

PUMPING THE BRAKES ON MEASLES OUTBREAKS

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I. BACKGROUND

A. Historical Overview of Childhood Vaccinations and Statistical Analyses

Just a century ago, the United States' infant and childhood mortality rate was an astonishing 20% each, and infectious diseases such as measles, diphtheria, smallpox, and pertussis were the leading causes of early deaths.¹ "Fortunately, many of these devastating diseases have been contained, especially in industrialized nations, because of the development and widespread distribution of safe, effective, and affordable vaccines."² While the positive effects of immunizations have been apparent since their genesis,

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1. Alexandra Minna Stern & Howard Markel, *The History of Vaccines and Immunization: Familiar Patterns, New Challenges*, 24 HEALTH AFF. 611, 611 (2005).

2. *Id.*

the social, political, and cultural controversy surrounding vaccines have largely overshadowed such advancements.³

In 1796, Edward Jenner, a country doctor living in Berkeley, England, invented a method to protect against smallpox through his renowned “cowpox experiments.”⁴ Jenner proved that he could protect a child from smallpox if he took material from a blister of someone infected with cowpox and injected it into another person’s skin.⁵ This feat encountered fierce public skepticism as well as “sanitary, religious, scientific, and political objections.”⁶ Nonetheless, in 1885, the term “vaccine” grew to encompass much more than cowpox inoculations, as French chemist Louis Pasteur developed a rabies vaccine using an antitoxin functioning as a post-infection antidote.⁷

Smallpox outbreaks in the United States towards the end of the nineteenth century resulted in both pro- and anti-vaccine campaigns.⁸ In 1902, the City of Cambridge, Massachusetts, mandated a smallpox vaccination after much of the town had succumbed to the disease.⁹ One citizen received criminal charges after he refused to comply with the law, complaining “that the law violated his right to care for his own body how he knew best.”¹⁰ The case reached the U.S. Supreme Court, and in 1905, the Court ruled “that the state could enact compulsory laws to protect the public

3. *Id.* at 611, 612. “Even though *vaccination* and *immunization* are often used interchangeably, especially in nonmedical parlance, the latter is a more inclusive term because it implies that the administration of an immunologic agent actually results in the development of adequate immunity.” *Id.* at 613. However, this Article will presuppose adequate immunity and use the terms interchangeably for the purposes of this discussion.

4. *History of Anti-vaccination Movements*, HIST. VACCINES, <https://www.historyofvaccines.org/content/articles/history-anti-vaccination-movements> (last visited Mar. 10, 2020).

5. *Vaccine History: Developments by Year*, CHILD. HOSP. PHILA., <https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-history/developments-by-year> (last visited Mar. 10, 2020).

6. See *History of Anti-vaccination Movements*, *supra* note 4.

For some parents, the smallpox vaccination itself induced fear and protest. It included scoring the flesh on a child’s arm, and inserting lymph from the blister of a person who had been vaccinated about a week earlier. Some objectors, including the local clergy, believed that the vaccine was “unchristian” because it came from an animal. For other anti-vaccinators, their discontent with the smallpox vaccine reflected their general distrust in medicine and in Jenner’s ideas about disease spread. Suspicious of the vaccine’s efficacy, some skeptics alleged that smallpox resulted from decaying matter in the atmosphere. Lastly, many people objected to vaccination because they believed it violated their personal liberty, a tension that worsened as the government developed mandatory vaccine policies.

Id. (footnotes omitted).

7. See Stern & Markel, *supra* note 1, at 613.

8. See *History of Anti-vaccination Movements*, *supra* note 4. “The Anti Vaccination Society of America was founded in 1879, following a visit to America by leading British anti-vaccinationist William Tebb. Two other leagues, the New England Anti Compulsory Vaccination League (1882) and the Anti-vaccination League of New York City (1885) followed.” *Id.*

9. *Id.*

10. *Id.*

in the event of a communicable disease,” marking the first case ruling on states’ powers in conjunction with public health law.¹¹

Advancements only continued in the context of scientific knowledge and large-scale vaccines. By 1938, scientists developed vaccines for pertussis, diphtheria, and tetanus—later combined and given as DTP.¹² In 1945, the end of World War II brought about another huge advancement as the first flu vaccine was licensed for use in the United States.¹³ Despite these medical accomplishments, a decade later, nearly 200 children succumbed to polio after the vaccine was introduced into the market in 1955.¹⁴ In 1963, scientists rectified the polio vaccination’s composition, and in 1968, the measles vaccination became available.¹⁵

In 1979, the Thirty-Third World Health Assembly declared that smallpox was eradicated and, over the next three decades, the availability of new and effective vaccines largely curbed the growth and transmission for new and infectious diseases.¹⁶ Despite remarkable medical pioneering, vaccinations continue to receive immense scrutiny, causing the resurgence of certain deadly diseases.¹⁷ This reality is clearly demonstrated by the fact that nearly two decades after elimination, endemic measles has been diagnosed more in the first two months of 2019 than in all of 2017.¹⁸

11. *Id.*

12. *Vaccine History: Developments by Year*, *supra* note 5.

13. *What Is the History of Influenza Vaccine Use in America?*, NAT’L VACCINE INFO. CTR., <https://www.nvic.org/vaccines-and-diseases/influenza/vaccine-history.aspx> (last visited Mar. 16, 2020).

14. See generally Paul A. Offit, *The Cutter Incident: How America’s First Polio Vaccine Led to a Growing Vaccine Crisis*, 99 J. ROYAL SOC’Y MED. 156, 156 (2006), <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1383764/pdf/0156.pdf>. The deaths resulting from the defective vaccine produced by Cutter Laboratories are collectively known as the Cutter Incident. *Id.*

15. *Vaccine History: Developments by Year*, *supra* note 5; *Measles History*, CTR. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/measles/about/history.html> (last visited Mar. 16, 2020).

16. Vincent Iannelli, *History of Vaccinations and Vaccines*, VERY WELL HEALTH, www.verywellhealth.com/information-and-history-about-vaccination-and-vaccines-2633706 (last updated Apr. 30, 2019). Notable developments in vaccinations include:

Menomune, the first meningococcal vaccine is licensed in 1981[;] . . . hepatitis B vaccine, Engerix-B is approved in 1989[;] . . . [t]he hepatitis B and Hib vaccines are recommended for all infants in 1991[;] . . . [t]he WHO declares that polio has been eliminated from the Western Hemisphere in 1994[;] . . . [a] vaccine to protect kids against chicken pox (Varivax) is licensed in 1995[;] . . . LYMERix, a Lyme disease vaccine is licensed in 1998[;] . . . [e]ndemic measles is declared eliminated in the United States in 2000[;] . . . [a] flu shot for all health children between 6 and 23 months became a formal recommendation for the 2004-05 flu season[;] . . . [t]he hepatitis A vaccine is added to the routine childhood immunization schedule in 2006[;] . . . [a] 2nd booster dose of the chicken pox vaccine is added to the immunization schedule in 2007 to help prevent breakthrough infections[;] . . . [in 2013] MenHibrix is recommended for infants at high risk for meningococcal disease . . .

Id.

17. Eve Dubé et al., *Vaccine Hesitancy: An Overview*, 9 HUM. VACCINES & IMMUNOTHERAPEUTICS 1763, 1770 (2013), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3906279/>.

18. *How ‘Completely Avoidable’ Measles Cases Continue to Climb*, FOX 10 PHX. (Mar. 4, 2019), <http://www.fox10phoenix.com/news/how-completely-avoidable-measles-cases-continue-to-climb>.

B. Vaccination Resistance

“Anti-vaccination opposition is as old as mass vaccination itself.”¹⁹ Such resistance has resulted from various concerns relevant to different societies throughout the duration of the immunization practice.²⁰ Early apprehension was aimed at the smallpox vaccine, which was the primary vaccine available at the time, and centered around the safety and efficacy of inoculation.²¹ In the twentieth century, vaccine concerns continued to involve safety, but a growing discomfort with state power made the subject of mass vaccination a major source of contention.²² Conversely, the twentieth and twenty-first centuries have generated great debate surrounding potential side effects of certain vaccinations. For example, in the 1970s and 1980s, huge concerns arose about the diphtheria, tetanus, and pertussis (DPT) vaccine following a report that a prominent London hospital issued, claiming that the immunization had caused nearly forty children to develop severe neurological conditions.²³ Moreover, in the late 1990s and early 2000s, the measles, mumps, and rubella (MMR) vaccine allegedly caused serious bowel symptoms; and perhaps most alarmingly, during this time a report was issued which linked the MMR vaccination and autism.²⁴

The long and complex tale of vaccination resistance can be summarized in the form of three principal objections: “government intrusion on religious beliefs, general distrust of medical science, and infringement of personal liberty.”²⁵ Notably, one predominant issue encapsulated within each of these

19. Samantha Vanderslott, Bernadeta Dadonaite & Max Roser, *Vaccination*, OUR WORLD IN DATA, (July 2015) (emphasis omitted), <https://ourworldindata.org/vaccination>.

20. See Stern & Markel, *supra* note 1.

21. See *id.* at 612–13.

22. See Vanderslott, Dadonaite & Roser, *supra* note 19.

23. See *History of Anti-vaccination Movements*, *supra* note 4.

24. *Id.*

In 1998, British doctor Andrew Wakefield recommended further investigation of a possible relationship between bowel disease, autism, and the MMR vaccine. A few years later, Wakefield alleged the vaccine was not properly tested before being put into use. The media seized these stories, igniting public fear and confusion over the safety of the vaccine. The *Lancet*, the journal that originally published Wakefield’s work, stated in 2004 that it should not have published the paper. The General Medical Council, an independent regulator for doctors in the UK, found that Wakefield had a “fatal conflict of interest.” He had been paid by a law board to find out if there was evidence to support a litigation case by parents who believed that the vaccine had harmed their children. In 2010, the *Lancet* formally retracted the paper after the British General Medical Council ruled against Wakefield in several areas. Wakefield was struck from the medical register in Great Britain and may no longer practice medicine there. In January 2011, the BMJ published a series of reports by journalist Brian Deer outlining evidence that Wakefield had committed scientific fraud by falsifying data and also that Wakefield hoped to financially profit from his investigations in several ways.

Id. (footnotes omitted).

25. Jason L. Schwartz, *New Media, Old Messages: Themes in the History of Vaccine Hesitancy and Refusal*, 14 *AMA J. ETHICS* 50, 52 (2012), <https://journalofethics.ama-assn.org/sites/journalofethics.ama-assn.org/files/2018-05/mhs+1201.pdf>.

concerns is not opposition against vaccines themselves, but against compulsory vaccinations.”²⁶ Indeed, the idea of mandating vaccines has created a “new wave” of anti-vaccine protests, and the movement only continues to gain steam.²⁷ In today’s world, technological advancements allow for widespread dissemination of information, and as a result, anti-vaccination rhetoric has been “catapulted . . . into the mainstream.”²⁸ Furthermore, prominent public figures have weighed in on the debate, only operating to amplify the messages of anti-vaccine initiatives.²⁹ This publicity, coupled with the power and breadth of social media, has even begun to ensnare the countries who have long championed vaccinations.³⁰ Put simply, social media is certainly an agent for the transmission of information but also undeniably disseminates what experts believe to be the primary reason for the dangerous present day upsurge in measles outbreaks:³¹ Misinformation.³²

Therefore, technology companies such as Google, Facebook, and Twitter are being called upon to take action to prevent the blurring of lines between political debate and health concerns by imposing countermeasures to automated bots, foreign trolls, and any other means by which hot-button topics ensnare the consumer public.³³ These tech companies are operating pursuant to the notion that “[r]epetition of information, even if false, can often be mistaken for accuracy.”³⁴ Thus, subjection to anti-vaccine rhetoric

26. Sheena McKenzie & Kara Fox, *Science Being ‘Debunked:’ Why Are Some Countries Making a Vaccine U-Turn?*, CNN (Feb. 18, 2019 1:11 PM), <https://www.cnn.com/2019/02/16/health/anti-vaccine-movement-history-pushback-intl/index.html>.

27. *Id.*

28. *Id.*

29. *Id.*

In the United States, that anti-vaccine resurgence has been amplified by actors Jim Carrey and Jenny McCarthy — who said they believed vaccines could have contributed to McCarthy’s son’s autism — and high-profile celebrities such as then-real estate mogul and reality TV star, Donald Trump.

In 2012, Trump, weighed in on vaccines on Twitter, saying: “Massive combined inoculations to small children is the cause for big increase in autism. . . .”

Id.

30. *Id.*

“We see it as probably the prime vehicle to spread arguments that are not fact based and that are frankly destructive to public health,” [David R. Curry, executive director of the Center for Vaccine Ethics and Policy] said, noting that critically, social media has allowed the spread of anti-vaccine rhetoric into countries where historically, vaccine confidence has been high.

Id.

31. *Id.* “Preliminary numbers of measles cases reported to WHO headquarters, across 183 countries, showed a near 50% rise in cases in mid-January 2019, compared to that date in 2018.” *Id.*

32. *See id.*

33. *See id.* (In February of 2019, “US House Rep. Adam Schiff sent a letter to the CEO of Facebook and Google, urging them to address the issues. ‘If a concerned parent consistently sees information in their Newsfeed that casts doubt on the safety or efficacy of vaccines, it could cause them to disregard the advice of their children’s physicians and public health experts and decline to follow the recommended vaccination schedule,’ Schiff said.”).

Id.

34. *Id.*

across social media platforms taints consumers' stance on the matter, primarily because web users believe that the internet is the only resource they need to formulate a technical or scientific belief about an issue.³⁵ Unfortunately, these circumstances have generated a massive measles outbreak across the United States and induced even more vaccine hesitancy—one of the largest and most dangerous threats to global health in 2019.³⁶

C. Evidence Offered in Support of Childhood Immunizations: Debunking Erroneous Conclusions by Parents Who Refuse to Vaccinate

“Experts [conclude] that the benefit of vaccines is not a matter of opinion but a matter of scientific fact.”³⁷ Indeed, vaccines prevent six million deaths annually and may very well be “the most important tool we have to prevent diseases.”³⁸ Therefore, vaccine resistance creates serious and imminent public health concerns as illustrated by the pattern that results when vaccination rates drop.³⁹ In recent times, when disease levels have risen the majority of those affected were documented as intentionally unvaccinated.⁴⁰ Moreover, this group largely consists of *children*.⁴¹ Such a result creates a dangerous scenario because when vaccination “levels in a particular community dip below a critical threshold necessary to establish what public health experts call herd immunity, contagion can take hold.”⁴² When herd immunity is not met, “also caught in the net and falling ill are those who cannot be vaccinated for medical reasons, those who are too young to be fully vaccinated, and others for whom vaccines have not provided complete protection.”⁴³

As discussed above, parents refuse to vaccinate children for various reasons, such as the potential for other health risks.⁴⁴ While most experts

35. *See id.*

36. *Id.*

37. Kathleen Gould, *Vaccine Safety: Evidence-Based Research Must Prevail*, 36 DIMENSIONS OF CRITICAL CARE NURSING 145, 147 (2017), https://journals.lww.com/decnjournal/FullText/2017/05000/Vaccine_Safety__Evidence_based_research_Must.1.aspx.

38. *Id.*; AM. ACAD. OF PEDIATRICS, *Vaccine Safety: Examine the Evidence*, HEALTHY CHILDREN, <https://www.healthychildren.org/English/safety-prevention/immunizations/Pages/Vaccine-Studies-Examine-the-Evidence.aspx> (last updated July 24, 2018).

39. *See, e.g.*, Gould, *supra* note 37, at 145 (stating that doctors try to break the pattern by helping vaccine-averse people look to information with scientific merit).

40. Dorit Rubinstein Reiss & Lois A. Weithorn, *Responding to the Childhood Vaccination Crisis: Legal Frameworks and Tools in the Context of Parental Vaccine Refusal*, 63 BUFF. L. REV. 881, 930 (2015).

41. *Id.*

42. Hillel Y. Levin & Timothy D. Lytton, *Increasing Vaccination Rates Without Eliminating Nonmedical Exemptions*, REG. REV. (Dec. 31, 2018), <https://www.theregreview.org/2018/12/31/lytton-levin-increasing-vaccination-rates/>.

43. *See* Reiss & Weithorn, *supra* note 40, at 930.

44. *See History of Anti-vaccination Movements*, *supra* note 4 (discussing concerns about potential side effects of vaccines).

agree that vaccinations are not entirely free of risk, misinformation has sensationalized the idea of certain risks associated with vaccines, such as autism.⁴⁵ Such a correlation is erroneous, however, and any linkage between vaccines and autism has been disproved time and time again.⁴⁶ Nonetheless, the anti-vaccine movement continues to gain momentum, evidenced by a recent study that found *vaccine risks* to have five times the amount of online searches as *vaccine benefits*.⁴⁷

Undoubtedly, “[t]he best way in the long term is to refute wrong allegations at the earliest opportunity by providing scientifically valid data,” but the spread of anti-vaccine propaganda operates to hinder dissemination of vaccinations’ tangible benefits such as: disease eradication, disease elimination, individual morbidity control, societal morbidity control, mitigation of disease severity, infection prevention, protection for the unvaccinated, source drying, related disease prevention, cancer prevention, health care savings, prevention of anti-biotic resistance, extension of life expectancy, and opportunities of safe travel.⁴⁸

Immunization benefits may be subject to scrutiny by those opposed to vaccines, but data and studies exist that provide insurmountable evidence in favor of vaccinations.⁴⁹ Indeed, empirical evidence, general physicians, pediatricians, scientists, and public-health experts support the reality that “vaccines are safe, vaccines are necessary and vaccines work.”⁵⁰

II. POTENTIAL LEGAL APPROACHES TO COMPLIANCE

The historical narrative of vaccinations and the various responses the vaccine controversy generates are both undoubtedly complex.⁵¹ Notably,

45. See Vanderslott, Dadonaite & Roser, *supra* note 19.

46. See *Do Vaccines Cause Autism?*, WEBMD, <https://www.webmd.com/brain/autism/do-vaccines-cause-autism#1> (last visited Mar. 15, 2020). “The research is clear: Vaccines don’t cause autism. More than a dozen studies have tried to find a link. Each one has come up empty.” *Id.*

47. F.E. Andre et al., *Vaccination Greatly Reduces Disease, Disability, Death and Inequity Worldwide*, 86 BULL. WORLD HEALTH ORG. 140, 140 (2008).

48. *Id.* at 140–43.

49. See, e.g., *id.* at 143.

The benefits of vaccination extend beyond prevention of specific diseases in individuals. They enable a rich, multifaceted harvest for societies and nations. Vaccination makes good economic sense, and meets the need to care for the weakest members of societies. Reducing global child mortality by facilitating universal access to safe vaccines of proven efficacy is a moral obligation for the international community as it is a human right for every individual to have the opportunity to live a healthier and fuller life.

Id. at 143.

50. *Journalists Gather for Information Session on Vaccines*, SABIN VACCINE INST. (Nov. 20, 2017), <https://www.sabin.org/updates/pressreleases/journalists-gather-information-session-vaccines>; see Andre et al., *supra* note 47, at 143–44; see also *New Studies Look at the Broader Impact of Vaccines*, IMMUNIZATION ECON. (Dec. 20, 2018), <http://immunizationeconomics.org/recent-activity/2018/11/29/new-studies-look-at-the-broader-social-and-economic-impact-of-vaccines> (exploring five recent studies focused on the impact of vaccinations).

51. See Reiss & Weithorn, *supra* note 40, at 886–91.

much is the same for potential resolutions to this interminable vaccine debate. State interference—in the way of coercion, conditions, or the modification of exemptions to vaccines—seemingly implicates all of the personal liberty concerns that have loomed over vaccinations since development.⁵²

Nonetheless, measles cases are up 50% since 2018, and some form of action must be taken to maintain herd immunity and counteract deadly diseases that are reemerging simply by virtue of anti-vaccine initiatives.⁵³ Accordingly, the scope of constitutional governmental interference is worthy of discussion. The following discussion relates primarily to children and childhood vaccinations. While related, adult vaccinations are subject to separate overarching challenges.⁵⁴

A. Constitutional Implications of State Interference with Childhood Vaccinations

“[T]he family itself is not beyond regulation in the public interest, as against a claim of religious liberty. And neither rights of religion nor rights of parenthood are beyond limitation.”⁵⁵ Such was the principle announced by the United States Supreme Court nearly a century ago, and such is the principle as it stands today.⁵⁶ In *Prince v. Massachusetts*, the Court upheld a regulation that prohibited boys under the age of twelve and girls under the age of eighteen from selling newspapers in public places, holding the law was not in violation of the Fourteenth Amendment’s free exercise of religion clause.⁵⁷ The majority noted that precedent had established the rights of parents and children to exercise religion but that the right was not absolute and that parental autonomy had its limits.⁵⁸ Specifically, the Court explained that while parental interests will be balanced against that of the state, when parental conduct endangers a child, the state may step in to promote a child’s

52. See *id.* at 960–65.

53. See McKenzie & Fox, *supra* note 26.

54. See THE NAT’L VACCINE PROGRAM OFFICE, NATIONAL ADULT IMMUNIZATION PLAN 4 (2016) <https://www.hhs.gov/sites/default/files/nvpo/national-adult-immunization-plan/naip.pdf>. The need for adult immunization compliance is imperative because as the U.S. population continues to age, “the public health impact of vaccine-preventable diseases and their complications in adults is likely to grow.” *Id.* at 1. Accordingly, the United States Department of Health and Healthcare Services National Vaccine Program Office has developed a National Adult Immunization Plan that outlines key challenges and goals to rectify the low vaccination rates for those above 18 years of age. *Id.*

55. *Prince v. Massachusetts*, 321 U.S. 158, 166 (1944) (citations omitted) (holding that the government has broad authority to regulate the treatment of children, and further holding that parental authority is not absolute and can be permissibly restricted if doing so is in the child’s best interest).

56. See *Phillips v. City of New York*, 775 F.3d 538, 542–44 (2d Cir. 2015) (holding that a mandatory vaccination does not violate the Free Exercise Clause).

57. *Prince*, 321 U.S. at 160–61, 170.

58. *Id.* at 166–70.

best interests pursuant to its *parens patriae* authority and police power.⁵⁹ Notably, the Court cited non-vaccination as an instance where these dual powers could be rightfully exercised.⁶⁰

While constitutional jurisprudence has developed and expanded immensely since the Court's interest-balancing analysis in *Prince v. Massachusetts*, a state's authority to intervene for the sake of a child is unwavering:

Our system values individual freedoms and parental rights; but neither is absolute. Individual freedoms can be limited to protect the rights of others, and parental rights can be limited when parental choices harm children. . . . [I]mmunizing children is at the intersection of those two interests: because the risks of vaccinating are dramatically smaller than the risks of not vaccinating, and because vaccinating affects not just the child but others, the courts defer to the legislature's balancing of these interests.⁶¹

Parents undoubtedly have a Fourteenth Amendment fundamental right of parental discretion in decision-making involving their child's wellbeing, and states typically defer to such decision making.⁶² As *Prince* illustrates, however, lines of demarcation exist in allowing total parental autonomy.⁶³ This notion is further evidenced by the Supreme Court's more recent hesitation to apply a strict scrutiny analysis when dealing with parent/child authoritative questions and instead the Court has chosen to employ less stringent balancing tests.⁶⁴ Indeed, in the proper circumstance, this very perspective that a state's interests outweigh and accordingly override parental interests has played a huge yet underemphasized role in the functioning of society today, as evidenced by a state's power to mandate schooling and enforce child labor restrictions.⁶⁵

59. *Id.* at 166–69. “*Parens patriae* is an ancient doctrine under which states have an obligation ‘to protect, care for, and control citizens who cannot take care of themselves.’” Vanessa S. Browne-Barbour, *Compulsory Attendance and Parental Rights: There Are Limits*, 2 F. PUB. POL’Y 360, 363 (2006).

60. *Prince*, 321 U.S. at 166.

61. Letter from Dorit Rubinstein Reiss, Professor of Law at the Univ. of California Hastings College of the Law to Members of the California Assembly Health Comm. (June 7, 2015) as reprinted in *Robert Kennedy Is Wrong—Mandatory Vaccinations Are Constitutional*, DAILYKOS (July 20, 2015, 3:13 PM), <https://www.dailykos.com/story/2015/7/20/1404026/-Robert-Kennedy-is-wrong-mandatory-vaccination-s-are-constitutional>; see also *Jacobson v. Massachusetts*, 197 U.S. 11, 32–36 (1905) (citations omitted) (explaining that the legislature has the ability to pass laws that prevent the spread of contagious diseases).

62. *Prince*, 321 U.S. at 166.

63. *Id.*

64. See, e.g., *Troxel v. Granville*, 530 U.S. 57, 63–66, 69–70 (2000) (affording a custodial mother “special weight” in her decision making regarding grandparent visitation); *Bellotti v. Baird*, 443 U.S. 622, 642–44 (1979) (determining a minor’s right to seek an abortion); *Parham v. J.R.*, 442 U.S. 584, 599–603 (1979) (explaining the factors used to determine the institutionalization of a child).

65. See *United States v. Darby Lumber Co.*, 312 U.S. 100, 118 (1941) (holding that the Fair Labor Standards Act, which prohibited child labor, was a proper exercise of the congressional commerce power); VICTORIA J. DODD, *PRACTICAL EDUCATION LAW FOR THE TWENTY-FIRST CENTURY* 9 (2d ed. 2010).

While governmental reluctance to capitulate to any and all parental decisions made on behalf of children is justified as a form of police power and *parens patriae* authority, many believe that such justification operates as an avenue for governmental invasion into the private lives of citizens.⁶⁶ This viewpoint, however, does not apply to all governmental public health regulations.⁶⁷ For example, compulsory schooling and child labor laws exhibit paramount intrusion upon parental discretion, yet are followed by parents and society at large.⁶⁸ The divergence in treatment between child labor laws and vaccine mandates is even more perplexing when one considers the repercussions that violations of each have on society.⁶⁹ Notwithstanding this almost paradoxical legal and philosophical posture, vaccination mandates are often deemed controversial and scrutinized as governmental intrusion.⁷⁰

In sum, *Prince* stands for the idea that governmental action in the context of childhood vaccinations is within constitutional bounds.⁷¹ Accordingly, legislatures have the authority to choose among three

66. Letter from Lawyers Opposed to SB 277 to California State Senators (June 17, 2015), <https://healthfreedomaction.org/wp-content/uploads/2015/06/AttorneysOpposeSB277Letter-FINAL-Cal-Legislature-6-20-15-Signed.pdf> (“Religious exemptions are permissible under the Free Exercise Clause of the First Amendment. The United States Constitution provides that ‘Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof.’ Accordingly, parents should have the religious freedom to oppose medical procedures and to not have government dictate their expression of religious belief.”).

67. *Id.*

68. See Reiss & Weithorn, *supra* note 40, at 912.

69. See Letter from Doris Rubenstein Reiss, *supra* note 61. Vaccination mandates are deemed a form of government dictation even though a violation of such mandates has a sweeping, devastating effect that directly impacts *other* children, families, and the public at large who choose to comply. See *id.*

70. Reiss & Weithorn, *supra* note 40, at 912–15. While the public’s acquiescence to certain intrusive regulations is perplexing when juxtaposed to the public outcry over mandatory vaccinations, the same cannot be said for policies such as mandatory quarantines. While desired, mandatory quarantines create tremendous liberty concerns so courts and legislators require an extremely high standard be met for mandatory quarantines. See *Legal Authorities for Isolation and Quarantine*, CTR. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/quarantine/aboutlawsregulationsquarantineisolation.html> (last visited Mar. 15, 2020). New York requires that the quarantine be “‘necessary’ to protect the public’s health,” and New Jersey requires “the least restrictive means necessary.” See Lawrence O. Gostin & Eric A. Freidman, *Private: State Quarantine Powers Under the Constitution: Fear in an Age of Ebola*, AM. CONST. SOC’Y (Nov. 4, 2014), <http://acslaw.org/expertforum/state-quarantine-powers-under-the-constitution-fear-in-an-age-of-ebola/>. This standard includes deducing that an *individual* presents a risk to the public, not just that the individual belongs to a class of people who *could* present a risk. *Id.* (explaining that due to the intrusive nature of quarantines, the Supreme Court has established a strict three-part test to justify civil confinement, requiring individual risk assessments, the use of the least restrictive means, and procedural due process). Despite such a careful approach, critics still frame the standard as reactionary or “irrational” and reflecting “political agendas” or responding to “exaggerated public fear.” *Id.* In contrast, *Prince*’s less stringent balancing test that operates to justify mandatory vaccines applies to a *classification* of people (children) to prevent the *risk* of harm. *Prince v. Massachusetts*, 321 U.S. 159, 166 (1944). Thus, public pushback to mandatory vaccinations is sensible when juxtaposed to the exceedingly more heedful approach employed in the context of mandatory quarantines.

71. See Reiss & Weithorn, *supra* note 40, at 912–13. *Prince v. Massachusetts* is an “extraordinary case in its articulation of the dual police power and *parens patriae* interests and the delicate balance between those state powers and the default of parental autonomy.” *Id.*

alternatives: (1) allow parents free reign to refuse vaccinations on behalf of their children; (2) remove any and all non-medical exemptions (NMEs)⁷² from education-related vaccination requirements; or (3) take away the choice entirely, and mandate that parents vaccinate their children.⁷³ Despite the benefits implicit in any one of these approaches, each is inherently imperfect and carries with it additional and distinct concerns. As discussed above, non-vaccination operates to threaten herd immunity.⁷⁴ Yet, the public distaste for mandatory vaccines is apparent and constant notwithstanding its various and unpredictable responses to other public health policies.⁷⁵ Accordingly, a creative approach that acts to nullify these concerns to the greatest extent possible is the sole solution.

B. Compliance Through Government Coercion

1. Mandatory vs. Compulsive Vaccinations: Coercive Approaches

To some, *mandatory vaccinations* may carry a criminal enforcement connotation.⁷⁶ Mandatory vaccinations, however, are distinct from the uncommon principle of *compulsory vaccinations*, which treat vaccine refusal as a crime.⁷⁷ For example, the government of France brought criminal charges against parents who refused to vaccinate their children according to the French vaccination program.⁷⁸ The relevant criminal provision “criminalizes neglect of parental duties ‘to the point of risking the health . . . of a minor child’, with a fine of 30,000 euros and up to two years in prisons as penalty.”⁷⁹ Similarly, in the early twentieth century, the state of New Hampshire had a criminal provision that penalized “failure by a parent to cause his child of school age to be vaccinated, if the child be a fit subject or be not reasonably immune to smallpox.”⁸⁰

While the vaccination legal landscape is a bit different today, laws that punish substandard parental conduct are still enforced throughout the states, such as requiring parents to use car seats or seat belts for their children or

72. See *infra* Part II.B.2 (discussing parental choice surrounding vaccines).

73. See Letter from Dorit Rubenstein Reiss, *supra* note 61.

74. Levin & Lytton, *supra* note 42.

75. See Reiss & Weithorn, *supra* note 40, at 912. For example, the acquiescence to intrusive policies such as mandatory schooling juxtaposed to the pushback to the careful, exacting standard associated with mandatory quarantines. See *id.*

76. See *id.*

77. See Levin & Lytton, *supra* note 42.

78. See Dorit Rubenstein Reiss, *Freedom to Ignore French Vaccination Program—A Court Case*, SKEPTICAL RAPTOR (Jan. 8, 2016), <https://www.skepticalraptor.com/skepticalraptorblog.php/freedom-vaccinate-france-a-court-case/>.

79. *Id.* (citing CODE PÉNAL [C. PEN.] [Penal Code] art. 227-17 (Fr.)).

80. *State v. Drew*, 192 A. 629, 632 (N.H. 1937).

else pay a fine.⁸¹ Accordingly, states could criminalize those who refuse to vaccinate their children today, but it is the very coercive nature of this method that causes backlash from objectors.⁸² Thus, “[m]ost states and substate units treat vaccination as a voluntary practice, and their policies aim to make it more likely that parents will choose to vaccinate,” amounting to what is coined mandatory vaccinations.⁸³

Mandatory vaccinations “limit[] access to a good or service” and are “much more common.”⁸⁴ Despite one’s opinion on the constitutionality of compulsory vaccines, the case can certainly be made that mandating vaccines, in contrast, is the more *effective* way of obtaining the overarching goal of herd immunity.⁸⁵ Examples of mandatory vaccinations solutions in effect today include: “administrative requirements, fines and solutions that condition social existence (education, social assistance, freedom restriction).”⁸⁶ While each of these methods have correlation, to some degree, in more vaccines administered, the effectiveness of these coercion methods is waning as present day vaccination rates spiral downward.⁸⁷ Accordingly, new and innovative coercion methods are necessary to see a noteworthy trend upward in immunizations.⁸⁸

2. A Retrospective Approach

Undoubtedly, childhood vaccinations are inherently a prospective measure seeking to prevent a child from acquiring a potentially deadly and contagious disease. One possible solution to curb the objections of those opposed to the practice is a retrospective approach.⁸⁹ Such a method operates to preserve both pro- and anti-vaccinators’ concerns in the vaccination debate.⁹⁰

81. See, e.g., *Child Passenger Safety*, GOVERNORS HIGHWAY SAFETY ASS’N, <https://www.ghsa.org/state-laws/issues/Child-Passenger-Safety> (last visited Mar. 16, 2020). Like childhood vaccination policies, seatbelt laws are enforced to protect children from variables beyond their control. *Id.*

82. See, e.g., Barbara Fisher, *Zero Tolerance Vaccine Laws in America: Will You Defend Your Freedom?*, NAT’L VACCINE INFO. CTR. (July 1, 2018, 5:48 PM) <https://www.nvic.org/nvic-vaccine-news/july-2018/zero-tolerance-vaccine-laws-in-america.aspx> (“Today, we are witnessing the erosion of core values that our constitutional democracy was founded upon. One example is a public campaign led by the medical establishment to demonize and discriminate against anyone opposing zero tolerance vaccine laws that violate human rights in the name of public health.”).

83. Mark Christopher Navin & Mark Aaron Largent, *Improving Nonmedical Vaccine Exemption Policies: Three Case Studies*, 10 PUB. HEALTH ETHICS 225, 225 (2017).

84. *Id.* at 226.

85. Rafal K. Patryn & Anna Zagaja, *Vaccinations-Between Free Will and Coercion*, 12 HUM. VACCINES & IMMUNOTHERAPEUTICS 2204 (2016).

86. *Id.* at 2205.

87. *Id.*

88. *Id.*

89. *Id.*; see Reiss & Weithorn, *supra* note 40, at 972–73.

90. See Patryn & Zagaja, *supra* note 85, at 2205.

A retrospective approach would function to allow parents the liberty to make crucial and intimate decisions concerning their child's healthcare.⁹¹ Accordingly, parents could forego obtaining vaccinations to hold fast to their convictions, subject to a contractual acknowledgment that in the event their child becomes infected, they will assume out-of-pocket financial responsibility.⁹² This proposition acts as a monetary fine to induce parents to vaccinate their children to avoid succumbing to endless healthcare costs that would otherwise be funded through services such as Medicaid or Children's Health Insurance Premium (CHIP).⁹³

Despite the potential effectiveness of a retrospective approach, some may argue that such a burden is too punitive. Alternatively, some argue this approach is inequitable, by disadvantaging those less financially prosperous and allowing those who can afford the risk more liberty to exercise choice.⁹⁴ Nonetheless, a retrospective approach inarguably acts to safeguard the principle beliefs at risk on each side of the vaccine debate.⁹⁵

3. A Conditional Approach

A somewhat less penalizing approach is to condition *benefits* on obtaining the recommended childhood immunizations.⁹⁶ Indeed, this form of governmental enticement is already in effect today under § 2713 of the Patient Protection Affordable Care Act that shifts the costs of childhood vaccines onto insurers.⁹⁷ Additional incentives, however, could be offered to parents to seek vaccination—ones that are not directly tied to the cost of vaccinations themselves.⁹⁸ This method is in place in Australia where children need to be fully immunized as a requirement for parents to be eligible to receive family assistance payments such as the Family Tax Benefit and Child Care Subsidy.⁹⁹ Indeed, Australia holds up to \$7,500 per child per year in governmental rebates for childcare expenses from anti-vaccinators

91. *Id.*

92. *Id.* (noting the possibility of tort liability).

93. *See id.*; *The Children's Health Insurance Program (CHIP)*, HEALTHCARE.GOV, <https://www.healthcare.gov/medicaid-chip/childrens-health-insurance-program/> (last visited Mar. 16, 2020).

94. *See* Reiss & Weithorn, *supra* note 40, at 963 (noting finances of the actor as a major variable to a cost-internalization approach).

95. *Id.* at 962.

96. *Id.* at 975–76.

97. *Id.*

98. *Id.* at 976.

99. *Child Care Subsidy*, AUSTRALIAN GOV'T SERVS. AUSTL., <https://www.servicesaustralia.gov.au/individuals/services/centrelink/child-care-subsidy> (last updated Oct. 30, 2019); *Family Tax Benefit*, AUSTRALIAN GOV'T SERVS. AUSTL., <https://www.serviceaustralia.gov.au/individuals/services/centrelink/family-tax-benefit> (last updated Jan. 23, 2020) (explaining that these two benefits are to assist with the costs of raising a child generally); *Why Get Immunised?*, AUSTRALIAN GOV'T DEP'T HEALTH (last updated Feb. 13, 2020), <https://campaign.health.gov.au/immunisationfacts/why-get-immunised>.

who forego vaccinating their children.¹⁰⁰ As a result, Australia has seen a 3% rise in vaccination rates since 2016.¹⁰¹

Accordingly, tax breaks and insurance rebates could be offered in the United States to reduce the number of children that go unvaccinated. The downside to this proposition, however, is the possibility that anti-vaccinators value their strong personal convictions associated with vaccine refusal over the potential benefits associated with compliance and choose to forego the opportunity.¹⁰² Additionally, financial incentives affect distinct sectors of society in different ways. What may be a huge monetary incentive for one may make negligible financial difference to another.¹⁰³ Accordingly, financial coercion alone will likely not operate to induce maximum vaccine compliance throughout the country.¹⁰⁴ History indicates, however, that some condition of social existence has produced large amounts of compliance.

For example, Slovenia, France, the United States, and some Canadian provinces require children to be vaccinated prior to enrolling in school or daycare.¹⁰⁵ In the U.S., children must receive various vaccinations as a precondition to attending public and most private schools.¹⁰⁶ This form of mandating vaccinations is undoubtedly efficient and “is far less costly for governments, health care providers, and the economy than treating victims of a disease after it has appeared in a community.”¹⁰⁷ To some, however, these arguments are simply second-rate to the potential liberty infringement these policies impose because “[t]here is a fine line between creating laws that restrict freedoms” and creating laws that help others.¹⁰⁸

4. Exemptions: An Approach to Restrict Circumvention

Concerns with mandatory school vaccinations are oft circumvented by way of non-medical exemptions (NMEs). While all 50 states require a particular number of vaccinations as a precondition to public school attendance, forty-seven states allow NMEs for religious reasons, and

100. *What Are Immunisation Requirements*, AUSTRALIAN GOV'T SERVS. AUSTRALIA (last updated Oct. 22, 2019), <https://www.servicesaustralia.gov.au/individuals/topics/what-are-immunisation-requirements/35396>.

101. Vincent Ianelli, *How Are Australia's New Vaccine Laws Working?*, VAXOPEDIA (Dec. 19, 2018), <https://vaxopedia.org/2018/12/19/how-are-australias-new-vaccine-laws-working/>.

102. See, e.g., Reiss & Weithorn, *supra* note 40, at 926 n.176.

103. C. Lee Ventola, *Immunization in the United States: Recommendations, Barriers, and Measures to Improve Compliance*, 41 PHARMACY AND THERAPEUTICS 426, 433 (2016).

104. *Id.*

105. See Navin & Largent, *supra* note 83.

106. See Reiss & Weithorn, *supra* note 40.

107. Anthony Ciolli, *Mandatory School Vaccinations: The Role of Tort Law*, 81 YALE J. BIOL. MED. 129, 130 (2008) (noting the cost of the 1989 measles outbreak to be over \$100 million).

108. Phil Plait, *Should Vaccines Be Compulsory?*, SLATE (June, 3 2009, 11:51 AM), <https://slate.com/technology/2009/06/should-vaccines-be-compulsory.html>.

seventeen states allow NMEs for philosophical reasons.¹⁰⁹ California has recently played a huge role in the vaccine debate by enacting Senate Bill 211 which eliminated all NMEs following a devastating measles outbreak at Disneyland.¹¹⁰ With the introduction of Senate Bill 211, the only way to skip the required shots is by homeschooling children or having a doctor state that a child cannot tolerate vaccines because of a health reason.¹¹¹ California now stands with Mississippi and West Virginia as the only states to totally prohibit NMEs.¹¹²

California's new policy has created unintended consequences. Specifically, medical exemption numbers have spiked, leading many to believe that some medical experts are effectually "selling exemptions."¹¹³ Further, California health officers have expressed frustration with their inability to challenge and review medical exemptions given by other health officials.¹¹⁴ Conflicts of interest are also at issue under the new law, as the health officials who verify medical exemptions are "school nurses, health clerks, registrars and other staff on campus" who cannot ignore the fact that they lose state funding when children are not able to attend school.¹¹⁵ Finally, one jurisdiction was hit with a federal lawsuit within the first year of Senate Bill 211 for attempting to track medical exemptions.¹¹⁶ The suit was brought by parents and nonprofit groups opposed to Senate Bill 211, and an agency named to the suit admitted to receiving "hate mail and death threats" because of its attempt to track medical exemptions.¹¹⁷

109. *State Vaccination Exemptions for Children Entering Public Schools*, PROCON (Mar. 4, 2020), <https://vaccines.procon.org/view.resource.php?resourceID=003597>.

110. Laura Santhanam, *What's Happened Since California Let Fewer Families Reject Vaccines*, PBS NEWS HOUR (Sept. 5, 2018, 5:29 PM), <https://www.pbs.org/newshour/health/whats-happened-since-california-let-fewer-families-reject-vaccines> (discussing the effect of California's 2016 provision that eliminated NMEs).

111. *Id.*

112. *State Vaccination Exemptions for Children Entering Public Schools*, *supra* note 109.

113. See Lauren Dunn & Linda Carroll, *Some Doctors Helping Anti-Vaccine Parents Get Medical Exemptions*, NBC NEWS (Jan. 27, 2019, 3:01 PM), <https://www.nbcnews.com/health/kids-health/some-doctors-helping-anti-vaccine-parents-get-medical-exemptions-n963011>.

114. Michael Devitt, *Study Examines Fallout of California Vaccine Exemption Law*, AM. ACAD. FAM. PHYSICIANS (Nov. 27, 2018, 8:47 AM), <https://www.aafp.org/news/health-of-the-public/20181127califvacstudy.html> ("[P]ublic health officers should be allowed to review medical exemptions, invalidate exemptions that are not justified, and revoke the authority to grant medical exemptions from physicians who abuse it, the commentary's authors concluded.")

115. Karen Kaplan, *Here's What Happened After California Got Rid of Personal Belief Exemptions for Childhood Vaccines*, L.A. TIMES (Oct. 29, 2018, 12:05 AM), <https://latimes.com/science/sciencenow/la-sci-sn-vaccine-medical-exemptions-20181029-story.html>.

116. *Id.* (noting the suit was ultimately withdrawn).

117. *Id.*

Other reasons that jurisdictions did not track exemptions included the following: not being required by law to do so, not having the perceived legal authority to track, not having the staffing or resources, wanting to see how the law worked before deciding to track, having low rates of medical exemptions and PBEs before SB277, and trusting doctors' judgements about the reasons for medical exemptions.

Notwithstanding the backlash lawmakers and agencies have received since the passage of Senate Bill 211, California's new exemption law has been effective and has increased the vaccination rate well above the herd immunity threshold.¹¹⁸ In the same vein, some states have tightened exemption laws but in a less transformational manner, by eliminating philosophical or personal belief exemptions and have seen notable statistical improvement.¹¹⁹ Consequently, the response to such a change was significantly less notable than that of California.¹²⁰

Tightening exemption law certainly seems to be an effective answer to the vaccination resistance problem but an inadequate solution to the overall vaccination debate.¹²¹ As discussed above, total elimination of vaccination exceptions seemingly would operate as a severe liberty infringement to those who oppose such a condition, as opponents of California's law have illustrated.¹²² Likewise, a less rigid "tightening" of permissible exceptions poses similar concerns and creates potential for even more circumvention, such as framing a philosophical concern as religious or shopping for medical personnel willing to concoct a medical justification.¹²³ Finally—and perhaps most disconcerting—is the potential that objectors increasingly acquiesce to the idea of homeschooling, thereby creating an expanding collection of vulnerable children at risk of outbreak.¹²⁴

5. *Alternative Methods: A Focus on Convenience*

Any of the aforementioned propositions would potentially result in higher vaccination rates. If this were the singular goal, legislatures would have a simple task. One must, however, think broadly about this debate—its history, the parties, and their concerns—to see that the overarching objective is for the two sides to obtain mutual understanding.¹²⁵ Therefore, no

Salini Mohanty et al., *Experiences with Medical Exemptions Following the Elimination of Nonmedical Vaccine Exemptions in California*, 142 PEDIATRICS 1, 4–5 (Nov. 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6314187/>.

118. Mohanty et al., *supra* note 117 at 8.

119. See Navin & Largent, *supra* note 83 (noting Vermont's 2016 stance on exemption law); Alex Keefe & Annie Russell, *Vermont's Vaccination Rates, and Religious Exemptions, Up Slightly*, VT. PUB. RADIO (June 1, 2016), <https://www.vpr.org/post/vermonts-vaccination-rates-and-religious-exemptions-slightly#stream/0> (noting the climb in vaccination rates).

120. See Morgan True, *House Votes to Remove Philosophical Exemption to School Entry Vaccines*, VT DIGGER (May 12, 2015), <https://vtdigger.org/2015/05/12/house-votes-to-remove-philosophical-exemption-to-school-entry-vaccines/> (noting Vermont's law that removed philosophical exemptions resulted in a coalition of parents and medical professionals speaking in opposition to the law and flying vaccine choice advocate Robert Kennedy, Jr. to testify on their behalf).

121. See Reiss & Weithorn, *supra* note 40, at 937–48.

122. See *supra* Part II.B.1 (distinguishing between mandatory and compulsive vaccinations).

123. See Reiss & Weithorn, *supra* note 40, at 958–79.

124. See Levin & Lytton, *supra* note 42.

125. See, e.g., Gregory A. Poland & Robert M. Jacobson, *Understanding Those Who Do Not Understand: A Brief Review of the Anti-Vaccine Movement*, 19 VACCINE 2440, 2440–41 (2001).

proposition elaborated upon in this Article has been an effective fix for the problems surrounding the war on vaccines.¹²⁶ Indeed, the nature of this matter indicates as much, considering the likelihood that pro-vaccinators would have to abandon their aspiration of herd immunity to please anti-vaccinators, and anti-vaccinators would similarly have to accede to what they view as governmental coercion and obtain vaccinations to satisfy pro-vaccinators.¹²⁷ While either of these conditions operate to achieve one party's goal, the overarching objective is not met and controversy would only continue to ensue.¹²⁸ On the other hand, perhaps there is no perfect fix.¹²⁹ Perhaps any solution would result in the relinquishment of at least one party's objectives and generate additional vaccine debate turmoil.¹³⁰ Notwithstanding such uncertainty, this Article proposes an alternative approach as a means to achieve mutual understanding.

As evidenced above, this Article recognizes the empirical evidence that supports the notion that increased vaccination rates improves public health.¹³¹ Nonetheless, this Article also suggests that coercion is not an effective method to obtain compliance.¹³² No matter how one views vaccine objectionists who choose not to vaccinate their children because of governmental interference or distorted information.¹³³ Therefore, the most appropriate approach to obtain compliance is not a forceful one; the most effective way to change the narrative on vaccines is two pronged: (1) publicizing *correct* empirical data and (2) creating easier access and inconvenient circumvention to vaccines.¹³⁴

As noted above, “[t]he anti-vaccination campaign is a global, multi-faced beast—spurred by . . . widespread misinformation.”¹³⁵ Thus, countermeasures must be formulated and implemented to prevent further health deterioration.¹³⁶ While some major media players have begun to be called upon to catalyze the proper narrative,¹³⁷ such a plea must gain global

126. See, e.g., Robert Villa, *Hesitancy and Refusal: Mandatory Vaccination May Not Be the Solution*, VACCINES TODAY (May 12, 2016), <http://vaccinestoday.eu/stories/mandatory-vaccines-research/> (noting that a law may not be the solution).

127. See Brian Martin, *An Experience with Vaccination Gatekeepers*, 5 SOC. EPISTEMOLOGY REV. & REPLY COLLECTIVE 26, 32 (2016).

128. *Id.*

129. *Id.*

130. *Id.*

131. See *supra* Part I.C (discussing the benefits of widespread vaccination).

132. See Patryn & Zagaja, *supra* note 85, at 2204.

133. *Id.*

134. See Ventola, *supra* note 103, at 435–36.

135. See McKenzie & Fox, *supra* note 26; *supra* Part I.B (describing how attitudes toward vaccines transitioned to vaccine resistance).

136. See McKenzie & Fox, *supra* note 26.

137. Letter from Adam B. Schiff, Member of Congress, 28th Dist. of California, to Mark Zuckerberg, Chairman and Chief Exec. Officer, Facebook Inc. (Feb. 14, 2019), https://schiff.house.gov/imo/media/doc/Vaccine%20Letter_Zuckerberg.pdf.

support in order to lessen the transmission of vaccine-related falsities.¹³⁸ Legislators and those opposed to social media fearmongers must amplify the message and call on media companies to combat misinformation related to vaccines.¹³⁹ Despite tech companies' typical opposition to filtering user content, publicity and necessity have led to such a result in the past.¹⁴⁰

Technology companies can combat misinformation by altering guidelines to filter content in a way that does not infringe speech but instead suppresses messages that operate to misinform consumers.¹⁴¹ Many media companies will be careful to suppress user content, because "while it's not unconstitutional, . . . it sets an uncomfortable precedent for the values of free speech."¹⁴² Nonetheless, policing controversial user content is not new, as tech companies have long filtered information related to terrorism and hate.¹⁴³ Still the act of removing content, no matter the type, has its own drawbacks, as some believe it "gives people 'a biased picture of the news,' and restrict[s] the expression of certain viewpoints."¹⁴⁴ But "[media platforms] don't have to be a platform for lying, for fearmongering, for inaccuracy, especially when children are put at risk."¹⁴⁵ Once vaccine falsities are reduced across social media platforms, parents are situated in the proper position to make what can only be a fully informed decision.¹⁴⁶

Once parents have bona fide information on vaccine benefits and risks, parents can properly weigh relevant factors.¹⁴⁷ If vaccines were more burdensome to avoid than obtain, parents would likely be substantially more subject to comply.¹⁴⁸ This approach requires state and local governments to make the vaccination process easy and to make opting out difficult by altering

138. See Amanda Morris & Scott Simon, *Defying Parents: A Teen Decides to Get Vaccinated*, NPR (Feb. 9, 2019), <https://www.npr.org/sections/health-shots/2019/02/09/692819105/defying-parents-a-teen-decides-to-get-vaccinated> (discussing a teen's decision to get vaccinated despite what he saw on social media).

139. See Jacqueline Howard, *Amid Measles Outbreaks, Facebook Considering How to Reduce Spread of Anti-Vaccine Content*, CNN (Feb. 15, 2019, 2:28 PM), <https://www.cnn.com/2019/02/15/health/facebook-anti-vaccine-posts-bn/index.html>.

140. See Nitasha Tiku, *Tech Platforms Treat White Nationalism Different from Islamic Terrorism*, WIRED (Mar. 20, 2019, 8:00 AM), <https://www.wired.com/story/why-tech-platforms-dont-treat-all-terroris-sm-same/>.

141. *Id.*

142. AJ Willingham, *The First Amendment Doesn't Guarantee You the Rights You Think It Does*, CNN (Sept. 6, 2018, 7:36 PM), <https://www.cnn.com/2017/04/27/politics/first-amendment-explainer-tmd/index.html>.

143. See Tiku, *supra* note 140.

144. See Mathew Ingram, *Most Americans Think Platforms Should Stop Filtering News*, COLUM. JOURNALISM REV. (Aug. 15, 2018), https://www.cjr.org/the_media_today/americans-platforms-news-filtering.php.

145. Howard, *supra* note 139 (quoting Arthur Caplan, a professor and founding head of the Division of Medical Ethics at NYU Langone Health in New York).

146. *See id.*

147. See Levin & Lytton, *supra* note 42.

148. *Id.*

the costs of each.¹⁴⁹ For example, offering vaccinations at schools would take a burden off of some parents who could avoid “missing work to take children to the doctor; witnessing [their] child in pain from the vaccinations; physically restraining recalcitrant children; [and] transferring the correct form from the physician to the school, sometimes annually and at a cost.”¹⁵⁰ Further, many would likely obtain vaccines for themselves, as well as their children, if the required vaccinations were delivered at local pharmacies.¹⁵¹ Such a convenience could shift costs for many but specifically those in rural areas who have to travel to receive the required vaccinations.¹⁵² Similarly, creating a task force charged with scheduling vaccination days at local businesses could encourage many adults to obtain necessary vaccinations themselves.¹⁵³

Additionally, opting out of childhood vaccinations must be made burdensome so that parents are not simply choosing the path of least resistance by obtaining a NME.¹⁵⁴ Studies suggest that yearly doctor visits “to review new information about the safety of vaccination” result in vaccination numbers “sufficient to develop and maintain herd immunity.”¹⁵⁵ Thus, requiring physician consultation as a precondition to NME eligibility would likely increase vaccination rates sufficiently over the threshold, while still reserving the final choice to the parents or guardians of a child.¹⁵⁶ Accordingly, physicians should engage in “in-depth conversations about

149. *Id.*

150. *Id.* “In many states . . . [s]imply signing a form once can be enough to obtain an exemption.” *Id.* “School-located vaccination (SLV) activities are among the most efficient ways to reach a large number of school-age students—a population frequently at increased risk for contracting and spreading infectious diseases like influenza—in a short time.” *Vaccination Clinics in Schools*, ASS’N ST. & TERRITORIAL HEALTH OFFICIALS, <http://www.astho.org/Programs/Preparedness/Public-Health-Emergency-Law/Public-Health-and-Schools-Toolkit/Vaccination-Clinics-in-Schools/> (last visited Mar. 16, 2020).

151. Levin & Lytton, *supra* note 42.

152. See *Vaccination in Rural Communities*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/ruralhealth/vaccines/index.html> (last updated Dec. 20, 2019); see also Emily Mullin, *Why HPV Vaccination Rates Remain Low in Rural States*, MIT TECH. REV. (Sept. 1, 2017), <https://www.technologyreview.com/s/608697/why-hpv-vaccination-rates-remain-low-in-rural-states/> (explaining that low HPV vaccination rates are due to difficulty accessing healthcare and financial limitations).

153. See generally, Karlen E. Luthy et al., *Promoting Adult Pertussis Vaccination in the Workplace*, 64 WORKPLACE HEALTH & SAFETY 269 (2016).

154. See *supra* Part II.B.4 (explaining the flaws with California’s exemption law).

For some busy, fence-sitting parents who are not already committed to vaccinating their children, it may well be rational to take the path of least resistance and simply fill out the exemption form—especially given that their children are quite unlikely to be infected, thanks to the choice of most other parents to comply with vaccination mandates.

Levin & Lytton, *supra* note 42; see also Navin & Largent, *supra* note 83 (noting that Michigan operates pursuant to inconvenience and explaining that “some parents who would otherwise apply for exemptions would deal with whatever inconveniences were necessary to vaccinate their children rather than attend education sessions at the public health department”).

155. Levin & Lytton, *supra* note 42.

156. *Id.*

risks with parents who [do not] want to immunize their children” and refer to vaccinations “as the norm rather than an option.”¹⁵⁷

III. CONCLUSION

The vaccination debate is a major source of contention in the United States, as each side has much at stake. Compliance with recommended vaccine schedules is undoubtedly crucial for public health, but achieving conformance alone operates as an insufficient solution and only creates urgency and discontentment among the vaccine objectors. Accordingly, governmental coercion in the form of punitive measures, administrative requirements, social conditions in education, social assistance, freedom restrictions, cost impositions upon infection, financial incentives, and exemption law amendments are neither independently nor collectively sufficient to solve the issue as objectors’ liberty, health, and fairness ideals are significantly jeopardized.¹⁵⁸

Rather, herd immunity must be achieved through choice. Credible and conclusive data must be made known to the consumer public all the while major social media corporations attempt to debunk and prevent the circulation of faulty data. Once valid information successfully engulfs distorted claims, theoretically, objectors will attain a more neutral outlook on the administration of vaccines. Thereafter, convenient and expeditious vaccine methods will prompt acquiescence and operate to reform the negative undercurrent associated with the administration of vaccines. In sum, arming the public with information, the freedom to choose to obtain the necessary vaccinations that our societal health depends on, and the impression that compliance is the less burdensome alternative is the roadmap to achieve herd immunity.¹⁵⁹ Such a plan operates to shield ourselves, and most importantly, those we love.

157. See Santhanham, *supra* note 110.

158. See Patryn & Zagaja, *supra* note 85, at 2205.

159. See *id.*; Reiss & Weithorn, *supra* note 40, at 973–75.