of data from 1991 to 2004.¹¹³ This analysis found a rise in people claiming exemptions in only two groups of states: (1) states with easy exemption policies; and (2) states with philosophical exemptions.¹¹⁴ A later study from 2006 to 2011 found that states allowing philosophical exemptions continued to see an increase in the percentage given.¹¹⁵ If this trend continues, it could eventually threaten existing herd immunity for certain infectious diseases across the United States.¹¹⁶

In fact, we already have an example of when declining vaccination rates have caused this problem. The resurgence of measles in the late 1980s and early 1990s in the United States was due to a failure to maintain high vaccination levels.¹¹⁷ More recently, measles was thought to have been eradicated in the United States in 2000.¹¹⁸ As of September 13, 2013, however, the United States was on track to have its worst year for measles cases in seventeen years.¹¹⁹ Of these cases, 92% of the victims were not vaccinated or their vaccination status could not be determined.¹²⁰ This resurgence in the United States has been attributed to infected visitors from countries where measles is still a major problem and United States citizens who refuse to receive the vaccination.¹²¹ This same problem exists in Europe where measles is an increasing problem due to low vaccination levels.¹²² In 2011, there were 26,000 cases of measles in Europe, and 90% were among people who had not been vaccinated.¹²³

While it has traditionally been accepted in the United States that

¹¹³ Omer et al., *supra* note 34, at 1171.

¹¹⁴ *Id.*

¹¹⁵ *Id.* at 1170.

¹¹⁶ See Lantos et al., *supra* note 1, at 52.

¹¹⁷ See Rota et al., *supra* note 21, at 645.

¹¹⁸ Elizabeth Cohen, *U.S. Measles Cases in 2013 May be Most in 17 Years*, CNN (Sept. 13, 2013), http://www.cnn.com/2013/09/12/health/worst-measles-year/?hpt=he_cl.

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² WHO *Issues Europe Measles Warning*, BBC NEWS(December 2, 2011), <http://www.bbc.co.uk/news/health-15999492>.

¹²³ *Id.*

parents have the capacity to make decisions for their child, the state has a compelling interest to disallow parents from exempting their children from vaccines based on the parents' own philosophical views. In *Wisconsin v. Yoder*,¹²⁴ the dissent contended that children have their own interests that should be considered in addition to the interests of their parents.¹²⁵ Although the majority in this case focused on the value society gives to allowing parents to direct their child's upbringing, the dissent recognizes that there are other factors that must also be considered.¹²⁶ It is obvious that the state and society will not allow parents complete freedom in choosing how to raise their children. Indeed, this is the case when it comes to vaccinations because although seventeen states allow for philosophical exemptions, the other thirty-three states (as well as the District of Columbia) do not allow for them.¹²⁷ This is, after all, a sensible approach – the state's interest in ensuring the health of its children outweighs the parents' philosophical objection.

Outside of the religious sphere, it may seem difficult to see what objections could remain other than those based on ignorance, misinformation, or irrationality. That being said, there are three common general philosophical objections: (1) a parent objects to mandatory vaccination out of political objections to government mandates; (2) a parent is troubled by the perceived risk-benefit analysis of being vaccinated versus not being vaccinated; and (3) a parent perceives vaccinations to be the cause of a routine harm to

¹²⁴ *Wisconsin v. Yoder*, 406 U.S. 205 (1972) (holding that Wisconsin violated the free exercise clause of the First Amendment by requiring that children attend school past the eighth grade level when doing so forced Amish children to attend school against the religious beliefs of their Amish parents).

¹²⁵ Statements similar to those made by Justice Douglas in his dissent could be made in the context of vaccine mandates and religious exemptions. *Id.* at 241-49 (Douglas, J., dissenting) ("It is the future of the student, not the future of the parents, that is imperiled by today's decision. If a parent keeps his child out of school beyond the grade school, then the child will be forever barred from entry into the new and amazing world of diversity that we have today. The child may decide that that is the preferred course, or he may rebel. It is the student's judgment, not his parents that is essential. . . . If he is harnessed to the Amish way of life by those in authority over him and if his education is truncated, his entire life may be stunted and deformed.").

¹²⁶ *See id.*

¹²⁷ *State Law and Vaccine Requirements*, *supra* note 108.

children.¹²⁸

The first of these objections is based in a desire to refuse to comply with a government mandate.¹²⁹ Essentially, this may include people who hold extremely libertarian views and oppose the government compelling them to do anything to their body.¹³⁰ This argument was one of Jacobson's main arguments in the case of *Jacobson v. Massachusetts* discussed earlier.¹³¹ Of course, this is libertarianism taken to the extreme, as it is probably safe to assume that most parents would not object to vaccinations that they think are otherwise helpful, based only on the fact that the government has mandated the vaccine. That is not to say that some parents who seek exemptions for their children may do so simply because of obstinacy, but simply that this libertarian philosophy is unlikely to be the sole reason for the objection. Instead, it is likely to be tied into objections based on a risk-benefit analysis or out of a perceived common injury that vaccines cause children.

The second common philosophical exemption listed among adults is one based on a performed risk-benefit analysis that caused the parents to conclude it is better not to vaccinate their child than to comply with the mandate.¹³² In this philosophical objection, we run into a handful of problems. These problems include omission bias, other cognitive biases, and the problem of free-riders.¹³³

First among these problems is omission bias.¹³⁴ Omission bias is a type of cognitive bias or moral reasoning in which a person believes that the harm caused by one's inaction is better than the harm caused by one's action.¹³⁵ A parent with this belief will reason that, no matter what the actual risk may be, the fact that there is any possibility the

¹²⁸ See Lantos, *supra* note 1, at 51-52.

¹²⁹ *Id.*

¹³⁰ *Id.*

¹³¹ See *Jacobson v. Massachusetts*, 197 U.S. 11 (1905).

¹³² Lantos et al., *supra* note 1, at 52.

¹³³ See *id.*; Jacobson et al., *supra* note 76, at 216-17; Thomas May & Ross D. Silverman, *Free-Riding, Fairness and the Rights of Minority Groups in Exemption from Mandatory Childhood Vaccination*, 1 HUM. VACCINES 12, 13 (2005).

¹³⁴ Jacobson et al., *supra* note 76, at 216.

¹³⁵ *Id.*

child might be harmed by the parent's decision to vaccinate, that harm would be a worse event than if the parent did not get the child vaccinated and the child then suffered from a preventable illness.¹³⁶ With this belief, the act of vaccination could cause a harm that would be worse than the potential harm caused by the decision not to vaccinate.¹³⁷

Another bias is attentional bias. A person engaging in this bias focuses on the most emotional stimulus in her environment and simultaneously neglects relevant data when making judgments.¹³⁸ An example of this is when people with anxiety disorders will pay more attention to details representing their concerns than to other information.¹³⁹ It is easy to see how this bias could work to increase the fears of someone with anxiety over vaccinations. That person might focus on every negative anecdote, experience, and possible side effect associated with a vaccine, while ignoring the wealth of data demonstrating what a positive impact vaccines have, and continue to have.

Although there are other biases that may affect people's cost-benefit analysis, it is not necessary for the purposes of this paper to define each of them. There is, however, another factor that should be mentioned: the problem of the "free-rider."¹⁴⁰ As opposed to being a belief based on a cognitive bias, the "free-rider" problem is a reasonable calculation on the part of a parent.¹⁴¹ This problem arises when a community experiences herd-immunity.¹⁴² Because the vaccinated percentage of the United States population is currently so high, herd immunity exists for many preventable diseases.¹⁴³ This allows parents to refuse to vaccinate their children, but still benefit

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ Elke Smeets et al., *Experimentally Induced Chocolate Craving Leads to Attentional Bias in Increased Distraction But Not in Speeded Detection*, 53 *APPETITE* 370, 370 (2009).

¹³⁹ Y. Bar-Haim et al., *Threat-Related Attentional Bias in Anxious and Non-Anxious Individuals: A Meta-Analytic Study*, 133 *PSYCHOL. BULLETIN* 1, 2 (2007).

¹⁴⁰ Jacobson et al., *supra* note 76, at 217.

¹⁴¹ *Id.*

¹⁴² May & Silverman, *supra* note 133, at 13.

¹⁴³ *Id.*

from the decisions of other parents to vaccinate their children.¹⁴⁴ Essentially, this is a collective action problem in which the “free-rider” takes a benefit without bearing any of the cost or risk associated with the benefit.¹⁴⁵ The “free-rider” instead allows the community at large to bear that cost and risk. As previously mentioned, this is not an unreasonable action; even advocates for childhood immunization admit this.¹⁴⁶ Nonetheless, “free-riders” present two problems. The first is a fundamental problem of fairness.¹⁴⁷ Stated simply, on the most basic level it is not fair that a person receives benefits for free that everyone else must pay for. The second problem, which could actually become dangerous if vaccine exemption rates continue to rise, is that, if everyone simultaneously decided to be a “free-rider,” herd immunity would be lost, and there would be no benefit.¹⁴⁸ Although national rates of exemption are too low for this to be of great concern at the moment, it could become a regional problem (or a future national problem) if exemption rates continue to increase, as has been the trend over the past decade.¹⁴⁹

Finally, the remaining reason for obtaining philosophical exemptions is a misperception that vaccines cause a common harm. Again, this misperception could tie into the previous two problems. Some common, but false, beliefs about vaccines are that certain vaccines injure a person’s immune system or cause sudden infant death syndrome.¹⁵⁰ However, while some vaccines may have certain side effects, vaccines can generally be considered safe.¹⁵¹ The FDA requires extensive testing before a vaccine can be released.¹⁵²

¹⁴⁴ *Id.*; See also Jacobson et al., *supra* note 76, at 217.

¹⁴⁵ May & Silverman, *supra* note 133, at 13.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.* at 14.

¹⁴⁸ *Id.* at 13; Lantos, *supra* note 1, at 52; Jacobson et al., *supra* note 76, at 217.

¹⁴⁹ See May & Silverman, *supra* note 133, at 13; Omer et al., *supra* note 34, at 1170-71.

¹⁵⁰ *Some Common Misconceptions About Vaccination and How to Respond to Them*, CTR. FOR DISEASE CONTROL (Feb. 18, 2011), <http://www.cdc.gov/print.do?url=http://www.cdc.gov/vaccines/vac-gen/6mishome.htm>.

¹⁵¹ *Id.*

¹⁵² *Id.*

Additionally, before a vaccine is mandated, the government conducts its own cost-benefit analysis to weigh the benefits of a mandate, versus potential side effects that a certain percentage of the population might experience.¹⁵³ Nonetheless, these fears persist.

Having considered the three main types of philosophical exemptions used to oppose mandatory vaccines, all that remains is to weigh each of these against the health benefits bestowed upon the child who receives the vaccine, as well as, the benefits to society of having its population vaccinated. Settled and accepted legal doctrine states that the government has a compelling interest in ensuring the health of individual children and its society at large.¹⁵⁴

First, it is easy to accept the idea that the government's compelling interest will prevail against philosophical exemptions based on cognitive bias and misinformation about vaccine safety. On the other hand, there is a question of whether or not the government's interest should prevail against a parent who out of a strong sense of libertarianism, refuses to comply with a mandate because he does not want the government making choices for him or his child's bodily health. However, the Supreme Court has already spoken on this issue in its ruling in *Jacobson v. Commonwealth of Massachusetts*.¹⁵⁵ In this case, the Court allowed, over all types of objections from Jacobson, the government to impose its vaccination scheme on him not only for his own good, but also for the public good.¹⁵⁶

B. Religious Exemptions

Because we have discounted the potential reasons for a philosophical exemption, it is now time to turn to religious exemptions and scrutinize the arguments for them. While Mississippi and West Virginia are only two, out of a small number of states, that do not allow for religious exemptions; constitutional law is an ever-

¹⁵³ See *id.*

¹⁵⁴ *E.g.*, *Regents of Univ. of Cal. v. Bakke*, 438 U.S. 265, 310 (1978); *Buchwald v. Univ. of N.M. Sch. of Med.*, 159 F.3d 487, 498 (10th Cir. 1998); *Mead v. Holder*, 766 F. Supp. 2d 16, 43 (D.D.C. 2011).

¹⁵⁵ *Jacobson v. Massachusetts*, 197 U.S. 11, 12 (1905).

¹⁵⁶ *Id.* at 39.

changing field, so it is essential to reexamine the constitutionality of a system that does not allow for religious exemptions.¹⁵⁷

We will also consider how helpful it is to provide religious exemptions, and the problems that come with allowing them.

The first provisions to consider when looking at religious exemptions to mandatory vaccines are the First Amendment Free Exercise Clause¹⁵⁸ and the Religious Freedoms Restoration Act ("RFRA"). Congress passed the RFRA in response to the Supreme Court ruling in *Employment Division of Oregon v. Smith*, which held that there is no violation of the Free Exercise Clause of the First Amendment when a state enforces a "valid and neutral law of general applicability. . ."¹⁵⁹ Congress passed the RFRA because it thought that the "valid and neutral law" test was too weak to protect citizens' rights under the Free Exercise Clause.¹⁶⁰ Thus, to strengthen the Free Exercise Clause, Congress used the RFRA to try and force the standard of strict scrutiny¹⁶¹ to be applied when a case involves a free exercise issue.¹⁶² Nonetheless, the Supreme Court partially rejected the RFRA.¹⁶³ The Court seems to have concluded that although the RFRA can and does apply to the federal government, it does not apply to the states.¹⁶⁴ Therefore, the test from *Employment Division v. Smith* of whether a law is valid, neutral, and of general applicability remains the applicable test when determining whether

¹⁵⁷ Erin Walkinshaw, *Mandatory Vaccinations: The International Landscape*, 183 CAN. MED. ASS'N J. E1167, E1167 (2011).

¹⁵⁸ BLACK'S LAW DICTIONARY 690 (9th ed. 2009) (The First Amendment Free Exercise Clause is "[t]he constitutional provision (U.S. Const. amend. I) prohibiting the government from interfering in people's religious practices or forms of worship.").

¹⁵⁹ *Emp't Div. of Or. v. Smith*, 494 U.S. 872, 878-79 (1990) (quoting *U.S. v. Lee*, 455 U.S. 252, 263 (1982) (Stevens, J., concurring in judgment)).

¹⁶⁰ *City of Boerne v. Flores*, 521 U.S. 507, 514-16 (1997).

¹⁶¹ Strict scrutiny would prevent the "[g]overnment' from 'substantially burden[ing]' a person's exercise of religion even if the burden results from a rule of general applicability unless the government can demonstrate the burden '(1) is in furtherance of a compelling governmental interest; and (2) is the least restrictive means of furthering that compelling governmental interest.'" *Id.* at 515-16 (quoting the RFRA).

¹⁶² *Id.*

¹⁶³ *Gonzales v. O Centro Espirita Beneficente Uniao Do Vegetal*, 546 U.S. 418, 439 (2006).

¹⁶⁴ *See id.* at at 424; *Flores*, 521 U.S. at 519-20.

state law violates the Free Exercise Clause.¹⁶⁵ Because laws mandating vaccines are made at the state level and under the state's police power authority, the *Smith* test is applicable to them whereas the RFRA is not.¹⁶⁶

The *Smith* case arose when the Employment Division of the State of Oregon refused to give unemployment benefits to Smith because he failed a drug test.¹⁶⁷ Smith failed the test for using peyote¹⁶⁸ as part of a religious ceremony in his Native American tribe.¹⁶⁹ Nonetheless, in Oregon, peyote use was illegal and because Smith tested positive for the substance, he was ineligible for employment benefits.¹⁷⁰ Smith took his case to court, arguing that the law violated the Free Exercise Clause of the First Amendment.¹⁷¹ The Supreme Court, however, rejected his arguments.¹⁷² Writing for the Court, Justice Scalia presented a new articulation of when a law violates the First Amendment Free Exercise Clause.¹⁷³ Essentially, he determined that all persons must comply with neutral laws of general applicability.¹⁷⁴ Thus, so long as a state passes a law that does not specifically target religion, it is irrelevant whether the law has an incidental effect of burdening an individual's free exercise of religion.

To answer the question of whether or not a mandatory vaccination scheme under state law could violate the Free Exercise Clause, we have thus far determined that the RFRA is not applicable and that the *Smith* test is proper. Having determined the proper test to apply, we can now determine whether a mandatory state scheme

¹⁶⁵ See, e.g., *Roman Catholic Bishop of Springfield v. City of Springfield*, 724 F.3d 78, 97-98 (1st Cir. 2013).

¹⁶⁶ See generally *May & Silverman*, *supra* note 133, at 12.

¹⁶⁷ *Emp't Div. of Or. v. Smith*, 494 U.S. 872, 872 (1990).

¹⁶⁸ MERRIAM-WEBSTER (2013), <http://www.merriam-webster.com/dictionary/peyote> (“[A] hallucinogenic drug containing mescaline that is derived from peyote buttons and used especially in the religious ceremonies of some American Indian peoples”).

¹⁶⁹ *Smith*, 494 U.S. at 872.

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

¹⁷² *Id.* at 872-73, 890.

¹⁷³ *Id.* at 877-80.

¹⁷⁴ *Id.* at 879-80.

is constitutional. Fortunately, there have already been a handful of cases addressing this issue. Although some of these cases were decided prior to the test created by the Court in *Smith*, it is not difficult to analyze them under the lens of *Smith*. A recent case from the Fourth Circuit, such as *Workman v. Mingo County Board of Education*, has already undertaken such an examination.¹⁷⁵

In *Workman*, a mother sued the Mingo County Board of Education in the state of West Virginia because she felt that the state and its officials violated her constitutional right by not allowing her children to attend public schools without getting certain vaccinations.¹⁷⁶

One of the mother's many claims was that, by not allowing a religious exemption and forcing her child to be vaccinated against her religious beliefs, the state was violating the Free Exercise Clause of the First Amendment.¹⁷⁷ Aware of the *Jacobson* precedent, which stated that a mandatory vaccination law had not violated "[A]ny right secured by the Federal Constitution," *Workman* tried to distinguish her case by arguing that the holding in *Jacobson* dealt only with a situation involving an epidemic outbreak, which was not the case presently.¹⁷⁸ Nonetheless, the Fourth Circuit ruled against her and quoted the case of *Boone v. Boozman*, saying: "[T]he Supreme Court did not limit its holding in *Jacobson* to diseases presenting a clear and present danger."¹⁷⁹ In *Boone*, the district court explicitly examined the constitutionality of a statute that provided no religious exemption under the lens of *Smith* and found no Constitutional violation.¹⁸⁰ The *Boone* court, using both *Smith* and prior precedent, held that such a policy, even under *Smith*, did not violate the First Amendment of the Constitution.¹⁸¹ The *Workman* court found

¹⁷⁵ *Workman v. Mingo Cnty. Bd. of Educ.*, 419 F. App'x 348, 352-54 (4th Cir. 2011), cert. denied, 132 S.Ct. 590 (2011).

¹⁷⁶ *Id.* at 350-51.

¹⁷⁷ *Id.* at 352-53.

¹⁷⁸ *Id.* at 353 (emphasis omitted) (quoting *Jacobson*, 197 U.S. at 38).

¹⁷⁹ *Workman*, 419 Fed. App'x. at 353 (quoting *Boone v. Boozeman*, 217 F. Supp. 2d 938, 954 (E.D. Ark. 2002)(footnote omitted)).

¹⁸⁰ *Boone*, 217 F. Supp. 2d at 954-55 & n.38.

¹⁸¹ *Id.* at 954-56.

similarly.¹⁸² Additionally, neither court found persuasive the argument that *Jacobson* should be limited to cases of epidemic disease outbreak.¹⁸³

Both of these lower court cases demonstrate that courts have not been persuaded by the argument that mandatory vaccinations violate the First Amendment, even under the *Smith* test. They cite a line of precedent upholding mandatory vaccination laws, starting with *Jacobson*, but also including *Prince v. Massachusetts*, *Zucht v. King*, and other lower federal court and state cases.¹⁸⁴ Particularly relevant is a sentence in *Boone* that explicitly mentions *Smith* and alerts us to truly persuasive dictum suggesting that no lower level court will find that mandatory vaccination laws violate the First Amendment and that the Supreme Court does not plan on changing course when it comes to the First Amendment and mandatory vaccinations.¹⁸⁵ Justice Scalia in *Smith* summarized the respondent's argument in the following way:

The present case does not present such a hybrid situation, but a free exercise claim unconnected with any communicative activity or parental right. Respondents urge us to hold, quite simply, that when otherwise prohibitible conduct is accompanied by religious convictions, not only the convictions but the conduct itself must be free from governmental regulations.¹⁸⁶

The *Boone* court then directs us to the relevant dictum in *Smith*, which says:

¹⁸² *Workman*, 419 Fed. App'x. at 352-53.

¹⁸³ *Id.* at 353; *Boone*, 217 F. Supp. 2d at 954.

¹⁸⁴ *Workman*, 419 Fed. App'x at 353-55; *Boone*, 217 F. Supp. at 954. *Zucht* was a 1922 case in which the Supreme Court considered whether a San Antonio ordinance that prevented children from attending school without a certificate, which proved they were vaccinated, violated equal protection or due process. *Zucht v. King*, 260 U.S. 174, 174-75 (1922). The *Zucht* court found no violation and upheld *Jacobson*. *Id.* at 176-77. *Prince* was a 1944 case in which a parent argued that preventing her child from selling religious magazines on the street violated her equal protection right because the public streets were her church. *Prince v. Massachusetts*, 321 U.S. 158, 170 (1944). The Supreme Court denied there was an equal protection violation and cited *Jacobson's* compulsory vaccination decision to support the idea that a state may regulate a child's activity if it is in the public interest. *Id.* at 166.

¹⁸⁵ *Boone*, 217 F. Supp. at 953.

¹⁸⁶ *Emp't Div. of Or. v. Smith*, 494 U.S. 872, 882 (1990).

The rule respondents favor would open the prospect of constitutionally required religious exemptions from civic obligations of almost every conceivable kind—ranging from compulsory military service, to the payment of taxes, to health and safety regulations such as . . . compulsory vaccination laws The First Amendment's protection of religious liberty does not require this.¹⁸⁷

These two pieces of dictum, standing alone, are persuasive for two reasons. First, the Court recognizes the precedent upholding mandatory vaccinations and uses this precedent as an example of what the First Amendment's Free Exercise Clause does not protect.¹⁸⁸ Second, Justice Scalia summarizes the respondent's argument as one that *does not involve* any parental right and one that urges the Court to suggest that religious conviction alone, under the First Amendment, requires exemption from certain laws.¹⁸⁹ In citing arguments against the respondent's proposed rule, Justice Scalia cites to compulsory vaccination laws.¹⁹⁰ What this might suggest is that the Court does not believe mandatory vaccination laws in any way implicate the Free Exercise Clause, *nor* do such laws implicate parental right. If this is the case, the dicta weaken not only religious arguments against vaccine exemptions, but also philosophical ones.

The Court's suggestion that mandatory vaccinations are not a parental decision raises the issue of whether a parent's religious beliefs should be allowed to dictate if a child is vaccinated.

The Supreme Court of Mississippi seemed to recognize this problem in *Brown v. Stone* when it rhetorically asked whether the First Amendment mandates that children, "be denied protection against crippling and death that immunization provides. . . ."¹⁹¹ This is a tremendously complex moral question. However, it suffices to say that the U.S. Supreme Court has recognized that parents have the right to form their children's conscience and religious beliefs.¹⁹² Nonetheless, the Court recognizes that parents do not have absolute

¹⁸⁷ *Id.* at 888-89 (citations and footnote omitted).

¹⁸⁸ *Id.*

¹⁸⁹ *Id.* at 882.

¹⁹⁰ *Id.* at 888-89.

¹⁹¹ *Brown v. Stone*, 378 So.2d 218, 221 (Miss. 1979).

¹⁹² *See, e.g., Wisconsin v. Yoder*, 406 U.S. 205, 214 (1972).

authority over their children.¹⁹³ As seen in the cases thus far surveyed, the Court does not recognize that parental authority necessarily extends to vaccinations when a state mandates them for children because of an overriding state interest.¹⁹⁴

The force of the question posed by *Brown v. Stone* does not merely apply when a state chooses not to allow for religious exemptions, but is also a reason the states should eliminate religious exemptions. A state abandons its role in protecting the health of its population by granting exemptions to parents who will not listen to reason, when it allows religious exemptions. The United States is rooted in the idea that the ultimate purpose of the government is to protect its citizens' inalienable right to life.¹⁹⁵ Although the Constitution provides for strong protections of an individual's right to practice religion, it is outside of the government's duty to judge the veracity or truth of those religious beliefs.¹⁹⁶ "The law knows no heresy, and is committed to the support of no dogma, the establishment of no sect."¹⁹⁷ Because government lacks the power to determine the truth of religious beliefs, it is left with its deeply rooted duty to protect the lives of its citizens through neutral laws of general applicability. The states should not abandon this duty in favor of granting exemptions for no reason, as far as the states can determine. Such exemptions do not protect anyone's welfare, but the potential harm that could come through these allowances is unnecessary and unacceptable.

VI. POTENTIAL PROBLEMS OF ELIMINATING NON-MEDICAL EXEMPTIONS

Although 47 states provide for religious exemptions (California, Mississippi, and West Virginia do not),¹⁹⁸ "it is generally agreed upon

¹⁹³ See, e.g., *Smith*, 494 U.S. at 888-89.

¹⁹⁴ *Brown*, 378 So.2d at 222-23.

¹⁹⁵ THE DECLARATION OF INDEPENDENCE para. 2 (U.S. 1776).

¹⁹⁶ See *Capitol Square Review & Advisory Bd. v. Pinette*, 515 U.S. 753, 798 (1995); *U.S. v. Ballard*, 322 U.S. 78, 85 (1944); *Watson v. Jones*, 80 U.S. 679, 728 (1871).

¹⁹⁷ *Id.* at 728.

¹⁹⁸ *Walkinshaw*, *supra* note 157, at E1167; *State Law and Vaccine Requirements*, *supra* note 108.

that they exist[,] not because school mandates violate the First Amendment[,] but rather to diffuse perceptions of state coercion and to enhance the sustainability and acceptability of school mandates."¹⁹⁹ Despite the fact that the majority of people vaccinate themselves and comply with mandates, there are many people who are uncomfortable with the idea of the mandates themselves. Debates over HPV vaccine mandates and recent discussion concerning whether hospitals should mandate that all of their health care workers receive influenza vaccinations are examples of this concern over such mandates.²⁰⁰ Moreover, with the recent Supreme Court decision and battle over the Affordable Care Act, that created a health insurance mandate, people may be increasingly distrustful and wary of what they see as more government intrusion into their decision making. All of this could lead to an increase in opposition or suspicion to vaccine mandates that could do more harm than good.

Fortunately, there may be other ways to achieve the same results as that of a strict mandate. The government could: (1) offer monetary incentives to parents who choose to vaccinate their children; (2) create a monetary disincentive in the form of a tax for parents who choose to take exemptions for their children; (3) make exemptions more difficult to get; (4) increase education about vaccines and the risks associated with foregoing the vaccine; or (5) impose liability on parents who choose not to vaccinate their children, resulting in a child's illness. All of these possibilities are considered in the next section of this paper.

VII. ALTERNATIVES TO A STRICT MANDATE

One alternative is to create a statutory cause of action that can be brought against parents who refuse to vaccinate their child, causing their child or another child to become ill. Admittedly, this option is

¹⁹⁹ Lantos et al., *supra* note 1, at 42.

²⁰⁰ See *Why Influenza Vaccine Mandates are Ineffective & Unwise Public Policy*, NAT'L VACCINE INFO. CTR. (2013), <http://www.nvic.org/vaccines-and-diseases/Influenza/Why-Influenza-Vaccine-Mandates-Are-Ineffective---U.aspx>; *The Wrong Message on Vaccines*, *supra* note 62, at 369; Jeannie Stokowski-Bisanti, *Rhode Island Health-Care Workers and ACLU Object to Forced Vaccine Mandate*, EXAMINER.COM (Oct. 7, 2012), <http://www.examiner.com/article/rhode-island-becomes-first-state-to-require-flu-shots-for-health-care-employees>.

extreme and may make many people nervous. However, vaccination is not a trivial matter, nor is the decision to get children immunized neither of which should be taken lightly. Vaccines bestow an enormous benefit on the individual by providing him or her protection against life altering disease.²⁰¹ Additionally, vaccinations, on a larger scale, benefit the entire community through herd immunity.²⁰² In other words, getting the recommended immunizations should be viewed as a responsibility, and people should understand the potential costs of exempting themselves or their children from those vaccines. What better way to emphasize personal responsibility than to put people on notice that if they obtain a non-medical exemption, they could potentially be held liable in a civil court?

We utilize tort law to discourage negligent behavior in other areas of our lives, why should tort law not be extended to the realm of vaccinations? This option is no more outrageous than the duty of care imposed by the courts on the owner of property to an invitee on said property. There is a similarity between the two situations. Tort law generally requires that a landowner protect an invitee from hazards on her land. The idea behind this seems to be that taking affirmative steps to make land safe is the cost the owner of land must bear for present or potential economic benefit derived from the invitee's presence.²⁰³

A similar reasoning could be presented for the cause of action against a person who exempts himself (or his child) from immunization requirements: because that person allows others to come into contact with himself, he has a duty to protect others from dangers in such contact, and such protection includes getting vaccinated. Indeed, some courts have held that the duty owed by a land owner to an invitee is not limited to injuries caused solely by conditions of the premises, and that the duty extends to protect the invitee from negligent acts of third parties.²⁰⁴ If such a duty has been

²⁰¹ Douek & Nabel, *supra* note 79, at 5.

²⁰² May & Silverman, *supra* note 133, at 14.

²⁰³ VICTOR E. SCHWARTZ ET AL., PROSSER, WADE, AND SCHWARTZ'S TORTS 508 (Robert C. Clark et al. eds, 12th ed. 2010).

²⁰⁴ *Id.* at 511-12.

extended by some courts, it does not seem unreasonable for a court to include in the duty owed to an invitee or licensee a duty to warn or protect the invitee from the threat that a non-vaccinated person could transmit an illness.

Of course, this option raises many questions such as: (1) is it constitutional; (2) how would proximate cause be determined; (3) how would damages be determined; (4) what kind of damages would be allowed; and (5) how long would the cause of action exist? For example, what if parents refuse to vaccinate their child against HPV and the child then goes on to give someone HPV, causing cancer 30 years later? Finally, there is the broad question of whether this would be prudent.

Addressing the first question of constitutionality, there is nothing to suggest creating such a cause of action would be unconstitutional. Presumably this law could withstand rational basis review; courts have held that protecting the public health is a legitimate government purpose,²⁰⁵ and mandating certain immunizations is rationally related to that goal. The studies cited in this paper alone likely provide enough information for a court to conclude that vaccine mandates are at least rationally related to the goal of protecting public health.

As to the issue of addressing proximate cause, it obviously depends on the case. Proximate cause would not be difficult to determine in a case where a parent's own child was the one harmed by failure to be immunized. In this case, the statutory cause of action would address this head on—the parent's child was the person injured, and the parent's failure to vaccinate was the proximate cause. However, complications to this scheme would arise when a person's failure to be vaccinated against a specific disease caused harm to another person. It is foreseeable that determining who or what caused the injured person to become ill could be difficult in many cases. However, this difficulty does not indicate an actual problem. Proximate cause may be difficult to discern in numerous cases, but this is why juries view all of the evidence and determine whether proximate cause exists.

The most difficult of these questions would seem to be the issue of how long a cause of action would exist. It seems ridiculous to

²⁰⁵ E.g., *Jacobson v. Massachusetts*, 197 U.S. 11, 24-25, 37-39 (1905).

allow a 45-year-old man to sue his partner's parents for not having his partner vaccinated and thus causing him injury thirty years later. Indeed, solving this problem seems to be the main difficulty with this alternative. One could envision a scheme in which parents were only held liable for exemptions until their child was age 18. After that time, the child would become responsible for failing to vaccinate him or herself with vaccines that would still be effective for his or her age. This solution still seems shaky, and a better one might need to be created before this option becomes tenable.

With such high national rates of immunization currently²⁰⁶, it would seem that such a cause of action would not get a great deal of use and thus be deemed unnecessary.

Moreover, the difficulty in successfully litigating this cause may make it no more than an unenforceable deterrent. Nonetheless, the threat of legal implications may be enough of a deterrent against seeking non-medical exemptions for children to be of some use. In smaller regions, where exemption rates may be relatively high, a statutorily created cause of action could effectively reduce those rates. Although such a remedy may appeal to some people's sense of justice, the problems with this solution combined with potential public outcry over individual rights could cause more harm than good to the goal of increasing vaccination rates.

An alternative to a statutorily created cause of action would be to create financial incentives or disincentives to encourage parents to get their children vaccinated. The simplest way to do this would be in the form of a tax. In fact, countries such as Australia already do this by offering tax-free payments of \$129 for each child between 18 and 24 months that complies with immunization requirements and again for children between the ages of four and five who meet the requirements.²⁰⁷ In the United States, a similar payment could be instituted in the form of a refund to be claimed when a person files her federal income tax form. Another benefit of using this method would be that a tax refund would be unlikely to garner heavy opposition from the public at large. The only issue would be whether

²⁰⁶ Omer et al., *supra* note 34, at 1170 (showing national non-medical exemption rates excluding Mississippi and West Virginia to be around 2%).

²⁰⁷ Walkinshaw, *supra* note 157, at E1167.

or not the benefit from increasing vaccination levels would be worth the cost.

Implementation of a disincentive in the form of a tax for those who fail to comply with the mandate is an alternative as long as the cost of the disincentive is prohibitively high. The Supreme Court recently upheld such a tax in the Affordable Care Act, and a similar individual mandate would be used in this instance.²⁰⁸ The federal government could simply tax those who fail to comply with the CDC's immunization recommendations with a fee that would be large enough to deter even those who object.

In addition to taxing individuals who do not comply with vaccine mandates, there is the option of taxing private childcare businesses and daycares that enroll unvaccinated children. The eastern Australian state of New South Wales has recently approved legislation of this type.²⁰⁹ Next year, childcare centers will be able to refuse to enroll children whose vaccination record cannot be verified.²¹⁰ Although children can still be exempted under this scheme, the centers will be fined if they fail to check the child's vaccination status to ensure compliance or proper exemption.²¹¹ Similar measures could be enacted by U.S. states.

An additional benefit to a tax refund or penalty is that it could be implemented on the federal level because it would be based on Congress' broad taxing power. While the federal government most likely does not have the power to mandate immunization, the Supreme Court has repeatedly acknowledged Congress' broad power to tax under the taxing and spending clause.²¹²

²⁰⁸ *National Federation of Independent Business v. Sebelius*, 132 S.Ct. 2566 (2012) (ruling that the Affordable Care Act's requirement that individuals be required to pay a fine if they choose not to get healthcare, which is commonly referred to as the "individual mandate," can be viewed as a tax and is constitutional as such).

²⁰⁹ *Vaccination Laws: NSW Parliament Passes Controversial Laws Over Childcare Vaccination*, ABC NEWS (June 20, 2013, 3:25 AM), <http://www.abc.net.au/news/2013-06-20/nsw-passes-controversial-vaccination-laws/4769002>.

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² *NFIB*, 132 S.Ct. at 2599. Roberts, C.J., stating:

It is abundantly clear the Constitution does not guarantee that individuals may avoid taxation through inactivity. A capitation, after all, is a tax that everyone must pay simply for

Another alternative to a strict mandate is making exemptions more difficult and time consuming to obtain. Studies comparing vaccination rates between states with easier exemption requirements and states with more stringent exemption requirements show a noticeable difference in the percentage of the population who obtain exemptions.²¹³ The methods described as more difficult in these studies included forcing parents to sign a form that had to be notarized and requiring parents to obtain a form obtained from a health department along with a written letter from the parent.²¹⁴ This study found the difficulty to be significantly associated with the percent of exemptions claimed.²¹⁵ This suggests that these methods work in deterring a fair number of parents from obtaining exemptions. Of course, these are not the only methods that could be used to obtain an exemption. People who want exemptions could first be forced to attend a class informing them about the benefits and risks of vaccinations, be required to provide a letter from a doctor saying that they have consulted with a doctor and still want an exemption, or be required to “renew” their exemption annually by any of these methods thus far listed. All of these methods would complicate obtaining exemptions enough or be taxing enough that they would deter all but those people most dedicated to obtaining exemptions.

Educating parents about vaccinations is another option that could be used instead of mandates. As was briefly mentioned, it could be used in combination with other methods (such as making exemptions more difficult to obtain) or standing alone. One analysis considered the effect of educational efforts to get health care workers to receive the influenza immunization.²¹⁶ The study showed an increase from 13% to 37% in vaccination rates when facilities used

existing, and capitations are expressly contemplated by the Constitution. The Court today holds that our Constitution protects us from federal regulation under the Commerce Clause so long as we abstain from the regulated activity. But from its creation, the Constitution has made no such promise with respect to taxes.

²¹³ Rota et al., *supra* note 21, at 645; Omer et al., *supra* note 34, at 1170.

²¹⁴ Rota et al., *supra* note 21, at 645.

²¹⁵ *Id.*

²¹⁶ Lantos et al., *supra* note 1, at 38, 48.

education, availability, and reminders.²¹⁷ Another four-year study showed that by the end of the study, vaccination rates among one hospital's health care workers increased from 27% to 52% after the hospital engaged in an educational campaign that focused on the need for vaccinations, vaccine efficacy, affordability, and reminders.²¹⁸ Any of these methods could be used to engage the public at large via internet ads, television ads, or paper mail campaigns. To conserve resources, the government could also focus on the populations that are more likely to be skeptical of vaccine mandate—non-white, lower income, large households.²¹⁹

VIII. CONCLUSION

Vaccines are one of the most useful, effective, and cost-efficient tools available in medicine at present to stop the spread of certain dangerous communicable diseases. Although vaccine mandates have thus far kept vaccination rates at high levels, the trend showing increasing percentages of people claiming exemptions is worrisome, and it is not too early to consider a response to this trend. The federal and state governments should consider taking steps to prevent or dissuade people from obtaining non-medical exemptions. Actions available to state includes closing unnecessary philosophical and religious exemptions that individuals may claim, and even creating a statutory cause of action that can be brought when a parent's decision not to vaccinate his child harms someone. Alternative actions, available to both the state and federal government that do not involve strengthening mandates include, financial incentives, financial disincentives, increasing the difficulty of obtaining exemptions, or increasing educational campaigns to inform people about immunization. While eliminating the non-medical exemptions would be ideal, the potential backlash from such action could do more harm than good. Thus, the alternative measures provided could be more useful in the long run. Public opinion surveys concerning vaccine mandates and other alternatives might be helpful in

²¹⁷ *Id.* at 48.

²¹⁸ *Id.*

²¹⁹ Kennedy et al., *supra* note 46, at 254.

discerning the most effective response.