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In the Wake of a Pandemic: Revisiting School Approaches to Nonmedical Exemptions to Mandatory Vaccination in the US

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Mandatory school vaccination policies with exclusion of unvaccinated students can be a powerful tool in ensuring high vaccination rates. Some parents may object to mandatory vaccination policies, claiming exemptions based on medical, religious, or philosophical reasons. Individual schools, school systems, or local or regional governments have different policies with respect to whether, and what kind of, exemptions may be allowed. In the setting of the current pandemic, questions regarding the acceptability of exemptions have resurfaced, as schools and local governments struggle with how to safely return children to school. Anticipating that school attendance will be facilitated by the development of a vaccine, school systems will face decisions about whether to mandate vaccination and whether to permit exemptions. The American Academy of Pediatrics promulgates policy favoring the elimination of nonmedical exemptions generally in schools. This discussion considers whether schools should eliminate nonmedical exemptions to vaccination as proposed in the American Academy of Pediatrics policy, ultimately concluding that broad elimination of exemptions is not justified and advocating a more nuanced approach that encourages school attendance while promoting vaccination and broader public health goals. (*J Pediatr* 2021;231:17-23).

School entry represents an important opportunity to ensure compliance with recommended vaccination for children, a critical public health strategy to advance population health. Mandatory school vaccination with exclusion of students who do not meet this requirement can be a powerful tool in ensuring high vaccination rates within schools.¹ Those seeking an exemption for medical reasons are unable to be vaccinated safely. Nonmedical exemptions comprise a variety of exemption requests generally based on philosophical or religious beliefs. Individual schools, school systems, or local or regional governments have different policies with respect to whether and what kind of exemptions may be allowed.

In the setting of the ongoing coronavirus disease-2019 pandemic, significant efforts have been directed at determining how to safely return children to school owing to ongoing concerns about infectivity and the lack of a standardized treatment approach to the disease. Vaccination offers a promising means to permit children to return to school, if a safe and effective vaccine were to be developed. If such a vaccine were to be developed, however, schools or local authorities governing schools will need to determine whether vaccination will be mandatory and whether exemptions will be permitted, raising longstanding questions about the balance of public health and individual liberties.

The central question addressed is whether—as a matter of policy—schools ought to permit philosophical and religious (nonmedical) exemption options to mandatory vaccination policies. The discussion considers the circumstances of a public health emergency and how obligations may change under these conditions. It describes the role for mandatory vaccination in public health programs, as well as the problem of vaccine hesitancy and the role of mandatory vaccination as a response to vaccine hesitancy and the prevalence and impact of nonmedical exemptions to vaccination. The American Academy of Pediatrics (AAP) position favors mandatory vaccination with the elimination of nonmedical exemptions in schools; this discussion describes the legal and ethical arguments for and against the elimination of such exemptions.

The discussion concludes that mandatory vaccination is justified when there is an imminent public health threat and there is an effective vaccine demonstrating a favorable benefit to risk profile, while restriction on exemptions to vaccination is justified when no other less restrictive means exists to combat the public health threat and restriction does not disproportionately burden any particular group. Ultimately, the discussion favors this contextualized approach to when nonmedical exemptions may be limited and promotes alternative strategies to improve vaccination rates for vaccine-preventable diseases.

Vaccine Hesitancy and Mandatory Vaccination as a Response

Parents may object to mandatory vaccination for varied reasons. Vaccine hesitancy can stem from lack of trust within the health system generally. Parents may have genuine concerns about the safety and usefulness of vaccines, although

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many concerns regarding vaccine safety are fueled by false information and misconceptions regarding medicine and/or the science of vaccines.^{2,3} These misconceptions include beliefs about associations between vaccines and autism, worries about the use of aborted fetal tissues to grow some vaccines, concerns about some vaccines contributing to adolescent sexual behavior, and concerns about too many vaccines weakening the immune system.^{4,5} Vaccine usefulness may be questioned because parents have not experienced or witnessed the symptoms and harms of vaccine-preventable diseases; their concerns about the vaccines themselves, therefore, overshadow worries about these diseases and may lead to vaccine refusal.⁴ Vaccine hesitancy may also represent a different phenomenon in unvaccinated versus undervaccinated groups. Undervaccinated children are more likely to be of minority race, with younger mothers of lower income who reside in urban areas. Meanwhile, unvaccinated children are more likely to be White, with married mothers who have a college degree, live above the poverty level, raise concerns about vaccine safety, and who are more likely to use exemptions.⁶ Regardless of the etiology of vaccine hesitancy, negative beliefs about vaccination correlate with opposition to mandatory vaccination as well as opposition to attempts to increase vaccination through the removal of nonmedical exemptions to vaccination.⁷

Some have proposed mediating vaccine hesitancy in schools by creating administrative burdens to nonvaccination, such as requiring disclosure of vaccination status and disincentives such as fines similar to workplace approaches.⁸ These approaches, however, have led to legal challenges. Additionally, placing similar policies in schools could be stigmatizing to children who do not make their own choices about vaccination and who are not in the position to make choices about what schools they attend. Furthermore, the use of financial disincentives favors the use of exemptions by affluent individuals, who are already more likely to use them while effectively removing the option from those who are less affluent but may have legitimate objections to vaccination, raising social justice concerns.⁹

Nonmedical Exemptions to Mandatory Vaccination

Over the last 2 decades, the rates of nonmedical exemptions to vaccination have increased, with wide variation in state-level mandates regarding vaccination and exemptions.¹⁰ A number of studies have attempted to describe the impact of nonmedical exemption policies on the rates of exemption and to evaluate the association between the rates of nonmedical exemptions and disease incidence for vaccine-preventable diseases. Where nonmedical exemptions have been introduced, some states have seen a shift from medical to nonmedical exemption requests.¹¹ Such shifts may occur while the overall rate of exemptions remains the same.^{12,13} There may also be an additive effect when more than one type of nonmedical exemption is available, leading to higher

rates of exemption overall.¹⁴ Increased nonmedical exemption rates have demonstrated increased risks of disease outbreaks for unvaccinated children in some studies, but not others.^{10,15,16} For measles and pertussis, increased rates of exemption have led to an increased incidence of these diseases, with significant consequences.^{17,18}

Rates of exemption are associated with a variety of characteristics related to the exemption process. A lack of written instructions for exemption, easier exemption practices, and the use of philosophical exemptions specifically are associated with higher rates of exemption.¹⁹⁻²² Sociodemographic and geographic conditions, including source of information regarding vaccine information, race, education, income, and English language proficiency, are also important predictors of exemption use, with higher rates of exemptions found in private schools, rural locations, areas of high population density, areas of democratic affiliation, those who rely more heavily use the internet for vaccine information, and schools with a higher socioeconomic status.^{21,23-30} With ongoing concerns about exemption rates and the potential for an increase in vaccine-preventable diseases, there has been renewed attention to policies related to nonmedical exemptions in particular, questioning whether schools should eliminate such exemptions.^{10,31}

The AAP Position on Nonmedical Exemptions and Reasons Favoring the Restriction or Elimination of Nonmedical Exemptions

Countering vaccine hesitancy is an important goal to improve vaccination rates. As one mechanism to address vaccine hesitancy, the AAP advocates for policies that eliminate school nonmedical exemption practices.³² The AAP policy statement outlines the legal justification for mandatory vaccination stemming from the landmark *Jacobson v Massachusetts* case upholding mandatory vaccination as a constitutionally valid means of promoting public health and safety.³³ The subsequent case of *Zucht v King* extended acceptability of vaccination as a condition for school entry.³⁴ In *Prince v Commonwealth of Massachusetts*, the court established that parental child rearing rights were not absolute, particularly if they placed the child or community at risk for ill health.³⁵ The policy outlines that ethically, decision-making in the best interests of the child ought to lead parents to vaccinate, both for the protection of their child and the community. Because exemptions run counter to the decision to vaccinate, the AAP policy rejects them as detrimental both to the individual child who would not be vaccinated, as well as to the community of individuals who cannot be vaccinated for medical reasons. The policy rejects the counterargument to the blanket elimination of nonmedical exemptions as violating the “least restrictive means” test for infringing on personal liberty, claiming that the restriction on personal liberty is limited in scope to being restricted from school attendance, and suggesting that this restriction is not overly burdensome because children have alternatives to public

school. First, children could attend a private school that permits an exemption. Children could also be home schooled and public schools could offer accommodations, like the provision of materials to be picked up before or after school hours to minimize exposure. Schools might additionally offer online materials. However, these pedagogical alternatives may not be realistic options for children of parents who do not have the ability to provide for private school or to stay at home to provide home schooling, even with school-provided materials. Such accommodations may, therefore, create additional disparities in educational opportunity. Moreover, these accommodations cannot replace the other social and interpersonal benefits that schools provide.

There may be strong justifications to disallow nonmedical exemptions to vaccination. Although the elimination of exemptions can be criticized as an unauthorized infringement on individual liberty, the state's police powers do permit the limitation of such liberties in the interests of public health.³⁶ Among the strongest motivations for the elimination of nonmedical exemptions is evidence that the elimination of nonmedical exemptions leads to increased vaccination rates.^{37,38} Conversely, an increased use of nonmedical exemptions decreases the overall rates of immunization, which correlates with an increased incidence of certain vaccine-preventable diseases. In particular, measles and pertussis outbreaks have both been associated with more permissive exemption policies.^{17,18} When decreased vaccination rates lead to the loss of herd immunity overall, claims for nonmedical exemption hold even less moral weight, because the risk to the community from the loss of herd immunity poses a potentially greater threat than the loss of parental authority in vaccine refusal.³⁹ Given the risk of an increased incidence of vaccine-preventable diseases, increased costs can be associated with the existence of nonmedical exemptions owing to costs associated with managing the increased disease incidence.⁴⁰ The combination of these justifications supports the AAP position to eliminate nonmedical exemptions to mandatory vaccination policies.

The use of nonmedical exemptions also potentially puts the individual child at risk for a vaccine-preventable disease, because the rates of infection are higher for individuals or groups of individuals with increased availability of nonmedical exemptions.⁴¹⁻⁴³ Knowing the widespread impact that vaccination has had on decreasing and eliminating life-threatening diseases, it is in the child's best interests to vaccinate. Some have argued that failure to vaccinate, particularly with the use of nonmedical exemptions, constitutes child neglect, and although courts have treated this issue variably, it highlights concerns about the risk level to the individual child in cases of vaccine refusal supported by nonmedical exemptions.⁴⁴

Arguments Against Limiting Nonmedical Exemptions to Vaccination

Nonmedical exemptions to vaccination are supported by legal arguments for freedom of thought and religion, as

well as respecting the zone of parental privacy and due process in matters concerned with child rearing.^{45,46} Although historically, nonreligious-based exemptions did not enjoy the same status as religious objections, to meet equal protection requirements under the law, distinctions between religious and philosophical objections break down.⁴⁷⁻⁴⁹ Further support for both philosophical and religious objection lie in court cases that restrict questioning the sincerity of deeply held beliefs, whether religious or otherwise.⁵⁰ A review of Supreme Court jurisprudence demonstrates, however, that claims for vaccine exemptions based on religious beliefs are not absolute when they conflict with important public or state interests.^{51,52} These arguments have led to restrictive policies for both religious and philosophical exemptions to vaccination in some states.⁵³

In addition to legal bases for nonmedical exemptions to vaccination, ethical arguments also exist to support nonmedical exemptions. The strongest argument from an ethical perspective lies in respect for parental authority to raise their children as they see fit. Although, there may be many reasons to object to vaccination, philosophical objections may be grounded in a culture of distrust of government and medical institutions.⁵⁴ In general, parents are granted wide latitude in decision-making authority for matters concerning their children, unless decision-making rises to the level of constituting medical neglect. For parents who object to vaccination, potential harms related to vaccines rather than vaccine-preventable diseases themselves emerge as concerns.^{54,55} Mandatory vaccine approaches that disallow philosophical or religious objection may be seen as coercive intrusions into the child rearing authority of parents, while permitting informed refusal may better respect the "autonomy" rights of parents to make decisions on behalf of their children.^{56,57} An additional argument against eliminating exemptions relates to the burdens that may be borne by the child based on parental decisions. Mandatory vaccination without exemption will likely lead to increased vaccination rates, which is in the interests of the public health and the children who become vaccinated as a result of the mandate. However, policies without exemption doubly burden children of persistent refusers, who remain unvaccinated, and are also denied entry to school. Complete elimination of nonmedical exemptions runs counter to these ethical arguments.

Some have argued that the ethical acceptability of objections rests with the degree of public health threat posed by particular conditions, requiring contextualized assessments to determine conditions when mandatory vaccination without exemption might be applied.⁵⁸ In proposing a limited restriction on nonmedical exemptions for measles, for example, Opel et al argue that a focused approach—restricting nonmedical exemption to a contextualized assessment of the need for a particular vaccination (ie, the severity of the public health threat)—promotes feasibility, sustainability, and enforceability, while upholding a core public health principle of restricting liberty for the public good using the least restrictive means possible.⁵⁹ Under this approach, exemptions should be limited or eliminated

when vaccination for the imminent public health threat is necessary to control the threat and is the least restrictive means to do so. A focused approach will be more acceptable because it protects the public health while restricting individual liberty less, will be more sustainable because it may seem to be less coercive and thereby more palatable to the public, risking less opposition to vaccination generally, and more practically enforceable because of its smaller scope. Moreover, limiting nonmedical exemptions under these conditions should only be imposed if it constitutes the least restrictive alternative to improving vaccination rates because this practice maintains restrictions on individual liberty to that which is necessary in scope and kind to achieve the intended public health goal.^{60,61} A contextualized approach such as that proposed by Opel et al respects important principles of public health law and ethics.

Legally, interventions such as mandatory vaccination to protect the public health must adhere to the *Jacobson* court's holding that the state intervention is necessary to prevent an avoidable harm, has a real and substantial relationship to avoiding the harm, avoids burdens disproportionate to benefits, and does not cause the individual undue risk.^{33,62} By articulating these criteria, the *Jacobson* case both outlines the legal justification for the use of mandates, and puts some limits on use of the police power, including consideration of whether the intervention would lead to risk for the individual. Public health ethics scholars have echoed these requirements in supporting interventions for the public good that are effective, offer significant benefit to the public health, minimize individual risk and burden, and distribute benefit and burden fairly.⁶³

The application of these legal and ethical principles demonstrates why broad exclusion of nonmedical exemptions would not be justified. Although mandatory vaccination policies may be justified, the exclusion of children from school for a parental decision not to vaccinate, in the absence of a true public health emergency, risks overly burdening some children relative to the benefits. Strict elimination of nonmedical exemptions with the resultant exclusion of children from school settings could be potentially detrimental to children and may be disproportionately experienced by some children over others, risking justice concerns. Similar to vaccine policies in pediatrician offices, the consequences of mandatory vaccination policies without room for exception could lead to the exclusion of children from important goods. The practice of patient dismissal from pediatrician offices for failure to vaccinate has been controversial at best.^{58,64} Although some have argued that patient dismissal for failure to vaccinate protects other patients who may be unable to vaccinate, others have criticized the practice because it compromises access to well-child care for unvaccinated children who do not themselves make the decision about vaccination. Similarly, if mandatory vaccination policies in schools led to the exclusion of children who were unvaccinated, excluded children would be denied other important social goods. Since the *Jacobson* case, schools have become not only places for education, but also for

ensuring that children have other basic needs met. Particularly for children at risk for disparities, denying formal education, a powerful social influencer of health, would be detrimental. In addition to the loss of education, such children would also lose potential resources through school, including meals, social-emotional development, and the loss of relationships with trusted adults, who provide important roles in monitoring for social-emotional well-being and the potential reporting of abuse or neglect for youth living in risk. Although some of these goods may be provided in other community settings, others that are based in the relationships and supervision that children receive in school are not as easily replicable. This disproportionate impact risks exacerbating already existing structural determinants of health and runs counter to public health principles to avoid unfair distribution of benefits and burdens among a population.

A Contextualized Approach to Limiting Nonmedical Exemptions and Alternative Pathways Forward to Promote Public Health Goals

Although there may be compelling situations in which it would be reasonable to restrict nonmedical exemptions to vaccination, there are important interests to weigh in the balance; the relative weight of these interests will not always support restrictions. Specific interests must be balanced in making these decisions: (1) the individual interest of the child, (2) parental interests to raise their children, and (3) the interests of the state. It is in the child's direct interest to be protected from vaccine-preventable diseases (favoring mandatory vaccination without exemption), but it is also in their interest to not be excluded from school because of the morally relevant public goods that schools provide in addition to education (favoring mandatory vaccination with exemption). The parent's interest is the authority to raise their child in line with their values without state intervention (favoring mandatory vaccination with exemption). The state has interests both to protect the public health (favoring mandatory vaccination without exemption) and the individual interests of children.

Government *parens patriae* and police powers provide different authority to the government to protect the interests of the public and individuals respectively. The *parens patriae* function allows governments to act on behalf of minors who are presumed not competent to protect their own interests. Under this authority, governments could individually pursue claims of neglect against parents who choose not to vaccinate, thereby placing their child at risk; however, these are likely to be individual claims rather than a decision made as a matter of policy as circumstances of individual cases will be important to a determination of neglect. Although the benefits of vaccination to a child are important considerations at an individual level, and the government can attempt to protect individual interests through the *parens patriae* function, these individual interests are not the basis of the government (or

school) authority to implement a widespread mandate, which would need to be implemented under the police power.

The goal of actions taken under the police power are directed at the public health rather than the individual. Interventions based on the government's police power, such as mandatory vaccination as described in the *Jacobson* case, are justified to protect collective public health interest. Schools, as extensions of governments, should therefore consider the public health impacts of their policies, which would support mandatory vaccination, with exemption, which avoids unnecessary exclusion of children from school. Both legal and ethical (social justice) arguments also support allowing exemption based on public health ethics and public health law.

Under the police power, in general, to justify mandatory vaccination there must be an imminent public health threat from the specific disease for which mandatory vaccination is proposed. This threat could be demonstrated, for example, by declaration of a local, regional, state or federal public health emergency, such as a pandemic, or an outbreak of a previously controlled vaccine-preventable diseases. Vaccination must be possible for the disease, available, and with sufficient evidence to support effectiveness of the vaccine without significant risk or burden associated with obtaining the vaccine. Finally, to justify eliminating exemptions to the vaccine and consequently limiting school entry, there must not be alternative and effective means to control the disease that causes the imminent threat and restriction of exemptions must not disproportionately disadvantage any particular group for school entry. Although the AAP position supporting mandatory vaccination without exemption importantly addresses a need to improve and maintain high vaccination rates both for the public health and the health of individual children, it is overly broad, and will not meet these requirements, particularly as applied to new vaccines for new or emerging diseases, where longer term safety and efficacy data are unknown or incomplete.

In the setting of the current coronavirus disease-2019 pandemic, many of these criteria may be met if an effective vaccine is developed. Given the widespread impact of the virus and limitation on school reopening owing to concerns about infectivity, if an effective vaccine is developed, the balance of burden and benefit to reopening schools may in fact support mandatory vaccination without exemption. Applying the *Jacobson* criteria, if the vaccine were safe and effective there would be an avoidable harm and the vaccine would have a real and substantial relationship to avoiding the harm. The other 2 criteria, however, require a deeper analysis. The third criterion that burdens are not disproportionate to benefits would likely also support vaccination without exemption because the current incidence of disease is restricting most children from school until additional mitigation occurs. The fourth criterion may be the most difficult to defend currently, because most trials are not involving children and it is unclear whether adult safety and efficacy data are generalizable to children. Additional safety and

efficacy data in children are needed to assess whether the risks to children are significant. In one study, only 65% of parents have indicated that they would vaccinate their child with 52% of those who would refuse citing the vaccine's novelty.⁶⁵ Prematurely anticipating a plan for mandatory vaccination without exemption before clear evidence that a safe and effective vaccine has been developed could undermine public trust and risk worsening vaccine hesitancy.

Instead of a broad restriction on exemptions, a more contextualized approach, generally allowing vaccine mandates with exemption, and restricting exemptions in the setting of public health emergencies, would better align with public health law. Along with this approach, it is critical to direct attention toward alternative means to increase vaccine compliance, because this process will both further goals to protect the public health as well as the individual health interests of children who receive vaccines. Although the elimination or reduction of nonmedical exemptions offers 1 avenue to counter hesitancy, other strategies may prove more successful overall in increasing vaccination rates.⁶⁶ For example, the adoption of an advisory committee on immunization practices recommendations regarding vaccination, the introduction of mandatory vaccination policies even with exemption provisions and parental education, were associated with higher vaccination rates.^{67,68} Similarly, implementing administrative strategies to make nonmedical exemptions more challenging to obtain decreases the number of exemptions without eliminating them and can be ethically acceptable as long as administrative burdens do not disproportionately restrict options for some populations over others.⁶⁸⁻⁷⁰ Partnering with schools, pharmaceutical companies, religious leaders, and health-care providers may also facilitate efforts to improve vaccination rates.^{12,71} Central among efforts is education, not only about vaccine-preventable diseases, but about waivers of vaccination, as well as about general matters of public health.^{16,72} Pediatricians as key educators should embrace this approach to optimize vaccination rates while supporting policies that will keep as many children in school as possible. ■

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