
STOPPING THE RESURGENCE OF VACCINE-PREVENTABLE CHILDHOOD DISEASES: POLICY, POLITICS, AND LAW

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Mandatory vaccination programs in the United States are generally successful, but their continued success is under threat. The ever-increasing number of parents who opt their children out of vaccination recommendations has caused severe outbreaks of vaccine-preventable diseases. Public health advocates have pushed for changes to state laws, but their efforts have generally been unsuccessful.

We suggest that their lack of success is due to public health advocates' failures to contend with the features of the political system that impede change and to propose reforms that are ethically defensible, efficacious, and politically feasible.

Based on our earlier public health studies, ethical concerns, and our analysis of the political environment, we suggest that states consider "nudging" hesitant parents to vaccinate their children by marginally raising the costs of nonvaccination.

We also offer a comprehensive model law that would implement these changes.

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I. INTRODUCTION

Measles and other vaccine-preventable diseases are making a comeback in the United States.¹ Local outbreaks of painful and potentially deadly diseases are now frustratingly routine. The primary cause for this resurgence is parents who opt their children out of state law vaccination requirements by claiming nonmedical exemptions, based on religious or philosophical beliefs.² Their choice does even more than put their own children at risk; when enough members of a community opt out of vaccination, the “community immunity”³ that protects others who are not immunized—people who cannot be vaccinated for medical reasons,⁴ children too young⁵ to be vaccinated, and those whose immunity has not fully

1. See Pia Pannaraj and Gerardo Chowell, *US Measles Outbreaks Catalyzed by Vaccine Hesitancy*, HEALIO (Apr. 2018), <https://www.healio.com/pediatrics/vaccine-preventable-diseases/news/print/infectious-diseases-in-children/%7B8073077c-43e9-407a-8766-4752884bb162%7D/us-measles-outbreaks-catalyzed-by-vaccine-hesitancy>.

2. Varun K. Phadke et al., *Association Between Vaccine Refusal and Vaccine-Preventable Diseases in the United States: A Review of Measles and Pertussis*, J. AM. MED. ASS’N 1149, 1150 (2016).

3. Community immunity is often referred to by the term “herd immunity.” Public health advocates and officials have encouraged the adoption of the term “community immunity” instead.

4. *Vaccines Protect Your Community*, U.S. DEP’T HEALTH & HUM. SERVS., <https://www.vaccines.gov/basics/work/protection/index.html> (last visited Nov. 18, 2019).

5. CTRS. DISEASE CONTROL & PREVENTION, *IF YOU CHOOSE NOT TO VACCINATE YOUR CHILD, UNDERSTAND THE RISKS AND RESPONSIBILITIES 1* (2012), <https://www.cdc.gov/vaccines/hcp/patient-ed/conversations/downloads/not-vacc-risks-color-office.pdf> (last updated Mar. 2012).

developed or has waned⁶—erodes, opening vectors of contagion that threaten all vulnerable members of the community. Indeed, community immunity has been endangered in pockets around the country by high opt out rates, leaving unvaccinated and undervaccinated children and others vulnerable to contagion. As a result, high profile epidemics have caused debilitating illnesses, and imposed millions of dollars in outbreak response, medical treatment, and social costs.⁷

Prominent health advocacy groups, including the American Medical Association (“AMA”) and the American Association of Pediatrics (“AAP”), together with many public health researchers, have responded by urging states to eliminate nonmedical exemptions to school immunization requirements.⁸ Despite these groups’ lobbying efforts, however, influential and well-organized campaigns⁹ by those who oppose mandatory vaccination have successfully blocked most of these efforts.¹⁰ California and, more recently, New York and Maine legislatures have eliminated nonmedical exemptions, while basic political dynamics, which are not accounted for by those pushing for the elimination of all non-medical exemptions, prevent change in many other states.¹¹

This Article offers an alternative approach to the problem of nonvaccination that is less coercive, less costly, and likely more politically feasible than the approach preferred by the AMA, the AAP, and other prominent public health advocates. Based on our group’s previous public health studies, we suggest that requiring annual trips to the doctor to review new information about the safety of vaccination, together with other modest reforms, may increase vaccination levels to maintain community immunity.¹² In the Appendix, we also offer a comprehensive model vaccination law that would implement this approach, thereby offering lawmakers around the country adoptable and adaptable legal language necessary to break the stalemate around mandatory vaccination.

The Article proceeds as follows. Part II reviews current vaccination laws in the United States and the dangers posed by the status quo. Part III evaluates the

6. Tirumalai Kamala, *Why Opting Out of Vaccinations Puts The Greater Population at Risk*, FORBES (Aug. 22, 2017, 1:03 PM), <https://www.forbes.com/sites/quora/2017/08/22/why-opting-out-of-vaccinations-puts-the-greater-population-at-risk/#74ab680557fb>.

7. *Id.*; Erwin Chemerinsky & Michele Goodwin, *Compulsory Vaccination Laws Are Constitutional*, 110 NW. U. L. REV. 589, 600 (2016) (citing statistics and costs).

8. Alyson Sulaski Wyckoff, *Eliminate Nonmedical Immunization Exemptions for School Entry*, says AAP, AM. ACAD. PEDIATRICS NEWS (Aug. 29, 2016), <http://www.aappublications.org/news/2016/08/29/VaccineExemptions082916>.

9. Jann Bellamy, *Battles Over Non-Medical Exemptions to Vaccination Festering in State Legislatures*, SCIENCE-BASED MED. (Feb. 2, 2017), <https://sciencebasedmedicine.org/battles-over-non-medical-exemptions-to-vaccination-festering-in-state-legislatures/>.

10. *U.S. Vaccine Exemptions Remain Secure in 2018*, NATL VACCINE INFO. CTR. (Sept. 12, 2018, 12:36 PM), <https://www.nvic.org/nvic-vaccine-news/september-2018/us-vaccine-exemptions-remain-secure-in-2018.aspx>.

11. Scott Neuman, *California Lawmakers Vote to Remove Vaccine Exemptions For Schoolchildren*, NPR (June 25, 2015, 3:27 PM), <https://www.npr.org/sections/thetwo-way/2015/06/25/417492698/california-lawmakers-vote-to-remove-vaccine-exemptions-for-schoolchildren>.

12. Saad B. Omer et al., *Exemptions From Mandatory Immunization After Legally Mandated Parental Counseling*, 141 PEDIATRICS 1 (Jan. 2018), <http://pediatrics.aappublications.org/content/pediatrics/141/1/e20172364.full.pdf>.

competing policy proposals to solve the problem of nonvaccination and explains why we offer a minimally coercive approach that focuses on “nudging” as an alternative to compelling parents to vaccinate their children. Part IV explores why the political process also makes it difficult to wholly eliminate nonmedical exemptions, further buttressing the case for our approach. Part V explains our specific proposals and describes how it responds to the political dynamics that have thus far impeded reform efforts. Finally, the Appendix offers an annotated, comprehensive model law to implement our proposals.

II. THE PROBLEM OF UNDER-VACCINATION

Vaccines have been among the most successful public health in history.¹³ Each state mandates that children be vaccinated in order to attend school,¹⁴ and most American parents readily comply with these requirements.¹⁵ Mandatory vaccinations in the United States provide protection from eighteen infectious diseases, and diseases that once threatened to wipe out communities are now largely controlled, eliminated, or eradicated.¹⁶ Among children born between 1994 and 2013, routine childhood vaccination will prevent roughly 322 million cases of disease and 732,000 deaths, with an estimated net cost savings of \$1.38 trillion.¹⁷ Nevertheless, the choice of a small minority of parents to opt out of vaccination protocols puts the lives and health of their children and, crucially, others as well, at risk. This Part briefly explains why.

A. *A Short Primer on Vaccination and Community Immunity*

Vaccines work by introducing a weakened form of the disease into the body, which primes the immune system to fight off a related, naturally occurring version of the disease.¹⁸ This process is very safe.¹⁹ Complications from mandatory vaccines are mild, and severe complications are exceedingly rare.²⁰ More

13. See, e.g., Pauline W. Chen, M.D., *Putting Us All at Risk for Measles*, N.Y. TIMES: WELL (June 26, 2014, 12:01 AM), <https://well.blogs.nytimes.com/2014/06/26/putting-us-all-at-risk-for-measles/> (noting a major resurgence in measles in 2014 due to parents who chose not to vaccinate their children).

14. Mariam Saddiqui, Daniel A. Salmon & Saad B. Omer, *Epidemiology of Vaccine Hesitancy in the United States*, 9 HUMAN VACCINES & IMMUNOTHERAPUTICS 2643, 2646 (2013).

15. See Chemerinsky & Goodwin, *supra* note 7, at 593.

16. *Vaccines by Disease*, CTRS. DISEASE CONTROL & PREVENTION (Nov. 22, 2016), <https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html>.

17. Holly A. Hill et al., *National, State, and Selected Local Area Vaccination Coverage Among Children Aged 19-35 Months-United States, 2014*, CTRS. DISEASE CONTROL & PREVENTION (Aug. 28, 2015), <https://www.ncbi.nlm.nih.gov/pubmed/26313470>.

18. UNDERSTANDING HOW VACCINES WORK, CTRS. DISEASE CONTROL & PREVENTION (2018), <https://www.cdc.gov/vaccines/hcp/conversations/downloads/vacsafe-understand-color-office.pdf>.

19. *Id.*

20. *Id.*; see also CTRS. DISEASE CONTROL & PREVENTION, VACCINE INFORMATION STATEMENT: MMR (MEASLES, MUMPS, RUBELLA): WHAT YOU NEED TO KNOW 2, (2019), <https://www.cdc.gov/vaccines/hcp/vis/vis-statements/mmr.pdf>; VACCINE INFORMATION STATEMENT: ROTAVIRUS: WHAT YOU NEED TO KNOW, CTRS. DISEASE CONTROL & PREVENTION (2018), www.cdc.gov/vaccines/hcp/vis/vis-statements/rotavirus.html. Although some people continue to express concerns that vaccines may cause autism spectrum disorders, these claims have been debunked by all available scientific evidence. See, e.g., Gillian Baird et al., *Measles Vaccination*

than two dozen vaccines against major diseases are available, and more are being developed.²¹

Vaccines' effectiveness goes beyond immunizing the individuals who receive them. Once enough people in a community are immunized through vaccination, the entire community benefits from what is known as "community immunity."²² Community immunity occurs when so many people in a group are immunized that the disease cannot reach any nonimmunized individuals that remain because the vectors of disease transmission are effectively closed.²³

The development and maintenance of community immunity is critical because there are always some in any society who cannot, or will not, be immunized. Some people cannot be vaccinated for medical reasons or because they are too young.²⁴ Others receive vaccines but may not successfully develop complete immunity,²⁵ and others' immunity may have waned since having been vaccinated.²⁶ Still others are under-vaccinated due to lack of access to healthcare.²⁷ Finally, some parents choose not to have their children vaccinated, either because of erroneous beliefs about the safety and efficacy of vaccines, or for religious or

and Antibody Response in Autism Spectrum Disorders, 10 ARCHIVES OF DISEASE IN CHILDHOOD 832 (2008); see also Frank DeStefano et al., *Increasing Exposure to Antibody-Stimulating Proteins and Polysaccharides in Vaccines is Not Associated with Risk of Autism*, 163 J. PEDIATRICS 561, 561 (2013) (finding that increasing exposure to vaccines during the first 2 years of life was not related to the risk of developing an autism spectrum disorder). See generally Robert L. Davis et al., *Measles-Mumps-Rubella and Other Measles-Containing Vaccines Do Not Increase the Risk for Inflammatory Bowel Disease: A Case-Control Study from the Vaccine Safety Datalink Project*, 155 ARCHIVES OF PEDIATRICS & ADOLESCENT MED. 354 (2001).

21. MARK NAVIN, VALUES AND VACCINE REFUSAL: HARD QUESTIONS IN ETHICS, EPISTEMOLOGY, AND HEALTH CARE 4 (2016).

22. *Id.* at 5 (explaining that "[i]f a sufficiently large percentage of the population develops individual immunity, then that population will possess 'herd immunity'"); see also Allan J. Jacobs, *Do Belief Exemptions to Compulsory Vaccination Programs Violate the Fourteenth Amendment?*, 42 U. MEM. L. REV. 73, 79 (2011) ("Herd immunity occurs when the fraction of the people who are immune to a disease is so great as to interrupt transmission of that disease by removing most potential targets of infection from the chain of transmission."); Chemerinsky & Goodwin, *supra* note 7, at 600 (describing community immunity as a critical portion of the population becoming vaccinated and thus creating little opportunity for an outbreak).

23. Chemerinsky & Goodwin, *supra* note 7, at 600; see also NAVIN, *supra* note 21, at 5.

24. For example, children cannot receive certain vaccines before reaching a certain age. NAVIN, *supra* note 21, at 5; see also CTRS. DISEASE CONTROL & PREVENTION, RECOMMENDED AND MINIMUM AGES AND INTERVALS BETWEEN DOSES OF ROUTINELY RECOMMENDED VACCINES 1 (2019), <https://www.cdc.gov/vaccines/pubs/pink-book/downloads/appendices/a/age-interval-table.pdf>. Some people can never be immunized against some diseases. NAVIN, *supra* note 21, at 5; see also *Who Should NOT Get Vaccinated with these Vaccines?*, CTRS. DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/vaccines/vpd-vac/should-not-vacc.htm> (last updated Aug. 15, 2017). Others can be vaccinated but will not be effectively immunized.

25. NAVIN, *supra* note 21, at 5 (noting the importance of community immunity for the members of the community who cannot be immunized effectively either because they are too immunocompromised or because their vaccines failed to develop individual immunity); Jacobs, *supra* note 22, at 82 (explaining that some people who receive a vaccine cannot develop immunity to the disease; for example, "at least 10% of children fail to develop immunity to pertussis vaccine after the recommended three injections"). Still others will not be vaccinated because of a lack of medical care.

26. See, e.g., MONA MARIN ET AL., RECOMMENDATION OF THE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES FOR USE OF A THIRD DOSE OF MUMPS VIRUS-CONTAINING VACCINE IN PERSONS AT INCREASED RISK FOR MUMPS DURING AN OUTBREAK 1 (2018), <https://www.cdc.gov/mmwr/volumes/67/wr/mm6701a7.htm>.

27. NAVIN, *supra* note 21, at 10.

other personal reasons.²⁸ Consequently, society depends on community immunity to avoid the spread of serious diseases.

Community immunity is only achieved once a large proportion within a community is vaccinated. The vaccination rates necessary for conferring community immunity differ by disease, with some requiring as much as 95% of the population to be vaccinated to be successful.²⁹ This presents classic collective action and related free-rider problems: parents can enjoy the benefits of community immunity without internalizing the costs associated with having their own children immunized. Consequently, some may seek to avoid the costs—financial, time, mild pain, and anxieties—of vaccination by choosing not to vaccinate their children, and instead relying on others' willingness to vaccinate and thereby confer community immunity.³⁰ But if enough people opt out, then community immunity in the community is threatened and a tragedy of the commons will follow.

B. Mandatory Vaccination Schemes in the United States and the Threat to Community Immunity

States began to impose vaccination mandates in the nineteenth century in order to reduce the likelihood and magnitude of smallpox outbreaks.³¹ By prohibiting or limiting opt-outs from vaccination, these requirements also help to eliminate the free-rider problem and, thereby, to generate and maintain community immunity.

All fifty states require children to be vaccinated against a range of diseases in order to attend school.³² Most states have similar requirements for private school and day care attendance.³³ State laws, however, also include provisions that allow for nonvaccination in some cases. All states allow children to remain

28. *Id.* at 11 (noting that “[m]any parents [who refuse to vaccinate] identify worries about health considerations, but a smaller number of parents refuse vaccinations for religious or philosophical reasons”).

29. *Id.* at 5; Chemerinsky & Goodwin, *supra* note 7, at 600 (citing PAUL A. OFFIT, DEADLY CHOICES: HOW THE ANTI-VACCINE MOVEMENT THREATENS US ALL 145 (rev. foreword 2015 ed. 2011) (stating that highly contagious infections like measles and pertussis require an immunization rate of about 95 percent)).

30. NAVIN, *supra* note 21, at 11 (writing that some parents choose not to vaccinate their children because “they know that the high rates of vaccination in their communities mean that their child is unlikely to be exposed to the diseases she is not vaccinated against”); Jacobs, *supra* note 22, at 79–80 (asserting that community immunity allows some number of free riders to benefit from the vaccination of others).

31. NAVIN, *supra* note 21, at 7 (stating that in the nineteenth century, some states made vaccines mandatory for children, especially for children who wished to attend school); Chemerinsky & Goodwin, *supra* note 7, at 598 (noting that all fifty states and the District of Columbia have vaccination laws for public school children) (citing *State School Immunization Requirements and Vaccine Exemption Laws*, CTRS. FOR DISEASE CONTROL & PREVENTION (2015), <http://www.cdc.gov/phlp/docs/school-vaccinations.pdf>).

32. Chemerinsky & Goodwin, *supra* note 7, at 598; Jacobs, *supra* note 22, at 74, 78. States' requirements vary in the details, but mandatory vaccination laws typically require children to receive vaccinations against mumps, measles, rubella, polio, tetanus, diphtheria, pertussis, Haemophilus Influenzae Type b (Hib), hepatitis A, hepatitis B, rotavirus, varicella, and pneumococcal disease in order to attend public schools. Chemerinsky & Goodwin, *supra* note 7, at 598. See *Vaccination Requirements*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/vaccines/imz-managers/laws/state-reqs.html> (last updated Nov. 15, 2016) (listing the mandatory vaccines for every state in the United States).

33. Chemerinsky & Goodwin, *supra* note 7, at 598–99.

unvaccinated if vaccination is contraindicated for medical reasons.³⁴ Typically, medical exemptions are granted by physicians, though there is variability between states in who can sign medical exemptions, the process for implemented them, and if there is any oversight by state public health authorities.³⁵ The justification for this exemption is self-evident and uncontroversial: vaccines are mandated in order to protect a child's health; if vaccinating the child would compromise her health, it makes no sense to do so. Because they cannot be vaccinated, children who are unvaccinated for medical reasons depend on community immunity.³⁶

More controversially, nearly all states also allow for nonvaccination for nonmedical reasons.³⁷ Only Mississippi, West Virginia, California, and, most recently, New York and Maine, offer medical exemptions but no nonmedical exemptions.³⁸ Of the other forty-five states, the majority—twenty-nine—only accommodate those who object to vaccination for religious reasons.³⁹ The remaining states provide religious accommodations as well as accommodations for those with moral, philosophical, or other conscientious objections to vaccination.⁴⁰

Thus, all but a few states provide exemptions based on nonmedical objections to vaccination. Consequently, in pockets around the country, community immunity has been threatened due to nonvaccination, with wide geographic disparities in the proportion of vaccinated children.⁴¹ For example:

[T]he proportion of teens who received a recommended booster of diphtheria-pertussis-tetanus vaccine ranged from 93.7% in Massachusetts to 52.7% in Arkansas and South Carolina. Worse . . . the number of young children receiving even one dose of measles-mumps-rubella vaccine ranged from 95.6% in Tennessee to only 85.9% in Montana.⁴²

In addition, some states with high rates of vaccination overall may nevertheless have clusters of significantly under-vaccinated populations within specific geographical areas within the state, or even within individual schools.⁴³

34. *Id.* at 587–98.

35. NAVIN, *supra* note 21, at 5.

36. Chemerinsky & Goodwin, *supra* note 7, at 600.

37. *States with Religious and Philosophical Exemptions from School Immunization Requirements*, NAT'L CONF. OF STATE LEGIS. (June 14, 2019), <http://www.ncsl.org/research/health/school-immunization-exemption-state-laws.aspx>.

38. *Id.*

39. *Id.*

40. *Id.*

41. See Jacobs, *supra* note 22, at 81.

42. *Id.* at 81 (citing *Estimated Vaccination Coverage, with Selected Vaccines Among Adolescents Aged 13–17 Years, by State and Selected Local Areas—National Immunization Survey: Teen, United States*, CTRS. FOR DISEASE CONTROL & PREVENTION (2009), http://www2a.cdc.gov/nip/coverage/nisteen/nis_iap.asp?fmt=v&rpt=tab01_iap&qtr=Q1/2009-Q4/2009).

43. Liza Gross, *Parents Who Shun Vaccines Tend to Cluster, Boosting Children's Risk*, NPR (Jan. 20, 2015, 3:45 PM), <http://www.npr.org/sections/health-shots/2015/01/20/378630798/parents-who-shun-vaccines-tend-to-cluster-boosting-childrens-risk>.

An example of a recent high-profile outbreak was a measles epidemic that spread in California's Disneyland amusement park, caused 111 cases in seven states, and crossed over into Mexico and Canada.⁴⁴ More recently, a devastating outbreak in New York and New Jersey infected hundreds.⁴⁵ While the media attention and public dialogue resulting from these outbreaks were intense, the outbreak was hardly unusual.⁴⁶ Although there has been an absence of continuous transmission of measles in the United States, regular outbreaks still occur, almost exclusively in communities where substantial proportions of the population opt not to vaccinate.⁴⁷ Measles is not alone; noncompliance with vaccination protocols by a minority of parents has led to outbreaks of a variety of serious diseases that have otherwise been largely controlled through vaccination, including pertussis and measles.⁴⁸ Thousands of children have suffered needlessly because of a small minority who refuse to vaccinate and the state laws that allow them to do so.

III. COMPETING SOLUTIONS TO THE PROBLEM OF UNDER-VACCINATION

In an ideal world, all parents would choose to vaccinate all children who are eligible for vaccination. But we do not live in that world. Instead, we live in a world in which some parents choose not to vaccinate their children, thereby putting their own children and others at risk. What to do?

Vaccination advocates generally offer two different approaches to improving vaccination policy. Most prominent among them are those who prefer a maximally coercive approach, who argue that all nonmedical exemptions should be

44. Nakia S. Clemmons et al., *Measles – United States, January 4-April 2, 2015*, CTRS. FOR DISEASE CONTROL & PREVENTION (Apr. 17, 2015), <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6414a1.htm>.

45. *Measles Cases and Outbreaks*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/measles/cases-outbreaks.html> (last updated Dec. 6, 2019).

46. See, e.g., Karen Kaplan, *Vaccine Refusal Helped Fuel Disneyland Measles Outbreak, Study Says*, L.A. TIMES (Mar. 16, 2015, 11:06 AM), <http://www.latimes.com/science/sciencenow/la-sci-sn-disneyland-measles-under-vaccination-20150316-story.html>.

47. See *id.*; see also Katie M. Palmer, *Why Did Vaccinated People Get Measles At Disneyland? Blame the Unvaccinated*, WIRED (Jan. 26, 2015, 6:00 AM), <https://www.wired.com/2015/01/vaccinated-people-get-measles-disneyland-blame-unvaccinated/>.

48. The decline of community immunity has led to recent disease outbreaks, killing hundreds and hospitalizing thousands more. The United States has experienced outbreaks of pertussis, measles, and polio in recent years. Jacobs, *supra* note 22, at 80. According to one commentator, “[t]he rise of exemptions to compulsory vaccination laws threatens to undermine the public health achievements made possible by widespread immunizations.” Chemerinsky & Goodwin, *supra* note 7, at 601 (quoting Steve P. Calandrillo, *Vanishing Vaccinations: Why Are So Many Americans Opting Out of Vaccinating Their Children?*, 37 U. MICH. J.L. REFORM 353, 421 (2004)); see also Alexandra Sifferlin, *4 Diseases Making a Comeback Thanks to Anti-Vaxxers*, TIME (Mar. 17, 2014), <http://time.com/27308/4-diseases-making-a-comeback-thanks-to-anti-vaxxers/> (citing 19 cases of measles confirmed in New York City despite the fact that it was considered to be wiped out in 2000, twenty-three cases of mumps at Ohio State University, and eighty cases of chicken pox in Indiana which were thought to start from an unvaccinated child); Anthony Zurcher, *Measles Outbreak at Disney Raises Vaccination Questions*, BBC NEWS (Jan. 22, 2015), <http://www.bbc.com/news/blogs-echochambers-30942928> (reporting that public health experts attribute the spread of the measles outbreak at Disneyland in 2014 to the lower numbers of Americans who have been opting to receive the immunization shots); Saad B. Omer, et al., *Geographic Clustering of Non-medical Exemptions to School Immunization Requirements and Associations With Geographic Clustering of Pertussis*, 168 AM. J. EPIDEMIOLOGY 1389, 1389 (2008).

eliminated.⁴⁹ On the other side are what we call nudgers, who argue that states should maintain nonmedical exemptions, but should develop policies that subtly push enough parents to choose to vaccinate so that community immunity is maintained.⁵⁰ In this Part we briefly describe these different approaches, their benefits, their potential costs, and why we believe that nudging may be a more effective strategy for advocates to adopt.

A. Maximal Coercion

Those who advocate for the maximally coercive approach argue that all nonmedical exemptions should be eliminated, full stop.⁵¹ This approach is attractive for obvious reasons. It provides a simple, bright-line rule, privileges public health considerations and eliminates free-riding, and, perhaps most importantly, may lead to high vaccination rates. Indeed, Mississippi and West Virginia, two of the five states that do not allow for nonmedical exemptions, have among the highest vaccination rates in the country.⁵² This is especially notable given that these states are not among the nation's leaders in other health care categories.⁵³ California, the third state to prohibit nonmedical exemptions, eliminated nonmedical exemptions fairly recently. Early indications are that vaccination rates have risen in response (though this increase is very modest and largely offset by an increase in medical exemptions).⁵⁴

There are philosophical, instrumental, and political reasons to be cautious about this approach. First, beliefs of conscience and the values of personal liberty and autonomy deserve a measure of respect. These interests must be balanced

49. Paul A. Offit, *Vaccine Exemptions: When Do Individual Rights Trump Societal Good?*, 4 J. PEDIATRIC INFECTIOUS DISEASES SOC'Y, 89, 90 (2015).

50. JoNel Aleccia, *Vaccine Experts: It's Time to 'Nudge' Hesitant Parents*, SEATTLE TIMES (Feb. 12, 2015, 1:42 PM), <https://www.seattletimes.com/seattle-news/vaccine-experts-its-time-to-nudge-hesitant-parents/>.

51. Offit, *supra* note 49, at 90.

52. Todd C. Frankel, *Mississippi—Yes, Mississippi—Has the Nation's Best Child Vaccination Rate. Here's Why*, WASH. POST (Jan. 30, 2015, 8:55 AM), <http://www.washingtonpost.com/news/storyline/wp/2015/01/30/mississippi-yes-mississippi-has-the-nations-best-child-vaccination-rate-heres-why/>; Wendy Holdren, *West Virginia Has Highest Child Vaccination Rates in Nation, but Some Parents Want More Choice*, REG. HERALD (Mar. 4, 2018), http://www.register-herald.com/news/west-virginia-has-highest-child-vaccination-rates-in-nation-but/article_c6fb222b-905c-552a-84a3-5bef92763b29.html; *States with Religious and Philosophical Exemptions from School Immunization Requirements*, *supra* note 37.

53. See, e.g., Michael D. Warren, *Addressing the Maternal and Infant Mortality Crisis*, NAT'L CONF. ST. LEGISLATURES (Sept. 12, 2019), www.ncsl.org/blog/2019/09/12/addressing-the-maternal-and-infant-mortality-crisis.aspx.

54. Soumya Karlamangla & Rong-Gong Lin II, *Vaccination Rate Jumps in California After Tougher Inoculation Law*, L.A. TIMES (Apr. 13, 2017, 4:15 AM), <http://www.latimes.com/local/lanow/la-me-ln-california-vaccination-20170412-story.html>; Emily Oster & Geoffrey Kocks, *After a Debacle, How California Became a Role Model on Measles*, N.Y. TIMES: THE UPSHOT (Jan. 16, 2018), <https://www.nytimes.com/2018/01/16/upshot/measles-vaccination-california-students.html>; Press Release, *California's Kindergarten Vaccination Rates Hit New High*, CAL. DEP'T PUB. HEALTH (Apr. 14, 2017), <https://www.cdph.ca.gov/Programs/OPA/Pages/NR17-032.aspx>.

against the interests of public health.⁵⁵ If the goals of a public health intervention—in this case, maintaining community immunity—can be met with a less coercive approach, then perhaps this approach should be pursued.⁵⁶

Second, inflexible mandates have unanticipated costs. For example, if all medically eligible children must be vaccinated in order to attend public or private schools, committed nonvaccinators may choose to homeschool their children instead.⁵⁷ If so, and if the parents are not well-suited to homeschooling, their children will miss out on the educational and social benefits of traditional schooling.⁵⁸ Further, many homeschooled children enjoy organized social and educational activities,⁵⁹ and a concentrated group of nonvaccinated homeschooled children is a recipe for a potential public health disaster. For example, the Disneyland measles epidemic of 2014–2015 can be traced to a gathering of nonvaccinated homeschooled children.⁶⁰ Thus, we should be wary of maximally coercive vaccination mandates that may have the perverse effect of generating a toxic pool of unvaccinated children within which disease may rapidly spread.

Another possible consequence of adopting inflexible mandates is that those who prefer not to vaccinate may shop for medical professionals who are willing to accede to their requests for a medical exemption.⁶¹ In fact, it appears that medical exemptions in California have increased since it changed its law to eliminate nonmedical exemptions, suggesting that the abolition of nonmedical exemptions will not fully eliminate the problem that it is meant to solve.⁶² Indeed, according to the most recent research, it appears that overall rates of nonvaccination have barely budged, as parents committed to nonvaccination have found other ways to avoid it.⁶³ California has very recently passed new legislation to try to curb medical exemptions. From a purely instrumentalist standpoint, then, caution and fear of unintended consequences may warrant a less coercive approach.

Perhaps the strongest argument against advocating for inflexible mandates is that they may not be readily achievable. To argue that we *should* adopt such mandates implies that we *can*. But in the current political environment, for the

55. See Hillel Y. Levin et al., *To Accommodate or Not to Accommodate: (When) Should the State Regulate Religion to Protect the Rights of Children and Third Parties*, 73 WASH. & LEE L. REV. 915 (2016).

56. See *infra* Part III.

57. Joseph Mercola, *Some Parents are Homeschooling Their Kids to Avoid Vaccinations*, MERCOLA (Nov. 11, 2008), <https://articles.mercola.com/sites/articles/archive/2008/11/11/some-parents-are-home-schooling-their-kids-to-avoid-vaccinations.aspx>.

58. Levin et al., *supra* note 55, at 919; Jackie Nunes, *4 Pros of Homeschooling (and 4 Challenges)* FOUND. FOR ECON. EDUC. (Nov. 10, 2018), <https://fee.org/articles/4-pros-of-homeschooling-and-4-challenges>.

59. Nunes, *supra* note 58.

60. See, e.g., Kaplan, *supra* note 46; see also Palmer, *supra* note 47.

61. Gabrielle Karol, *Loophole in California Vaccine Law Leads to Rise in Medical Exemptions*, ABC10 (Jan. 30, 2018, 2:02 PM), <https://www.abc10.com/article/news/local/loophole-in-california-vaccine-law-leads-to-rise-in-medical-exemptions/103-490980059>.

62. Malia Jones & Alison Buttenheim, *Potential Effects of California's New Vaccine Exemption Law on the Prevalence and Clustering of Exemptions*, 104 AM. J. PUB. HEALTH 9, e3 (2014); Karol, *supra* note 61.

63. Paul L. Delamater et al., *Elimination of Nonmedical Immunization Exemptions in California and School-Entry Vaccine Status*, 143 PEDIATRICS, June 2019, at 1, 6.

reasons discussed in Part IV, such mandates may be out of reach, absent extraordinary circumstances.⁶⁴ Worse, even *advocating* for them might cause a political backlash that entrenches opposition and polarizes the public on the issue of vaccination policy.⁶⁵ Therefore, even if inflexible mandates represent the platonic, theoretical ideal, it may be counterproductive to push for them in the current political environment.

Such concerns with maximal coercion are familiar from other public health contexts. Consider, for example, tobacco policy in the United States. The risks that tobacco poses to public health are well-known, substantial, and not especially controversial.⁶⁶ It would be easy to advocate for an absolute prohibition on the sale and use of tobacco. Yet policymakers have generally not advocated for tobacco prohibitionism.⁶⁷ Some may sympathize with a libertarian view that makes space for personal choice, including poor ones;⁶⁸ others may fear the unintended consequences of prohibition, including the creation of an underground economy and its associated costs,⁶⁹ and others may simply be skeptical that prohibition could ever be achieved given the political realities and economic interests invested in opposing prohibition.⁷⁰

As a result of such concerns, states and the federal government have adopted a menu of policies that have worked in combination to substantially lower the risks associated with and instances of tobacco use. These policies include education campaigns,⁷¹ taxation to raise the cost of tobacco,⁷² limitations on the public spaces available for smoking,⁷³ and allowing and pursuing tort liability against tobacco manufacturers.⁷⁴ To be sure, such policies are not perfect: too many people still smoke, still get lung cancer, and still expose others to the risks of secondhand smoke.⁷⁵ But from a broad perspective, this less coercive

64. *See infra* Part IV.

65. Aleccia, *supra* note 50.

66. INST. MEDICINE, PUBLIC HEALTH IMPLICATIONS OF RAISING THE MINIMUM AGE OF LEGAL ACCESS TO TOBACCO PRODUCTS 3 (2015).

67. Ronald Bayer, *Tobacco, Commercial Speech, and Libertarian Values: The End of the Line for Restrictions on Advertising?*, 92 AM. J. PUB. HEALTH 356, 357 (2002).

68. *Id.* (discussing the battle between libertarian values and public health in the context of tobacco). *See generally* James Curran, *The Libertarian Non-Smoker's Defence of Smoking*, 352 LANCET 745 (1998).

69. U.S. FOOD & DRUG ADMIN., ILLICIT TRADE IN TOBACCO PRODUCTS AFTER IMPLEMENTATION OF AN FDA PRODUCT STANDARD 11–12, 20 (2018). Consider, for example, the failure of alcohol prohibitionism to stamp out alcohol use and the rise of the underground economy that it contributed to. Consider, too, the failure and effects of the so-called war on drugs.

70. *Id.* at 13.

71. *Public Health Education*, U.S. FOOD & DRUG ADMIN., <https://www.fda.gov/tobacco-products/public-health-education> (last updated Dec. 6, 2019).

72. INST. MEDICINE, GROWING UP TOBACCO FREE: PREVENTING NICOTINE ADDICTION IN CHILDREN AND YOUTHS 177 (Barbara S. Lynch et al., eds., 1994).

73. *Smokefree Policies Improve Health*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/protection/improve_health/index.htm (last visited Nov. 18, 2019).

74. Allison Torres Burtka, *Taking on Big Tobacco*, AM. MUSEUM TORT L., <https://www.tort-museum.org/the-tobacco-cases/> (last visited Nov. 18, 2019).

75. *Fast Facts*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm (last updated Nov. 15, 2019).

approach has been fairly successful, as deaths and costs associated with tobacco use have sharply declined.⁷⁶

A similarly modest, non-maximally-coercive approach may work in the context of vaccination policy as well.

B. *Nudging*

Due to the concerns with the maximally coercive approach, some public health advocates have offered a different approach to improving vaccination rates, one that focuses on nudging parents to *choose* to vaccinate their children.⁷⁷ Although committed nonvaccinators will likely not be responsive to such nudges, our research shows that fence-sitters and others who are not inalterably opposed to vaccination may be influenced to make the choice to vaccinate if incentives are properly aligned.⁷⁸ If enough people change their behavior, community immunity may be maintained without coercing everyone to vaccinate and without universal compliance with recommended vaccination schedules.

Public health advocates have proposed a variety of mechanisms, in response to different reasons for nonvaccination, to nudge parents toward choosing to vaccinate. Some push for education campaigns, under the theory that mistaken beliefs about vaccine efficacy and safety can be effectively combatted through careful education.⁷⁹ Such campaigns can take different forms, including one-on-one counseling and more generalized public education through mass media.⁸⁰ Others suggest that allowing tort liability against parents who choose not to vaccinate may eliminate the free-rider problem by requiring nonvaccinators to internalize the costs of their choice.⁸¹ Still others maintain that finding ways to create a sense of shared responsibility and duty to vaccinate, or of creating a climate of soft social and peer pressure, may be effective in combatting nonvaccination.⁸² Yet others argue that a key is to make it *easier* to vaccinate, including by making

76. *Current Cigarette Smoking Among Adults in the United States*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm (last updated Nov. 18, 2019); *Nearly 800,000 Deaths Prevented Due to Declines in Smoking*, NAT'L INST. HEALTH, (Mar. 14, 2012), <https://www.nih.gov/news-events/news-releases/nearly-800000-deaths-prevented-due-declines-smoking>.

77. Aleccia, *supra* note 50.

78. *Id.*

79. Brendan Nyhan et al., *Effective Messages in Vaccine Promotion: A Randomized Trial*, 133 PEDIATRICS 1, 7 (2014), available at <http://pediatrics.aappublications.org/content/early/2014/02/25/peds.2013-2365>.

80. Paula M. Frew et al., *Clinician Perspectives on Strategies to Improve Patient Maternal Immunization Acceptability in Obstetrics and Gynecology Practice Settings*, 14 HUMAN VACCINES & IMMUNOTHERAPUTICS 1548, 1550 (2018); Marysia Laskowski, Note, *Nudging Towards Vaccination: A Behavioral Law and Economics Approach to Childhood Immunization Policy*, 94 TEX. L. REV. 601, 622 (2016).

81. Tucker Levis, *Vaccines and the Tragedy of the Commons: An Argument for an Alternative Liability Tort Remedy*, 65 DRAKE L. REV. 1059, 1078 (2017).

82. Aurelie Somda, *Social Behavior Change for Immunization*, CATH. RELIEF SERVS. (Jan. 12, 2018), <https://www.crs.org/stories/social-behavior-change-immunization>.

vaccinations freely available at schools or other convenient locations⁸³—and thus reducing barriers for busy parents—or even simply reminding parents that it is time to vaccinate with text messages.⁸⁴

To be sure, there are reasonable objections to the nudging approach to vaccine policy. To some, it may seem unfair to tolerate the free-riding that this approach assumes and accepts. That is, some may argue that the burden of maintaining community immunity should be borne by all people in society equally, especially since those who choose not to vaccinate free-ride on those who do, through the protections afforded by community immunity.⁸⁵

There are both pragmatic and philosophical responses to this objection. From a pragmatic perspective, the relevant question is not, “what should people be required to do for themselves and others,” but rather, “what is the best means of achieving the specific public health goal of developing and maintaining community immunity?” Framed this way, we should care less about the free-rider problem and more about whether we can achieve our goals without generating counterproductive blowback and other costs. From a philosophical perspective, perhaps the law should respect individuals’ idiosyncratic beliefs and not force them to choose between obeying the law and obeying their conscience, so long as doing so does not impose undue costs on others.⁸⁶

Indeed, we tolerate this kind of free-riding in a range of other public policy areas, for either or both practical and philosophical reasons. For example, people with pacifist religious convictions have always been exempted from military service, thereby imposing the costs of common defense on others while enjoying its benefits.⁸⁷ Practically, those with such views are likely to undermine military effectiveness because they will make for poor and reluctant soldiers.⁸⁸ Philosophically, perhaps we simply do not wish to pit pacifists’ religious or personal consciences against their loyalty to the law and country.⁸⁹

A second possible objection to the nudging approach to vaccine policy is rooted in skepticism that it will be effective enough. This is why it is necessary to select nudges carefully, based on the best scientific evidence, and to test them empirically.⁹⁰ The suggested nudges mentioned above are all relatively low-cost and likely easier to impose than is the maximally coercive position, and they

83. Lewis First, *When Flu Vaccine is Administered at School, Do Rates of Vaccination Make the Honor Roll?*, AM. ACAD. PEDIATRICS (Nov. 8, 2016), <http://www.aappublications.org/news/2016/11/08/flu-vaccine-in-schools-pediatrics-1116>.

84. Annette Regan et al., *Randomized Controlled Trial of Text Message Reminders for Increasing Influenza Vaccination*, 15 ANN. FAM. MED. 507, 510 (2017); *Text Message Reminders Could Improve Vaccination Rates, Study Suggests*, AM. ACAD. FAM. PHYSICIANS (May 16, 2012, 4:45 PM), <https://www.aafp.org/news/health-of-the-public/20120516textmessage-vaccrates.html>.

85. Levis, *supra* note 81, at 1078.

86. Indeed, laws in the United States are often highly protective of religious freedom and other freedoms of conscience. See Hillel Y. Levin, *Rethinking Religious Minorities’ Political Power*, 48 U.C. DAVIS L. REV. 1617, 1652 (2015); Levin et al., *supra* note 55, at 927; NAVIN, *supra* note 21, at 136.

87. Levin et al., *supra* note 55, at 992–93.

88. *Id.* at 992.

89. *Id.* at 927.

90. *Id.* at 1009.

thereby may represent the “minimum effective dose” (a term familiar to scientists)⁹¹ and “least restrictive means” (a term familiar to lawyers and legal scholars)⁹² for achieving positive health effects. Public health scientists have studied a variety of these approaches using both theoretical models and data from places in which they have been implemented and found some to be effective and others not.⁹³

Consequently, any approach that relies on nudges must be carefully implemented and studied longitudinally for effectiveness. Those that prove successful or show promise should be implemented widely, while those that are ineffective or counterproductive should be quickly disposed of. And, of course, if, on balance, nudging turns out to be an insufficient means of achieving and maintaining community immunity, then the case for coercion is strengthened.

Our research has focused on the policy proposal discussed in Part V—marginally raising the costs of nonvaccination by requiring pre-exemption consultation—which we have shown to be an effective means of meaningfully raising vaccination rates.

IV. WHY OUR POLITICAL SYSTEM PRODUCES LAWS THAT PERMIT NONVACCINATION

A robust majority of Americans supports mandatory vaccination regimes,⁹⁴ and the costs and risks of nonvaccination can be high.⁹⁵ Under these conditions, why has it proven virtually impossible to eliminate nonmedical exemptions? The answer to this question demonstrates why the maximally coercive approach to vaccination mandates may be a nonstarter, as well as why the nudge that we propose (and nudges in general) is potentially more feasible.

Because this question is fundamentally one about politics, it is useful to step outside of the medical and legal frameworks and instead to approach the issue through a political science lens, focusing on two related aspects of our political system. We are taught from a young age that ours is a representative form of government; and that in a representative form of government, the majority rules.⁹⁶ But rudimentary political science teaches that this is wrong. It is *not* true

91. See generally Thomas G. Filloon, *Estimating the Minimum Therapeutically Effective Dose of a Compound via Regression Modelling and Percentile Estimation*, 14 STAT. MED. 925 (1995).

92. *Least Restrictive Means Test*, FREE DICTIONARY, <https://legal-dictionary.thefreedictionary.com/Least+Restrictive+Means+Test> (last visited Nov. 18, 2019).

93. See Andrew M. Seaman, *Vaccine Education Programs May Not Work as Hoped*, REUTERS (Mar. 3, 2014, 3:45 PM), <https://www.reuters.com/article/us-vaccine-education/vaccine-education-programs-may-not-work-as-hoped-idUSBREA2225A20140303> (suggesting that public education campaigns may not be successful).

94. See, e.g., Cary Funk, Brian Kennedy & Meg Hefferon, *Vast Majority of Americans Say Benefits of Childhood Vaccines Outweigh Risks*, PEW RES. CENTR. (Feb. 2, 2017), https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2017/02/PS_2017.02.02_Vaccines_FINAL.pdf.

95. See CTR. DISEASE CONTROL & PREVENTION, *supra* note 5.

96. See, e.g., Alan Rosenthal, *Fundamentals of Representative Democracy: Lesson Plans for High School Civics, Government & U.S. History Classes*, NAT'L. CONF. STATE LEGISLATURES (July 2009), http://www.ncsl.org/documents/public/trust/lessonplans_hs.pdf.

that the majority necessarily rules. In our system, a minority—even a small minority—often rules.⁹⁷ Demonstrating *that* this is true is not difficult. Majorities of Americans do not support current policies in a wide range of substantive areas, from gun regulations⁹⁸ to tax policy,⁹⁹ healthcare¹⁰⁰ to environmental protection laws.¹⁰¹ But *why* is it true? That is, why do minority blocs of voters so often get their way in our ostensibly representative democracy?

Political scientists would have a field day with this question. Non-majoritarian and counter-majoritarian aspects of our political system abound. At the federal level, the equal apportionment of senators to each state, as well as the concomitant apportionment of electors in the electoral college gives outsized political influence to states with smaller populations.¹⁰² So, too, does the winner-take-all aspect of nearly every states' electors in the electoral college, which treats a narrow popular vote victory in one state no differently from a landslide in another state.¹⁰³ At both the state and federal level, successful gerrymandering can minimize the political representation of some groups and maximize that of others.¹⁰⁴ Federal and state systems that feature unelected judges can result in judicially mandated policies that are not supported by the public.¹⁰⁵ Indeed, the very presence of constitutional rights and liberties that trump normal legislation promises that *some* majoritarian preferences will not carry the day.

In this Part, we discuss two specific features of our political system that play an important role in preventing the successful passage of stronger vaccination mandates: (1) the power of interest groups in our political economy and (2) the burden of legislative inertia. We also briefly explore the circumstances in which these political forces can be overcome.

97. SANFORD LEVINSON, OUR UNDEMOCRATIC CONSTITUTION: WHERE THE CONSTITUTION GOES WRONG (AND HOW WE THE PEOPLE CAN CORRECT IT) 28 (2006); Mark A. Graber, *The Countermajoritarian Difficulty: From Courts to Congress to Constitutional Order*, 4 ANN. REV. L. & SOC. SCI. 361, 378 (2008).

98. Michelle Mark, *How Americans Really Feel About Gun Control*, BUS. INSIDER (Feb. 15, 2018, 10:16 AM), <https://www.businessinsider.com/americans-gun-control-beliefs-las-vegas-shooting-polls-surveys-2017-10>.

99. Hannah Fingerhut, *More Americans Favor Raising than Lowering Tax Rates on Corporations, High Household Incomes*, PEW RES. CTR. (Sept. 27, 2017), <http://www.pewresearch.org/fact-tank/2017/09/27/more-americans-favor-raising-than-lowering-tax-rates-on-corporations-high-household-incomes/>.

100. Jessie Hellmann, *Poll: Slim Majority of Americans Support Single-Payer Health Care*, THE HILL (Apr. 13, 2018, 11:34 AM), <http://thehill.com/policy/healthcare/383015-poll-slim-majority-of-americans-support-single-payer-health-care>.

101. Monica Anderson, *For Earth Day, Here's How Americans View Environmental Issues*, PEW RESEARCH CTR. (Apr. 20, 2017), <http://www.pewresearch.org/fact-tank/2017/04/20/for-earth-day-heres-how-americans-view-environmental-issues/>.

102. LEVINSON, *supra* note 97, at 51; Graber, *supra* note 97, at 377.

103. Katherine Florey, *Losing Bargain: Why Winner-Take-All Vote Assignment is the Electoral College's Least Defensible Feature*, 68 CASE W. RES. L. REV. 317, 323 (2017).

104. Devin Caughey et al., *Partisan Gerrymandering and the Political Process: Effects on Roll-Call Voting and State Policies*, 16 ELECTION L. J. 453, 454 (2017).

105. See ALEXANDER M. BICKEL, THE LEAST DANGEROUS BRANCH: THE SUPREME COURT AT THE BAR OF POLITICS 235 (1962).

A. *Interest Groups in the Political Economy: Minority Rules*

Preferences held by a minority of voters often prevail in legislatures.¹⁰⁶ Why?

In the modern American political marketplace, good policy, majority preferences, and coherent principles are not necessarily the primary determinants of the laws that are enacted. Like all people, politicians and other policymakers respond to incentives.¹⁰⁷ To the extent that laws enacted *do* represent good policy, majority preferences, and coherent principles, they generally do so because the lawmakers' incentives are aligned with those values. When political incentives are *not* aligned with good policy, majority preferences, and coherent principles, however, the laws that are enacted tend to reflect incentives rather than values.¹⁰⁸

As public choice theorists have demonstrated, and contrary to rudimentary civics lessons taught in our schools, it is often in the interest of elected officials to cater to minority preferences.¹⁰⁹ This is due to the power that interest groups hold in our political system. Interest groups aim to maximize their political influence to shape public policy in a manner that represents the groups' interests on issues they care about.¹¹⁰ They compete in the political marketplace alongside and against other interest groups.¹¹¹ "The incentives for policymakers do not revolve around what the *majority* prefers, but rather around the complicated interaction between voter preferences, the magnitude of those preferences, and the levels of support—voting, financial, or other—or threats that competing blocs of voters can deliver."¹¹² Thus, a small but organized and focused interest group will often achieve its policymaking goals even when it externalizes heavy costs on society at large, if the forces that might object to the policy are disorganized, dispersed throughout society, and of relatively low priority to potential opponents.

In short, a focused minority group will often defeat a numerically overwhelming but disorganized majority, or a majority for whom the issue is not a priority. This is because the focused minority group can reliably deliver votes and other means of support to a politician or other policymaker, who therefore

106. Graber, *supra* note 97, at 374.

107. DANIEL A. FARBER & PHILLIP P. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* 1 (1991) (specifying that public choice is "the application of the economist's methods to the political scientist's subject"); Levin et al., *supra* note 55, at 952.; see also DENNIS C. MUELLER, *PUBLIC CHOICE IN PERSPECTIVE*, IN *PERSPECTIVES ON PUBLIC CHOICE: A HANDBOOK* 389 (Dennis C. Mueller ed., 1997); Zoë Robinson, *Rationalizing Religious Exemptions: A Legislative Process Theory of Statutory Exemptions in Religion*, 20 WM. & MARY BILL RTS. J. 133, 135 (2011) (explaining the premise that political actors act in a way to maximize the value of political outcomes for themselves).

108. Levin et al., *supra* note 55, at 955.

109. *Id.*

110. DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* 14–15 (1991) (quoting Becker, *A Theory of Competition Among Pressure Groups for Political Influence*, 98 Q.J. ECON. 371, 371 (1983)).

111. *Id.* at 15 (quoting Landes and Posner, *The Independent Judiciary in an Interest-Group Perspective*, 18 J.L. & ECON. 875, 877 (1975)).

112. Levin et al., *supra* note 55, at 955 (emphasis added).

responds to the group's policy preferences, whereas the amorphous "larger public good" can deliver no support at all.¹¹³ Another way of putting this is that where a law's benefits are focused on the few (in this case, those who strongly oppose vaccination), and the cost is disbursed across society to the point that it is rarely seen or felt, the few will get their way.¹¹⁴

Vaccination policy appears to offer a textbook example of these forces at work. Those who are adamantly opposed to vaccinating their children care about this issue a lot, in part because they reap all of the "rewards" of allowing non-vaccination.¹¹⁵ Because they prioritize this issue, they are organized, informed, passionate, and well-funded. If nonmedical exemptions are threatened by public officials, they will coordinate to preserve the exemptions.

In contrast, those voters who prefer to eliminate nonmedical exemptions are probably not well-organized. Many may not even be aware of the issue, and even to the degree that they are aware, they could rationally assess that the chances of harm to their families as a result of other children not being vaccinated are low. They may reason that so long as they and their own children are properly vaccinated—and even if they cannot be for medical reasons—the chances that any of them will become infected as a result of these permissive policies are exceedingly low.¹¹⁶ At the same time, they likely have a list of political preferences and priorities that rank far higher in their decisions concerning whom to support in political elections.¹¹⁷

Thus, ardent opponents of strict vaccination mandates would likely refuse to support and would actively oppose a politician who proposes eliminating exemptions. In contrast, those who would prefer that exemptions be eliminated or narrowed may well nevertheless support a politician who would maintain broad exemptions if the politician is generally in accord with them on higher-priority policy issues.

Consequently, the minority is able to more effectively exert pressure on politicians to support maintaining exemptions than the majority is to exert pressure to eliminate them. Under normal conditions, then, it is within politicians' own interests to respond to the committed interest groups that represent the minority rather than to the majority, who would prefer different policies but do not have effective interest groups.¹¹⁸

California's success in changing its law to eliminate nonmedical exemptions is the exception that proves this rule and demonstrates the rare confluence of events necessary to overcome the power of a small interest group. In 2015,

113. Levin, *supra* note 86, at 1627–28.

114. Farber, *supra* note 110, at 23.

115. *Vaccines Protect Your Community*, U.S. DEPT. OF HEALTH & HUM. SERV., <https://www.vaccines.gov/basics/work/protection/index.html> (last visited Nov. 18, 2019).

116. *See id.*

117. *State of the Union 2019: How Americans See Major National Issues*, PEW RESEARCH CTR. (Feb 4, 2019), <https://www.pewresearch.org/fact-tank/2019/02/04/state-of-the-union-2019-how-americans-see-major-national-issues/>.

118. Hillel, *supra* note 86, at 1663.

California became the first state in decades to eliminate all nonmedical exemptions to vaccination mandates.¹¹⁹ It was able to do so because the political dynamic in the state had shifted due to what some scholars refer to as a focusing event. In political science literature, focusing events are “sudden, rare events that affect a relatively large number of people and thereby attract media coverage and capture the attention of larger publics and policymakers.”¹²⁰ By drawing considerable attention to the issue, a focusing event can cause the issue to enter the larger public’s consciousness and spur the majority to organize effectively around it, if only briefly, and thereby overcome the power of the minority.¹²¹

In California, the focusing event was the major measles outbreak that became known as the Disneyland epidemic. Although it was not the largest recent epidemic in the country, the media and other forces brought it considerable public attention.¹²² Coverage of sick or dead children seems to have had the effect of galvanizing the public to demand changes to the law. It was the broader public’s sudden and passionate interest in the issue that led to a dramatic and relatively rapid change in the law, moving from relatively broad and easily-obtained nonmedical exemptions to none at all.¹²³

The conditions necessary for California to have changed its vaccination exemption law appear to include: (1) a large outbreak of a vaccine-preventable disease, (2) in a state with a majority of elected officials who are sympathetic to the cause of eliminating exemptions and do not see their political futures threatened by the opposition, (3) that causes substantial suffering on the part of children, and (4) that receives major media coverage.¹²⁴

Similar conditions that may arise in other states may similarly make it possible for a galvanized public to overcome the typical political dynamics surrounding vaccine policy, but relying on such opportunities to change the laws has important costs. First, focusing events that present these opportunities are rare and unpredictable. Although occasional outbreaks of vaccine-preventable diseases are not especially uncommon, the attendant conditions that make legislative change possible may be missing.¹²⁵ Indeed, although other states have also experienced similar (or worse) outbreaks, only New York, where conditions

119. Saad B. Omer, *Impact of Eliminating Nonmedical Exemptions in California*, GRANTOME, <http://grantome.com/grant/NIH/R01-AI125405-01A1> (last visited Nov. 18, 2019).

120. Timothy D. Lytton, *Clergy Sexual Abuse Litigation: The Policymaking Role of Tort Law*, 39 CONN. L. REV. 809, 854 (2007). For discussion of “focusing events,” see Thomas A. Birkland, *Focusing Events, Mobilization, and Agenda Setting*, 18 J. PUB. POL’Y 53 (1998).

121. Thomas A. Birkland, *Focusing Events, Mobilization, and Agenda Setting*, 18 J. PUB. POL’Y 53, 54 (1998).

122. David Broniatowski et al., *Effective Vaccine Communication During the Disneyland Measles Outbreak*, 34 VACCINE 3225 (2016); Offit, *supra* note 51, at 89; Julia Belluz, *Why America Only Cared About Measles Once it Hit Disneyland*, VOX (Jan. 30, 2015, 10:00 AM), <https://www.vox.com/2015/1/30/7948085/why-america-only-cared-about-measles-once-it-hit-disneyland>.

123. *California Governor Signs Strict New Vaccination Law*, CBS NEWS (June 30, 2015, 3:09 PM), <https://www.cbsnews.com/news/california-governor-signs-strict-new-vaccination-law/>.

124. This same pattern occurred most recently in New York, which changed its law after a major and well-publicized outbreak of the measles. See Bellamy, *supra* note 9.

125. See, e.g., *Vaccine-Preventable Disease Outbreaks*, VACCINES WORK, <http://www.vaccineswork.org/vaccine-preventable-disease-outbreaks/> (last visited Dec. 8, 2019).

were similar to those in California, and Maine have succeeded in responding comprehensively in a manner similar to California.¹²⁶ Second, relying on this approach to change requires us to accept that change will likely not take place until more children needlessly become severely ill or die. Public health advocates, of course, would prefer to change the laws to prevent such avoidable tragedies in the first place.¹²⁷ Third, nuance is often lost when the public is galvanized by a focusing event.¹²⁸ In California, the public demanded action, specifically, the elimination of all nonmedical exemptions.¹²⁹ As discussed *supra*, this may have negative unforeseen long-term consequences and may not reflect optimal public policy.¹³⁰

Thus, while public health advocates should prepare to respond to inevitable future outbreaks of vaccine-preventable diseases, waiting for such opportunities is not—alone—a satisfying or sufficient approach to changing the law. As a general matter, then, public health advocates must recognize that they are operating in a system of minority rules, and, consequently, that advocacy for maximal coercion is rarely likely to be successful.

*B. Vetogates and the Burden of Legislative Inertia:
The Rule of the Status Quo*

Under a simple parliamentary legislative system, laws are enacted when a majority of legislators support them.¹³¹ But the legislative systems in the United States, at both the federal and state levels, do not work through straightforward parliamentary processes. Instead, they operate through a “vetogates” model of legislative process.¹³² Under a vetogates model, there are many points at which proposed legislation can be blocked through strategic use of the procedural rules that govern the process.¹³³ Any proposed legislation must make it through all of the vetogates in order to become law.¹³⁴ For this reason, the legal status quo is “sticky” and difficult to change. This feature of our legislative systems has critical implications for legislative policymaking.

States’ legislative processes for enacting laws differ from one another in all kinds of ways, but they all feature substantial vetogates, many of which mirror those in the federal system.¹³⁵ Therefore, the federal system’s vetogates offer an illustrative example. In the federal system, the bicameralism clause of Article I

126. Broniatowski et al., *supra* note 122; Offit, *supra* note 51; Belluz, *supra* note 122.

127. See e.g., Wyckoff, *supra* note 8 (advocating for elimination of nonmedical immunization exemptions for school entry).

128. Birkland, *supra* note 121.

129. See Wyckoff, *supra* note 8.

130. See Birkland, *supra* note 121, at 67.

131. William N. Eskridge, Jr., *Vetogates and American Public Law*, 31 J.L. ECON. & ORG. 756, 756 (2015).

132. *Id.* at 761.

133. *Id.* at 757–59.

134. *Id.* at 757–59.

135. See *How a Bill Becomes Law at the State Level*, AAP, <https://www.aap.org/en-us/advocacy-and-policy/state-advocacy/Documents/How%20a%20Bill%20Becomes%20a%20Law%20at%20the%20State%20Level.pdf> (last visited Dec. 8, 2019).

of the Constitution requires that both the House of Representatives and the Senate pass identical versions of a bill in order for it to then be presented to the President.¹³⁶ (The forty-nine states with bicameral legislatures also feature similar requirements.) Article I, Section 5 empowers each house of Congress to adopt its own procedural rules (as do provisions in most states). It is a result of these procedural rules that vetogates arise.¹³⁷

Consider just some of the vetogates available in the House of Representatives. A proposed bill is first assigned by the Speaker to a committee.¹³⁸ The chair of the committee then has nearly absolute authority to decide whether, when, and under what conditions to hold hearings on the bill.¹³⁹ The Speaker is a member of the majority party, and every committee is chaired by a member of the majority party.¹⁴⁰ Because of party priorities and allegiance, there is a great deal of coordination between the Speaker and committee chairs, but it is not the case that every bill that has the Speaker's support will also be supported by the committee chair, and vice versa.¹⁴¹ That is, preferences and priorities may differ. Consequently, the Speaker enjoys the opportunity to kill a bill simply by making tactical choices as to the committee assignment.¹⁴² And, if the committee chair is opposed to the bill, then the bill will not emerge from committee to be voted on by the House; or, alternatively, it will be substantially altered in order to meet the demands of the chair and win her support.¹⁴³

Assuming the original bill survives committee and is reported out, it will not get a floor vote unless the powerful Rules Committee, the House's traffic cop, allows it to.¹⁴⁴ This gives the chair of the Rules Committee, who coordinates closely with and responds to the preferences of the Speaker, an opportunity to prevent the bill's passage.¹⁴⁵ Essentially, this gives the Speaker yet a second opportunity to kill a bill, this time after its details have been worked out in committee. One consideration is whether the bill would enjoy the support of a majority of the Speaker's party, since the Speaker will usually not allow a bill to get a floor vote unless a majority of her party supports it—even if a majority of the House as a whole would support it.¹⁴⁶ These are just a few of the vetogate opportunities in the House.

The Senate, which operates under different procedural rules, also presents several more vetogate opportunities—including filibusters,¹⁴⁷ holds,¹⁴⁸ and more—that can cause a bill to die without a vote. And, after different versions of

136. Eskridge, *supra* note 131, at 757 (citing U.S. CONST. art. I, § 7).

137. *Id.* at 757–59.

138. *Id.*

139. *Id.*

140. *Id.*

141. *Id.*

142. *Id.*

143. *See id.* at 758–59.

144. *Id.*

145. *Id.*

146. *Id.*

147. *Id.*

148. *Id.* at 766.

a bill are voted out of both houses of Congress, the bill must then go to a Conference Committee for differences to be ironed out.¹⁴⁹ This presents yet another vetogate opportunity, as does the requirement that any reconciled bill produced by the conference committee then be voted on *again* by each chamber.¹⁵⁰ And assuming a bill has made it this far, it must then go to the President, who can veto it.¹⁵¹

The vetogates feature of the American legislative system have important implications for policymaking. It means, first, that laws are difficult to pass.¹⁵² It is much easier to kill a bill than to successfully shepherd it through the legislative process, even if it enjoys the support of a majority of Americans—and *even a majority of legislators in each legislative house*.¹⁵³ The burden of legislative inertia is therefore high, and the law already in place will remain in place unless that burden can be overcome.¹⁵⁴

Second, the vetogate model vests disproportionate power over the fate of a bill in certain individual legislators (committee chairs and others who hold vetogate authority).¹⁵⁵ This means that lobbying groups seeking to prevent the passage of a bill need not influence a *majority* of legislators in order to succeed. They must only sway one with veto power. This magnifies the influence that committed, organized, and sophisticated interest groups enjoy; if they can successfully capture anyone with veto power, they successfully kill a proposed bill.¹⁵⁶

Finally, the vetogate model means that the passage of any even marginally controversial bill will likely require significant compromises.¹⁵⁷ Any legislator who holds a potential veto power over the fate of the bill can withhold support until it is watered down or otherwise altered to suit her preferences, or those of lobbyists or constituents who influence her.¹⁵⁸

149. *Id.* at 759.

150. *Id.*

151. *Id.*

152. *Id.* at 757.

153. *Id.*

154. *Id.* at 764; *see also* William N. Eskridge, Jr., *Vetogates, Chevron, Preemption*, 83 NOTRE DAME L. REV. 1441, 1444–47 (2008) (laying out a vetogates model and describing nine vetogates); Richard L. Hasen, *Political Dysfunction and Constitutional Change*, 61 DRAKE L. REV. 989, 993 (2013) (“Aside from the requirements of bicameralism and presentment, within the Senate and House are a series of ‘vetogates,’ such as committee chairs, which make it easy to block legislation.”); John F. Manning, *Second-Generation Textualism*, 98 CALIF. L. REV. 1287, 1317 (2010) (“Perhaps interest groups sometimes dominate a process that is geared to make it much easier to block rather than pass legislation.”); David S. Rubenstein, *Immigration Structuralism: A Return to Form*, 8 DUKE J. CONST. L. & PUB. POL’Y 81, 134 (2013) (“Given the many ‘vetogates’ in the legislative process, it takes considerably more votes to pass a law than to block one.”); Maxwell L. Stearns, *Direct (Anti-)Democracy*, 80 GEO. WASH. L. REV. 311, 336 n.125 (2012) (“[I]nterest groups, including demographic minorities, can more easily block than pass within legislatures.”); Pete Levitas, *A Common Sense Guide to Effective Lobbying on Capitol Hill*, ANTITRUST, Spring 2017, at 22 (“[I]t is axiomatic that it is far easier for a member to block legislation than it is for a member to pass legislation”). *See generally*, WILLIAM N. ESKRIDGE, JR., ET AL., CASES AND MATERIALS ON LEGISLATION: STATUTES AND THE CREATION OF PUBLIC POLICY 66–67 (3d ed. 2001) (defining and discussing vetogates).

155. *See* Eskridge, *supra* note 131, at 758–59.

156. *Id.* at 764

157. *Id.* at 766

158. *Id.*

The upshot of this is that the successful passage of a new law is *hard* and *rare*, and those that are passed often require compromise.¹⁵⁹

Just as California's experience demonstrates that the power of lobbying rules can occasionally be overcome, the burden of legislative inertia can also be overcome in certain circumstances, namely with a change to the default rule.¹⁶⁰ If, rather than starting with a default rule that permits nonmedical exemptions, states instead began with default rules that do *not* allow for nonmedical exemptions, the political dynamics that make it difficult to change laws would work in *favor* of public health advocates rather than against them. Experience shows that this can happen, but only (again) in rare, unpredictable, and controversial circumstances.¹⁶¹

The burden of legislative inertia can be reversed when judges, who are completely or partially insulated from political dynamics and public opinion, strike down a default rule as unconstitutional.¹⁶² Consider the case of Mississippi, another state that rejects all nonmedical exemptions.¹⁶³ Similar to some other states, Mississippi law previously granted an exemption to its mandatory vaccination program for "bona fide members of a recognized denomination whose religious teachings require reliance on prayer or spiritual means of healing."¹⁶⁴ The state supreme court struck down this exemption as violating the Fourteenth Amendment's guarantee of equal protection.¹⁶⁵ Since that time, despite proposed bills that would reintroduce nonmedical exemptions into Mississippi's vaccination laws, advocates for exemptions have been unable to overcome the forces of legislative inertia that tend to maintain the status quo.¹⁶⁶

Consider also West Virginia. West Virginia, the third and final state to reject all nonmedical exemptions, has never offered such exemptions.¹⁶⁷ Despite periodic efforts by those who support such exemptions to change the law, West Virginia's legislature has steadfastly refused to do so.¹⁶⁸ This further demonstrates the power of legislative inertia; again, it is easier to prevent changes to the law than it is to implement changes.

159. *Id.* at 757.

160. See, e.g., William N. Eskridge, Jr., *Pluralism and Distrust: How Courts Can Support Democracy by Lowering the Stakes of Politics*, 114 YALE L.J. 1279, 1309–10 (2005) (arguing that courts may reverse the burden of legislative inertia where statutes affect underrepresented minority groups); Daniel A. Farber, *Introduction: "Practical Reason" and the Scholarship of Philip P. Frickey*, 98 CALIF. L. REV. 1111, 1118 (2010) (discussing how the California Supreme Court reversed the burden of legislative inertia in the context of same-sex marriage).

161. See Eskridge, *supra* note 131, at 764–65 (discussing how logrolling and bundling allow for regulatory measures to get passed that may not garner sufficient support on their own).

162. Eskridge *supra* note 160, at 1310.

163. See generally *Brown v. Stone*, 378 So. 2d 218 (Miss. 1979).

164. *Id.* at 219.

165. *Id.* at 223.

166. See Andrew M. Seaman, *Vaccine Exemption Bills Often Introduced but Rarely Passed*, REUTERS (Feb. 12, 2014, 2:05 PM), <https://www.reuters.com/article/us-vaccine-exemption-bills-idUSBREA1B20520140212>.

167. Emily Moon, *The Virtues of West Virginia's Vaccine Policy*, THE WEEK (Mar. 31, 2019), <https://the-week.com/articles/828989/virtues-west-virginias-vaccine-policy>.

168. *Id.*

In order to reverse the burden of legislative inertia by means of judicial fiat, courts in other states would have to join Mississippi in declaring nonmedical exemptions unconstitutional. In addition to the reasoning offered by the Mississippi court, legal scholars have offered other reasons for striking down such exemptions on constitutional grounds.¹⁶⁹ One of the authors of this Article has argued, for instance, that state vaccination schemes that offer religious, but no other, nonmedical exemptions, run afoul of the Establishment Clause.¹⁷⁰

The benefits of this approach are self-evident. If features of the legislative system stand in the way of changes to the law, why not simply avoid the legislature and ask the courts to change the default rule? This would both *overcome* the power of legislative inertia and *harness* that power to maintain a new status quo—one without nonmedical exemptions.

There are four potential problems or risks with pursuing this approach. First, would it succeed? No state courts have followed Mississippi's and West Virginia's lead in striking down nonmedical exemptions, and though some of the arguments for their unconstitutionality are as-yet untested and potentially strong, it is unwise to assume that they would easily and consistently carry the day.¹⁷¹ Courts may very well reject them.

Second, under certain circumstances it is possible that a court would find a narrow religious exemption scheme unconstitutional (as did Mississippi's court), but cure the constitutional flaw by *expanding* the exemption, thereby compounding the problem. Specifically, in confronting statutes that only allowed for religious accommodations from people who adhered to "bona fide" or "recognized" religious groups, several states have held that such a limitation violates the Establishment Clause, and—by way of remedy—expanded the exemption to include those who did not belong to such religious groups but who nevertheless held idiosyncratic religious beliefs against vaccination.¹⁷²

Third, is it wise to risk the kind of backlash that judicial opinions striking down statutes sometimes generates?¹⁷³ Finally, as discussed *supra*, it is not evi-

169. See, e.g., Jacobs, *supra* note 22 (discussing how non-medical exemptions violate Fourteenth Amendment due process and equal protection rights); Levin et al., *supra* note 55; Alicia Novak, Commentary, *The Religious and Philosophical Exemptions to State-Compelled Vaccination: Constitutional and Other Challenges*, 7 U. PA. J. CONST. L. 1101 (2005) (arguing that religious exemption statutes violate the First Amendment).

170. See Levin et al., *supra* note 55 (arguing religious exemptions violate the Establishment Clause).

171. Moon, *supra* note 167.

172. See, e.g., Boone v. Boozman, 217 F. Supp. 2d 938, 947 (E.D. Ark. 2002) (finding unconstitutional the provision of a statute which limited religious exemptions to practices of a "recognized church or religious denomination"); McCarthy v. Boozman, 212 F. Supp. 2d 945, 948 (W.D. Ark. 2002) (striking down as unconstitutional a statute that only provided exemptions for "members or adherents of a church or religious denomination recognized by the State"); Sherr v. Northport-East Northport Union Free Sch. Dist., 672 F. Supp. 81, 91 (E.D.N.Y. 1987) (finding unconstitutional the provision of a statute which limited religious exemptions to "bona fide members of a recognized religious organization"); Dalli v. Bd. of Educ., 267 N.E.2d 219, 220 (Mass. 1971) (finding a statute unconstitutional because it limited religious exemptions to adherents and members "of a recognized church or religious denomination").

173. Aleccia, *supra* note 50; see also Mary Ziegler, *Beyond Backlash: Legal History, Polarization, and Roe v. Wade*, 71 Wash. & Lee L. Rev. 969, 969 (2014); *Backlash from Roe v. Wade Continues to Shape Public*

dent that a mandatory vaccination law that permits no exemptions, like Mississippi's and West Virginia's, represents optimal public health policy—and yet this is the only choice that a court finding a current exemptions scheme unconstitutional has.¹⁷⁴

Consequently, while we take no categorical position on the question of whether public health advocates should pursue this judicial option, we doubt that it will be successful everywhere and encourage advocates to consider the potential risks of this approach.

B. Summary: How These Political Features Influence Vaccination Laws

The implications of these political features—minority rules and the burden of legislative inertia—on our vaccination policy should be self-evident.

First, for the minority of Americans who oppose legislative efforts to strengthen vaccination mandates, this is an important issue. They are organized and motivated enough to stay informed, and they take concrete steps to block the passage of such laws. In contrast, those in the majority, who state in public opinions that they support mandatory vaccination, this issue is not likely among their top priorities.¹⁷⁵ They likely care far more about all of the other issues that voters care about, from economic and tax policies to gun and healthcare policies. Second, because the *status quo* in nearly every state is that nonmedical exemptions to vaccination mandates are lawful and readily available, those who wish to maintain such exemptions have an easier road than those who would try to eliminate them. Consequently, we see very little success in efforts to meaningfully change the laws in these states. Although these features can be overcome in extraordinary conditions, public health advocates cannot rely on them.

Any attempt to pass new laws regarding vaccination policy in this country must do more than offer a policy solution, and it must do more than enjoy the support of the majority of citizens or the majority of the legislature. It must also confront and contend with those elements of our legislative process that give outsize power to minority preferences and make passing new laws difficult.¹⁷⁶ Advocates for change must pay the same attention to these policy dynamics and the question of political feasibility as they do to the substance of their proposals.

V. AN EFFECTIVE AND POLITICALLY FEASIBLE NUDGE

Rather than eliminate all nonmedical exemptions from vaccination mandates, we suggest that maintaining nonmedical exemptions while making them

Discourse, says Klarman, HARVARD LAW TODAY: FACULTY SCHOLARSHIP (Mar. 25, 2013), <https://today.law.harvard.edu/backlash-from-roe-v-wade-continues-to-shape-public-discourse-says-klarman/>.

174. See *supra* note 52 and accompanying text.

175. See *supra* text accompanying note 94; see also Mitchell Rabinowitz et al., *Beliefs about Childhood Vaccination in the United States: Political Ideology, False Consensus, and the Illusion of Uniqueness*, PLOS ONE (July 8, 2016), <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0158382>.

176. See Hasen, *supra* note 154, at 993; see discussion *supra* Section IV.B.

marginally more difficult to obtain can be an effective and politically feasible means of maintaining community immunity.

In many states it is currently easier to obtain nonmedical exemptions from vaccination mandates than it is to comply with them.¹⁷⁷ For example, some states only require a parent to sign an exemption form in order to be excused from vaccination requirements.¹⁷⁸ In contrast, meeting vaccination requirements can require parents to miss work to take children to the doctor; witness their children's discomfort from the vaccinations; physically restrain recalcitrant children; transfer the correct form from the physician to the school, sometimes at a cost; and bear the psychological weight of wondering whether they are doing something dangerous to their children.¹⁷⁹ Under these conditions, it is no wonder that some people choose the path of least resistance, especially given that their children are quite unlikely to be infected, thanks to the choice of most other parents to comply with vaccination mandates.

We suggest that it should not be substantially easier to opt out of vaccination requirements than it is to comply with them. Our approach would change this dynamic slightly by modestly increasing the cost of obtaining an exemption, while also encouraging informed decision-making on the part of parents. Specifically, our model law requires parents to undergo a brief annual meeting with medical professionals to review the safety and efficacy of vaccination.¹⁸⁰ Those who are inalterably opposed to vaccination may then receive an exemption.¹⁸¹ Yet, those who have previously declined to vaccinate for reasons of convenience or for lack of information can be persuaded to change their minds.¹⁸²

Studies by our group and others have shown that this approach holds promise as an effective means of raising vaccination compliance rates. First, policies that make it more difficult to obtain a nonmedical exemption, such as mandatory education, are associated with lower exemption rates.¹⁸³ Similarly, more stringent policies at the state level have also been associated with lower rates of disease transmission.¹⁸⁴ And, as we have shown, recently added requirements such

177. Jennifer Johnson, *Increasing vaccine compliance for school immunizations*, EMORY NEWS CENTER (Sept. 20, 2012), http://news.emory.edu/stories/2012/09/increase_in_nonmed_vaccine_exemptions/campus.html.

178. Wyckoff, *supra* note 8.

179. Stacie Kershner, Timothy D. Lytton, Daniel Salmon and Hillel Levin, *A proposal to reduce vaccine exemptions while respecting rights of conscience*, PHILLYVOICE: AHEALTHIERPHILLY (Jan. 9, 2019), <https://www.phillyvoice.com/proposal-reduce-vaccine-exemptions-respect-rights-conscience-parents-public-health-measles/>; see, e.g., Steve P. Calandrillo, *Vanishing Vaccinations: Why Are So Many Americans Opting Out of Vaccinating Their Children?*, 37 U. MICH. J.L. REFORM 353, 411–19 (2004).

180. See *infra* at Appendix: Draft Vaccination Law Section VIII.A.1.

181. *Id.*

182. *Id.*

183. Omer et al., *supra* note 12, at 2; W Sabrina Tavernise, *Washington State Makes It Harder to Opt Out of Immunizations*, N.Y. TIMES (Sept. 19, 2012), <https://www.nytimes.com/2012/09/20/health/washington-state-makes-it-harder-to-forgo-immunizations.html>; *When It's Hard to Get a Vaccine Exemption, More Kids Get Shots*, NPR (Feb. 10, 2015, 5:00 PM), <https://www.npr.org/2015/02/10/385267216/when-its-hard-to-get-a-vaccine-exemption-more-kids-get-shots>.

184. Varun Phadke et al., *Association Between Vaccine Refusal and Vaccine-Preventable Diseases in the United States: A Review of Measles and Pertussis*, 315 J. AM. MED. ASS'N 1149 (2016).

as these in California (prior to the elimination of nonmedical exemptions), Washington, and Oregon have resulted in a decrease in nonmedical exemption rates and a rise in vaccination compliance.¹⁸⁵

In addition, this approach confronts the political realities that have stood in the way of eliminating all nonmedical exemptions. States that have previously adopted elements of our proposal have demonstrated that this approach is politically feasible: by respecting those who are inalterably opposed to vaccination and allowing them to continue their practice of nonvaccination, opposition to change is diminished.¹⁸⁶

In the Appendix to this Article, we offer a comprehensive and annotated model law that implements our proposed approach. It is our hope that state lawmakers and agency officials will adapt and adopt this model law as a means of improving the health of their citizens.

VI. CONCLUSION

Public health policy reform efforts are fraught with ethical, practical, and political concerns. When should parents be compelled to engage in practices to which they object? What are the practical costs of adopting maximally coercive policies? And how should public health advocates confront political realities that stand in the way of their preferred reforms? In the context of vaccination policy, we suggest that on ethical, policy, and political grounds, the best approach is one that minimizes compulsion.

185. Alison Buttenheim et al., *Conditional Admission, Religious Exemption Type, and Nonmedical Vaccine Exemptions in California Before and After a State Policy Change*, 36 *VACCINE* 3789 (2018); Omer et al., *supra* note 12.

186. See Buttenheim et al., *supra* note 185; Omer et al., *supra* note 12.

APPENDIX

DRAFT VACCINATION LAW¹

I. INTENT AND PURPOSE

- A. STATE recognizes that vaccination against communicable diseases has significantly reduced incidence of illness and fatality due to these diseases in this state. It is the intent of the state to prevent communicable disease outbreaks and to ensure the health and safety of children and students, as well as to the population in this state by requiring vaccination subject to limited medical and nonmedical exemptions.
- B. It is the intent of the legislature by enacting this LAW to provide a means for achieving and maintaining community immunity levels against preventable infectious diseases. STATE further recognizes a compelling interest in achieving and maintaining community immunity.

II. RULEMAKING AUTHORITY

- A. The HEALTH DEPT is authorized to promulgate, adopt and enforce rules and regulations, including emergency regulations, as necessary, to carry out this law.²

III. DEFINITIONS³

- A. As used in SECTION, unless the context otherwise requires:
 - 1. “Adult” means any person aged 18 years or older, and any child under the age of 18 years who has been declared legally emancipated.
 - 2. “Biological evidence of immunity” means that a person has been found to be immune, usually determined by laboratory test, from a

1. Some provisions incorporated in this model law are derived from one or more current state vaccination requirements for school entry, either statutes or regulations. This model law can be found at <http://www.vaccinesafety.edu/ModelLaw.htm>. The authors will update the model law at that website as developments warrant.

2. The authors have drafted this as a comprehensive model law. This proposed model law is intended as a resource for states to compare their existing exemption laws and analyze whether the model raises and/or maintains vaccination rates sufficiently to develop and maintain community immunity. States may determine whether adoption of the model in whole or in part, and whether adoption of provisions as statutes or regulations, would be appropriate based on the needs, processes, and political dynamics of the state. All state innovations are not captured by this model. States are encouraged to adopt the model in a way that will work in their state. In some states, the health department’s responsibilities as outlined in this model may be in consultation with the department of education. Phrases that are capitalized are intended to be replaced with the state-specific department, position, citation, etc.

3. States should use the applicable terms defined in their jurisdiction, in keeping with the intent of the model to maximize community immunity and limit vaccination exemptions. Several definitions are from the Centers for Disease Control and Prevention, including community immunity, immunity, vaccination and vaccine.

certain disease and does not require additional vaccination for such disease.

3. “Camp” means all day and overnight camps where a child is enrolled in a program for four or more days or nights.⁴
4. “Certificate of Vaccination” means an official paper record or printout from the STATE IMMUNIZATION INFORMATION SYSTEM as stated in SECTION⁵ listing the vaccinations that an individual has received and complying with the requirements in this LAW and with the rules and regulations of HEALTH DEPT.
5. “Child” means anyone under the age of 18 years.
6. “Childcare facility” means any public, private or parochial nursery or preschool, daycare center, or childcare facility or center; childcare facility is not intended to include public service, guest short term, drop-in childcare facilities at churches or exercise gyms.⁶
7. “Community immunity” means a situation in which a sufficient proportion of a population is immune to an infectious disease to make its spread from person to person unlikely.
8. “Exclude” or “Exclusion” means the temporary withdrawal of the privilege of attending school.
9. “Homeschool Student” means any child or student under the age of 18 years, or in grades kindergarten through 12, instructed at home under LAW, or otherwise exempted or excused from attending school.⁷

4. The authors recognize that risk of transmission of disease is not decreased in short-term camps (fewer than four days) or drop-in childcare programs. We acknowledge, however, that the administrative burden that would be imposed by demanding that proof of vaccination be provided in these scenarios. We have chosen to limit camps to those which are four days or longer and have excluded drop-in programs, such as ski or surf schools, church programs or gyms, as it may be difficult to implement or to provide any oversight. Some states may wish to extend vaccination requirements to these groups.

5. States may reference the name of immunization information system (IIS), also known as electronic vaccination records or immunization registry, and the corresponding state law here. Reporting to the IIS by medical providers is not discussed in this law and some states may wish to include it in Section XV. Some states may allow schools to access vaccination information on individual students directly from the system or even to add information to the registry, assuming compliance with the Family Education Rights and Privacy Act (FERPA) of 1974, 20 U.S.C. § 1232g (2018); 34 C.F.R. Part 99 (1988), is met, and may wish to include this in Section XIII below.

6. *See supra* note 4. The authors did not list after-school programs (such as those held at the schools or where buses transport children to another facility such as a YMCA or childcare facility) here because the students participating in these programs should have provided the appropriate documentation to the school in which they are enrolled, assuming the students and school are in compliance with the vaccination requirements.

7. Homeschool students are expressly included in this model law for several reasons. First, homeschool students do not tend to stay solely in their homes. They participate in various extracurricular opportunities in congregate environments, some of which non-homeschooled students also participate in, such as sports teams, music groups, and academic co-op schools. It would be burdensome and difficult to implement and provide oversight to require each of these extra-curricular opportunities to collect proof of vaccination. Further, homeschool students may contribute to creating geographical pockets of un- or under-vaccinated children where diseases could more easily spread if an outbreak were to occur. Finally, not including homeschool students potentially contributes to an inequitable burden on low income families who may not be able to afford to homeschool as an alternative to vaccination or must incur the financial costs and burden of seeking a nonmedical exemption.

10. "Immunity" means the protection against a disease.
11. "Medical professional" means a licensed physician, physician assistant or advanced practice nurse under supervision of a licensed physician, or other medical professional as authorized by the HEALTH DEPT to issue exemptions.
12. "Out-of-home placement" means any foster, group home, congregate care, institution or juvenile justice facility, where a child or adult is placed for four or more days or nights.
13. "Public health training" means a training authorized by HEALTH DEPT on community immunity, the benefits of vaccination, and the individual and community risk of not vaccinating and declining vaccination rates, proof of which must be signed by a medical professional following an in person consultation required for any non-medical exemption.⁸
14. "School" means any public, charter, private or parochial preschool, prekindergarten or kindergarten program, elementary school, middle schools/junior high school, or high school. School also means any trade school, college, or university, unless the program is entirely online, with no in-person component.
15. "Student" means any child or adult enrolled in a STATE school or childcare facility as defined ABOVE.
16. "Vaccination" means injection of a killed or weakened infectious organism in order to prevent the disease.
17. "Vaccination coordinator" means the individual identified at each childcare facility, school or camp to collect and compile certificates of vaccination or biological evidence of immunity, medical exemption form, or nonmedical exemption form and public health training. For homeschool students, this is the identified individual at HEALTH DEPT.
18. "Vaccination provider" means an individual who is authorized to administer vaccinations.
19. "Vaccine" means a product that produces immunity therefore protecting the body from the disease.

IV. VACCINATION REQUIRED

- A. Except as otherwise provided in SECTION(S), the parent or legal guardian of the child, or emancipated student or student aged 18 years or older, must submit one of the following prior to attendance of the

8. This training may be developed by the health department, individual provider or health system, academic partner or other entity, but in any case should be authorized by the health department. The medical professional may oversee completion of the training as proof or may accept a completion certificate or other form of proof when signing.

child or student at a childcare facility, school or camp in STATE, or upon being registered or enrolled as a homeschool student in STATE:

1. An up-to-date certificate of vaccination showing that the child or student has received all vaccinations required by HEALTH DEPT for that child's or student's age, on the form required by the HEALTH DEPT, completed and signed by the vaccination provider and including the following:
 - i. The child's or student's name and birth date;
 - ii. A list of all vaccinations administered and the dates of administration as required by HEALTH DEPT;
 - iii. A list of all vaccinations administered and the dates of administration as recommended by HEALTH DEPT;
 - iv. An affirmation that the child or student's vaccinations are up-to-date and meet minimum requirements;
 - v. An expiration date on or prior to the date of the next required vaccination; and
 - vi. Any other information as required by HEALTH DEPT.
2. A certificate of vaccination, where one or more vaccinations are not up-to-date, on the form required by the HEALTH DEPT, completed and signed by the vaccine provider and including the following:
 - i. The child's or student's name and birth date;
 - ii. A list of all vaccinations administered and the dates of administration as required by HEALTH DEPT;
 - iii. A list of all vaccinations administered and the dates of administration as recommended by HEALTH DEPT;
 - iv. A catch-up schedule, following medically recommended minimum intervals, to bring the child or student up to date on all required vaccination;
 - v. An expiration date at which point the catch-up schedule must be completed and the child or student must have received all required vaccinations for that child's or student's age, and upon which a new up-to-date certificate of vaccination as described in SECTION above is issued; and
 - vi. Any other information as required by HEALTH DEPT.
- A. The certificate of vaccination as described in SECTION above shall be provided to the designated vaccination coordinator of the childcare facility, school or camp. In the case of homeschool students, the certificate of vaccination shall be provided to the designated vaccination coordinator at the HEALTH DEPT.
- B. An up-to-date certificate of vaccination is required prior to entering kindergarten, sixth grade, ninth grade, and college or university, as well as prior to entering a new school or changing schools,

upon filing intent to homeschool and upon expiration of a previously submitted certificate of vaccination.

V. BIOLOGICAL EVIDENCE OF IMMUNITY

- A. In lieu of submitting a certificate of vaccination for each disease as outlined in SECTION, the parent or legal guardian of the child, or the emancipated student or student aged 18 years or older, may submit biological evidence of immunity for specific diseases in the form of antibody titers or another form determined acceptable as outlined by HEALTH DEPT and signed by a medical professional.
- B. For all diseases for which biological evidence of immunity is not available, the certificate of vaccination shall be required.

VI. VACCINATION OF STUDENTS WITH DISABILITIES⁹

- A. A student with a qualifying disability under Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794 or the Individuals with Disabilities Education Act, 20 U.S.C. § 1400 et seq., must comply with the vaccination requirements as outlined in SECTION unless the student has a medical or nonmedical exemption as outlined in SECTIONS. Having a 504 plan or an individualized education plan is not an automatic exemption from vaccination requirements.
- B. A student with a qualifying disability under Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794 or the Individuals

9. Ross D. Silverman & Wendy F. Hensel, *Squaring State Child Vaccine Policy with Individual Rights Under the Individuals with Disabilities Education Act: Questions Raised in California*, 132(5) PUB. HEALTH REP. 593 (2017). California's law known as SB277 limits vaccination exemptions to only those with medical reasons; however, a section of the law appears to suggest that students with special needs served under IDEA must be provided these services "regardless of their vaccination status." Even if not the original intent, there has been mixed interpretation and implementation of this clause by school districts in California. Some essentially have decided not to enforce the vaccination requirement for children served under IDEA, essentially extending an exemption to a broad group of students, a portion of which would not otherwise be eligible for a medical exemption. For example, a student may be served under IDEA for a reading disorder such as dyslexia, or a speech disorder like childhood apraxia of speech, for which, on their own, there is no medical contraindication for vaccination, but under some California school districts' interpretations would allow for exemption from vaccination requirements. IDEA was passed to ensure that children with special needs are provided a "free and appropriate public education" ("FAPE"), enabling these children access public school services. As stated by Silverman and Hensel, "It is unlikely that Congress intended the FAPE requirement preempt categorically a state's ability to apply its otherwise enforceable laws equally to children with disabilities." They argue that a parental decision not to vaccinate, absent a valid exemption, should be considered a voluntary parental decision to consent to exclusion from school and termination of services under IDEA. Silverman and Hensel raise several important policy questions regarding the potential public health impact allowing a blanket exemption for children served under IDEA, particularly that local school districts are implementing the law differently across California. Specifically addressing IDEA here in this model law and clearly stating that all students, regardless of whether they receive services under IDEA or not, are required to be vaccinated unless an otherwise valid exemption (here, medical or non-medical) is provided, ensures that there is no confusion or variation in implementation. For more background on the controversy in California, see also Jane M. Adams, *Some Districts Exempt Students in Special Ed from Vaccination Law*, EDSOURCE (Jan. 6, 2016), <https://edsources.org/2016/some-districts-exempt-students-in-special-ed-from-vaccination-law/92868>.

with Disabilities Education Act, 20 U.S.C §1400 et seq. with a medical or nonmedical exemption as described in SECTIONS shall not be denied the services outlined in their 504 plan or individualized education plan. In the event of an outbreak of a particular disease for which the child is not vaccinated, the 504 or IEP team shall meet to discuss providing home-based services. The child or student may opt to be vaccinated at this time, if possible, and will be eligible for readmission once the HEALTH DEPT determines the period during which the disease is transmissible has passed.

VII. VACCINATION OF HOMELESS CHILDREN

A homeless child or student, within the meaning of McKinney-Vento Homeless Assistance Act, 42 U.S.C. § 11434a(2), as amended, who does not have a record of the required vaccinations, may be conditionally enrolled in a school or childcare facility for a period of time not exceeding 30 calendar days if a parent or legal guardian has signed a witnessed statement that the child has received the required vaccinations and the child's vaccination records are not immediately available. A vaccination coordinator shall report each conditional enrollment under this SECTION to the HEALTH DEPT. The HEALTH DEPT, with the assistance of the DEPT OF ED's homeless liaison, will be responsible for locating the required vaccination records. If the vaccination records are not located during the conditional period, or the records indicate that the child has not received the required vaccinations, the child must be vaccinated as described in SECTION to continue attend the school or childcare facility. The HEALTH DEPT., with the assistance of the DEPT OF ED's homeless liaison, will be responsible for ensuring that the child receives the required vaccinations.

VIII. MEDICAL EXEMPTION FROM VACCINATION

- A. In lieu of submitting a certificate of vaccination for each disease as outlined in SECTION, the parent or legal guardian of the child, or the emancipated student or student aged 18 years or older, may submit an exemption from vaccination for a specific disease stating that the child's or student's physical condition is such, or medical circumstances are such, that a required vaccination would be contraindicated for medical reasons.
 1. A request for medical exemption form must be completed, dated and signed annually by a medical professional affirming the contraindication or harm that can be reasonably expected if the child or student were to be vaccinated. The medical professional must initial each specific vaccination for which exemption is requested and provide explanation specific to the child or student.

2. For all diseases for which vaccination is not contraindicated and an exemption is not requested, the certificate of vaccination shall be required. The request for medical exemption form must accompany the certificate of vaccination.
- B. All requests for medical exemption forms must be reviewed and approved by HEALTH DEPT. If approved, HEALTH DEPT shall issue the medical exemption for the contraindicated disease and notify the parent or legal guardian of the child, emancipated student and student age 18 and older. The parent or legal guardian of the child, emancipated student and student age 18 and older shall then submit this approved medical exemption for the contraindicated disease and the certificate of vaccination.

IX. NONMEDICAL EXEMPTION FROM VACCINATION

- A. In lieu of submitting a certificate of vaccination for each disease as outlined in SECTION, the parent or legal guardian of the child, or the emancipated student or student aged 18 years or older, may submit an exemption from vaccination for a particular disease on the grounds that the parent or legal guardian, or the emancipated student or student aged 18 years or older, has a strongly held belief against such vaccination.
1. To receive the nonmedical exemption, the parent or legal guardian of the child, emancipated student or student aged 18 years or older seeking nonmedical exemption must annually complete a public health training authorized by HEALTH DEPT on community immunity, the benefits of vaccination, and the individual and community risk of not vaccinating and declining vaccination rates. Such training shall require in-person consultation with a medical professional or HEALTH DEPT representative. Proof of completion of this training, signed by a medical professional or HEALTH DEPT representative, must be submitted annually with the non-medical exemption form.
 2. The nonmedical exemption form must be completed, dated and signed annually by the parent or legal guardian of the child, or emancipated student or student aged 18 years or older, and must include the following:
 - i. Affirmation of a strongly held belief against vaccination;
 - ii. Acknowledgement of completion of the public health training and of receipt and understanding of the following information:
 - a. Meaning and importance of community immunity;
 - b. Public health benefits of vaccination, including prevention of illness to self and others and maintenance of community immunity; and

- c. Implications of not vaccinating, including potential harm to the child or student not being vaccinated and potential harm to those for whom vaccination is medically contraindicated, elderly, infants too young to vaccinate, and persons who have not had a sufficient immunological response to the vaccine.
 - iii. Acknowledgement that the child or student may be excluded by HEALTH DEPT from school and other congregate activities in the event of threat or imminent danger of outbreak for which an vaccination is required or if the student or child is reasonably believed of being exposed to or having a disease for which an vaccination is available.
 - iv. Acknowledgement that the child or student may be excluded from school if the vaccination level in any age group or grade in a school in this state falls below the level necessary to guard against the spread of disease within the grade or school as determined by HEALTH DEPT.
- B. Nothing shall be construed as to require private schools, private childcare facilities or private camps to accept nonmedical exemptions for any or all vaccinations required by HEALTH DEPT. Private schools, private childcare facilities, and private camps may elect whether or not to accept nonmedical exemptions as outlined this section. Private schools, private childcare facilities, and private camps must clearly state if nonmedical exemptions will not be accepted in the school or facility's admissions agreements or contracts to be signed by parent or legal guardian of the child, emancipated student or student aged 18 years or older.

X. EXCLUSION DUE TO LOW VACCINATION LEVELS, EXPOSURE,
ILLNESS OR OUTBREAK¹⁰

- A. If at any time, the HEALTH DEPT determines that the vaccination level in any age group or grade in a school in this state falls below the level necessary to guard against the spread of a specific disease for which a vaccination is required pursuant to SECTION, HEALTH DEPT may determine that nonmedical exemptions from vaccination will not be recognized. All children or students who have not been vaccinated against such disease and do not have a medical exemption for such disease may be excluded from school, childcare facilities and camp.

10. States may have procedural differences as to how these options can be executed. In some states, the health department has the authority to issue self-executing orders. In other states, court orders may be required. States may wish to include reference to this process in the statute or regulation.

- a. A child or student who has been excluded under this section may opt to be vaccinated at this time, if possible, and will then be eligible for readmission to the school, childcare facility or camp once the vaccination is deemed effective.
- B. If at any time, the HEALTH DEPT determines that there is a significant threat of an outbreak of a specific disease for which a vaccination is required pursuant to SECTION, HEALTH DEPT may determine that exemptions or exceptions from vaccination against such disease will not be recognized. All children or students who have not been vaccinated against such disease may be excluded from school, childcare facilities, and camp.
 1. A child or student who has been excluded under this section may opt to be vaccinated at this time, if possible, and will then be eligible for readmission to the school, childcare facility or camp once the vaccination is deemed effective.
 2. All children or students who have been excluded under this section will be eligible for readmission once the HEALTH DEPT determines the threat or imminent danger has lifted.
- C. If at any time HEALTH DEPT reasonably believes a child or student has been exposed to or has a disease for which an vaccination is required, and there is a threat or likelihood of transmission, the child or student may be excluded from school, childcare facilities, and camp.
 1. A child or student reasonably believed by the HEALTH DEPT to have been exposed to a disease for which vaccination is required and who has been excluded under this section will be eligible for readmission once the HEALTH DEPT determines the maximum incubation period for such disease has passed.
 2. A child or student reasonably believed by the HEALTH DEPT to have had a disease for which vaccination is required and who has been excluded under this section will be eligible for readmission once the HEALTH DEPT determines the period during which the disease is transmissible has passed.

XI. CONDITIONAL COMPLIANCE

- A. Any child or student who does not submit the certificate of vaccination or exemption as outlined in SECTIONS shall be excluded from any childcare facility, school or camp in the STATE, except that a child or student may be allowed conditional attendance under the following circumstances:
 1. A child or student who is in active progress of completing the schedule of vaccinations described above to bring the child or student up-to-date on all required vaccinations may attend a childcare facility, school or camp so long as no vaccination listed on the

catch-up schedule is missed by more than a 30 calendar-day grace period.

2. A child or student has transferred to a school or childcare facility in the state from another school or childcare facility whether in state or out of state shall have a 30 calendar-day grace period to have the child's or student's records transferred.
3. A homeless child or student, within the meaning of McKinney-Vento Homeless Assistance Act, 42 U.S.C. § 11434a(2), as amended, shall have a 30-day grace period as described in SECTION.
4. The HEALTH DEPT has determined that a shortage of vaccine for one or more vaccinations diseases exists, for which the child or student must receive the vaccination within 30 calendar days after the shortage is lifted.

XII. NONCOMPLIANCE

- A. The vaccination coordinator of a childcare facility or school shall exclude any child or student who fails to comply with the requirement to submit a certificate of vaccination in SECTION and who is not otherwise exempted under SECTIONS from attendance until such time as required documentation is received.
- B. If a deficiency is discovered after a child or student has already been admitted and begun attendance, the vaccination coordinator of the school or childcare facility must provide direct personal notification of noncompliance to the parent or legal guardian of the child, emancipated student or student aged 18 years or older.
- C. Once notification has been provided, the child or student may conditionally attend for no more than a 30 calendar-day grace period while the parent or legal guardian of the child, emancipated student or student aged 18 years or older shall submit required documentation. No grace period exists for camps.
- D. If after 30 calendar days the child or student is still noncompliant, he or she shall be excluded by the vaccination coordinator from the childcare facility or school.
- E. In the event of exclusion from a childcare facility or school, the vaccination coordinator shall notify the DEPT OF HEALTH. An agent of the DEPT of HEALTH will attempt to contact the parent or legal guardian of the child, emancipated student or student aged 18 years or older in an effort to secure compliance and allow future attendance.

XIII. RESPONSIBILITY OF CHILDCARE FACILITY, SCHOOL, OR CAMPS

- A. Each childcare facility, school or camp must identify an on-site vaccination coordinator who shall collect and compile certificates of vaccination or biological evidence of immunity, medical exemption form, or nonmedical exemption form and proof of completion of public health training. For homeschool students, the HEALTH DEPT shall also identify one vaccination coordinator who shall collect and compile certificates of vaccination or biological evidence of immunity, medical exemption form, or nonmedical exemption form and public health training.
- B. The vaccination coordinator must:
1. File proof of vaccination or medical or nonmedical exemption as part of each child or student's record on-site with easy access in the event of an outbreak.
 2. Notify the parent or legal guardian of the child, emancipated student or student aged 18 years or older of any noncompliance with the requirement and to require that the documentation be provided within a 30 calendar-day grace period for childcare facilities or schools.
 3. Not allow a child or student who is noncompliant beyond the 30 calendar-day grace period to continue to attend the childcare facility or school.
 4. Notify parent or legal guardian of the child, emancipated student or student aged 18 years or older of noncompliance with the requirement and not allow such child or student to continue to attend camp until the required documentation is provided.
 5. Provide notification to the parent or legal guardian of the child, emancipated student or student aged 18 years or older, and make publicly available, the childcare facility, school or camp's current year vaccination rates and the average rate of the past three years.
 6. Transfer a vaccination record at no charge to another childcare facility, school or camp or providing a copy of the vaccination record to the parent or legal guardian of the child, emancipated student or student aged 18 years or older, on request, at no charge within 7 days of the request.
 7. Report, for each Full Time Equivalent (FTE) Count Day, the following information to HEALTH DEPT:
 - i. Total number of children or students enrolled at the childcare facility, school or camp;
 - ii. Number of children with proof of vaccination or biological evidence of immunity;

- iii. Number of children without such proof;
 - iv. Number of medical exemptions;
 - v. Number of nonmedical exemptions; and
 - vi. Number of children with conditional enrollment.
8. Maintain an accurate and current list of all children or students who do not have proof of vaccination or serologic evidence of immunity, whether due to noncompliance, medical exemption or nonmedical exemption, and exclude these children or students as specified above.
- C. School nurses, whether acting as the vaccination coordinator or otherwise, may review student vaccination records as needed.

XIV. HEALTH DEPARTMENT RESPONSIBILITIES

- A. The HEALTH DEPT shall:
 1. Establish a roster of vaccinations, and the schedule and ages at which such vaccinations shall be administered, with due regard for the recommendations of the Advisory Committee on Vaccination Practices of the Center for Disease Control and Prevention.
 2. Make available public vaccination information, including non-identifiable vaccination, exemption, and disease rates for the diseases of the specified vaccinations.
 3. Provide to the general public evidence-based research, peer-reviewed studies resources and information from credible scientific and public health organizations.
 4. Develop the required forms and rules for submission for
 - i. Vaccination records;
 - ii. Medical and nonmedical exemptions; and
 - iii. Vaccination and exemption reporting to the department.
 5. Develop vaccination information to be distributed to parents or legal guardians of the children, emancipated students and students age 18 and older, informing them of requirements under SECTION.
 6. Identify a vaccination coordinator for homeschool students and coordinate with the DEPT OF ED to identify homeschool students.
 7. Review and approve or deny medical exemption requests, issue medical exemptions for approved requests, and notify parents or legal guardians of the children, emancipated students and students age 18 and older, of the approval or denial of the medical exemption request and reason for such decision.

8. Submit a report of aggregate nonidentifiable information by child-care facility, school or camp, so long as greater than 10 students are enrolled in the childcare facility, school or camp, and a report of aggregate nonidentifiable information by district and for the state, and make such reports publicly available, including:
 - i. Total number of children or students enrolled;
 - ii. Number of children with proof of vaccination or biological evidence of immunity;
 - iii. Number of children without such proof;
 - iv. Number of medical exemptions;
 - v. Number of nonmedical exemptions; and
 - vi. Number of children with conditional enrollment.

B. The HEALTH DEPT may:¹¹

1. Issue an order against a parent or legal guardian of the child, emancipated student or student aged 18 years or older who is noncompliant with the vaccination coordinator under SECTION to require that the individual:
 - i. Present evidence to the school that the student or child has been vaccinated against the diseases specified;
 - ii. Take action to fully immunize the student or child; or
 - iii. File for an exemption pursuant to SECTION.

Issue an order that a child, emancipated student or student aged 18 years or older be excluded from school for noncompliance with SECTION, or for low vaccination levels, exposure, illness or outbreak pursuant to SECTION.

XV. RESPONSIBILITY OF MEDICAL PROFESSIONALS

- A. All medical professionals providing exemptions from vaccination shall annually report the following to the HEALTH DEPT and the MEDICAL/OTHER PRACTITIONER BOARDS:
 1. Number of and reasons for medical exemptions; and
 2. Number of nonmedical exemptions and affirmation that each non-medical exemption was accompanied by a completed public health training with in-person consultation.

11. As mentioned above, states may have procedural differences as to how these options can be executed. In some states, the health department has the authority to issue self-executing orders. In other states, court orders may be required. States may wish to include reference to this process in the statute or regulation.

- B. No medical professional shall be required to provide nonmedical exemptions.

XVI. SEVERABILITY

If any provisions of this LAW, the implementing REGULATIONS, or the application thereof to any person, facility or circumstances shall be held invalid, such invalidity shall not affect the provisions of application to the provisions which can be given effect. To this end, provisions are declared to be severable.