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Mandating the HPV Vaccine is Unconstitutional: Exploring an Alternative Legislative Choice

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INTRODUCTION

As of July 1, 2020, Hawaii was the fourth state to mandate the human papillomavirus ("HPV") vaccine for school attendance.¹ As all other mandated vaccines in Hawaii, parents may opt-out his or her child for a religious or medical reason, but there is no generalized opt-out.² Rhode Island, Virginia, and Washington D.C. also mandate the vaccine with different levels of opt-out provisions. ³

Hawaii received over eight hundred testimonies from the community prior to the enactment of the HPV vaccine mandate, and sixty-two percent were in opposition.⁴ Based on these figures, if Hawaii denies a student admission to school for lack of vaccination or proper waiver, a lawsuit against the state for an invasion of parental rights will likely ensue. This type of case could force the court system to evaluate the case law regarding vaccines from the early 1900's under modern jurisprudence and specifically relating to HPV, a sexually transmitted disease.⁵

While the author of this paper supports the CDC recommendation for adolescents to receive the HPV vaccination, the paper explains that mandating the HPV vaccine is unconstitutional because it infringes on parental autonomy, a fundamental right that has evolved over the last century since the seminal vaccine cases were decided. HPV is sufficiently different from other

¹ HAW. ADMIN. RULES § 11-157-3 (2019), Exhibit A (July 1, 2020).

² HAW. ADMIN. RULES § 11-157-5 (2019).

³ 216 R.I. Gen. Laws § 30-05-3.5 (2014); Va. Code Ann. § 32.1-46(D)(3) (2019),

https://law.lis.virginia.gov/vacode/; D.C. Code Ann. § 7-1651.04 (2007).

⁴ Cameron Miculka, *Hawaii would be 3rd state to require HPV vaccine*, WEST HAWAII TODAY, February 3, 2019, https://www.hawaiitribune-herald.com/2019/02/03/hawaii-news/hawaii-would-be-3rd-state-to-require-hpv-vaccine/.

⁵ See Jacobson v. Massachusetts, 197 U.S. 11 (1905); Zucht v. King, 260 U.S. 174 (1922).

diseases currently mandated for school attendance. The disease spreads only through sexual contact, is preventable without a vaccine, and the harmful effects, if any, do not occur during childhood and can often be mitigated with routine medical care.⁶

States should focus on developing constitutionally sound legislation which requires the HPV vaccine among students and parents but does not tie a child's education to it. This type of legislation will instill trust in the government and health care providers. It will also become more necessary as scientists and researchers continue to develop a wide variety of childhood vaccines.

Part I of this article explains vaccine mandates, vaccine jurisprudence, and the constitutionality of vaccine mandates under the evolving interpretation of the due process clause of the Fourteenth Amendment. Part II looks at HPV in particular – the disease, the vaccine, and current state mandates. Part III argues that excluding a child from school for not being vaccinated against HPV is unconstitutional since it is sufficiently different from other required vaccinations, focusing on smallpox.⁷ Lastly Section IV posits constitutionally sound legislative suggestions to increase the percentage of immunized adolescents. This paper will not address First Amendment rights or religious protection arguments in relation to vaccination mandates.

I. VACCINE HISTORY AND CURRENT LEGISLATION

A. Vaccine Mandates

All fifty states, Washington D.C., and the U.S. territories mandate childhood vaccinations for school entry.⁸ Since the Federal government does not regulate vaccinations, the requirements

⁶ Newsroom, Fact sheets, Details, Human papillomavirus and cervical cancer (Jan. 24, 2019), WORLD HEALTH ORG., https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer.

⁷ See Jacobson, 197 U.S. 11; Zucht, 260 U.S. 174. While now eradicated, smallpox epidemics were the basis for the seminal Supreme Court cases.

⁸ State-by-State: Vaccination Required for Public School Kindergarten, BRITANNICA PROCON, https://vaccines.procon.org/state-by-state-vaccinations-required-for-public-school-kindergarten/ (last updated July 23, 2018).

and opt-out policies vary by state. Upon entry to Kindergarten, states require between four and nine vaccinations and require more vaccines as children progress through school. The Center for Disease Control (the "CDC") vaccination schedule recommends ten vaccines, consisting of twenty-four doses, before age seven. Between ages seven and eighteen, the CDC recommends eight additional vaccines.

Each of the recommended or mandated vaccinations are for diseases that spread either through the air by breathing or through the mouth, except for Hepatitis B and HPV. Tetanus enters the body through a break in the skin, Hepatitis B spreads through the transfer of bodily fluids, and HPV spreads through sexual contact. Since children would not typically contract HPV and Hepatitis B during the school day, the vaccinations are sufficiently different than other mandated vaccines.

The CDC recommends that parents vaccinate according to the suggested schedule and warns that unvaccinated children are in danger of becoming seriously ill, disabled, or dying.¹³ The U.S. Department of Health and Human Services advises parents to vaccinate for two reasons.¹⁴ The first is to potentially save his or her child's life against childhood diseases. The second is to protect those who cannot receive vaccinations. A community can achieve this by obtaining "herd immunity" or "community immunity," two interchangeable phrases.

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⁹ *Id*.

¹⁰ Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger Table 1, CTRS. FOR DISEASE CONTROL AND PREVENTION, (2020),

https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf ¹¹ *Id*.

¹² Part One Vaccine-Preventable Diseases and Childhood Vaccines, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/vaccines/parents/tools/parents-guide/downloads/parents-guide-part1.pdf.

¹³ Making the Vaccine Decision: Addressing Common Concerns, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/vaccines/parents/why-vaccinate/vaccine-decision.html (page last reviewed Aug. 5, 2019).

¹⁴ Five Important Reasons to Vaccinate Your Child, U.S. DEP'T OF HEALTH AND HUMAN SERVS., https://www.vaccines.gov/getting/for_parents/five_reasons (last updated Jan. 2018).

Community immunity is "[a] situation in which a sufficient proportion of a population is immune to an infectious disease (through vaccination and/or prior illness) to make its spread from person to person unlikely." Experts believe between seventy and seventy-five percent of the population need to be immune to achieve this goal for HPV. Community immunity protects citizens such as babies too young to be vaccinated themselves and those that are medically ineligible to receive vaccinations.

B. Jacobson v. Massachusetts and Zucht v. King: The Prevailing Vaccine Case Law

Jacobson v. Massachusetts (1905)¹⁷ and Zucht v. King (1922)¹⁸ continue to be the prevailing case law on mandatory childhood vaccinations. These two cases held that states have the police power to mandate vaccinations and to exclude unvaccinated children from school to protect the public health, but the power is not absolute.

In 1902, Cambridge, Massachusetts had a smallpox outbreak. According to the World Health Organization ("the WHO"), smallpox was "one of the most devastating diseases known to humanity . . ." According to the CDC, three out of every ten people infected died of the disease and those who survived were often physically scarred. The WHO, in its final report addressing smallpox eradication, stated that "repeated [smallpox] epidemics have swept across the world,

¹⁵ Vaccines & Immunizations, Glossary, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/vaccines/terms/glossary.html (page last reviewed: May 31, 2016).

¹⁶ MIQUEL S. PORTA, INT'L EPIDEMIOLOGICAL ASS'N; A DICTIONARY OF EPIDEMIOLOGY 115 (Oxford University Press, USA, 2008); Dennis Thompson, *Study Points to Herd Immunity Against HPV in Unvaccinated U.S. Adults*, WEBMD.COM, https://www.webmd.com/sexual-conditions/hpv-genital-warts/news/20190910/hpv-herd-immunity-is-on-the-rise-among-adults (last updated Sept. 10, 2019).

¹⁷ Jacobson, 197 U.S. 11.

¹⁸ Zucht, 260 U.S. 174.

¹⁹ *Health Topics, Smallpox*, WORLD HEALTH ORG., https://www.who.int/healthtopics/smallpox#tab=tab_1 (last visited Aug. 2, 2020).

²⁰ *History of Smallpox*, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/smallpox/history/history.html (page reviewed Aug. 16, 2016).

decimating populations and altering the course of history."²¹ Reports of smallpox are reported as early at 10,000 BC and a vaccine was developed in 1796.²²

Over 100 years after the development of the smallpox vaccine, Cambridge's Board of Health enacted a smallpox vaccine mandate for all citizens. The State of Massachusetts statute granted this power to its cities stating that it was permissible to mandate vaccinations when "it is necessary for public health"23 Henning Jacobson claimed he and his son had an adverse reaction to another vaccine and refused to receive the smallpox vaccine. The City fined him five dollars, the maximum penalty under the law. Jacobson appealed his case from state court to the United States Supreme Court.

The plaintiff argued that while the state had the police power to make laws in its jurisdictions, the vaccine mandate was an overstep of this power and it violated the Due Process Clause of the Fourteenth Amendment.²⁶ The Court disagreed and unanimously held that Massachusetts had the power to give local health boards permission to mandate vaccinations during an epidemic even though citizens' personal liberties were invaded.²⁷ The Court explained that while every person has individual liberties, it is not "an absolute right in each person to be, at all times and in all circumstances, wholly freed from restraint" and that "under the pressure of great dangers . . ."²⁹ individual rights may be restrained "by reasonable regulations, as the safety

²¹ WORLD HEALTH ORG., GLOBAL COMMISSION FOR CERTIFICATION OF SMALLPOX ERADICATION, THE GLOBAL ERADICATION OF SMALLPOX: FINAL REPORT OF THE GLOBAL COMMISSION FOR THE CERTIFICATION OF SMALLPOX ERADICATION. Geneva: World Health Organization, 1979.

²² Stefan Riedel, *Edward Jenner and the history of smallpox and vaccination*, 18 BAYLOR UNIV. MED. CNTR. PROCEEDINGS 21, 21-24 (2005).

²³ *Jacobson*, 197 U.S. at 12.

²⁴ *Id*. at 36.

²⁵ *Id*. at 12.

²⁶ *Id*. at 22.

²⁷ *Id*. at 25.

²⁸ *Id*. at 27.

²⁹ *Id*. at 29.

of the general public may demand."30

In the early 1900's, doctors and scientists created vaccines to prevent and stop outbreaks, epidemics, and pandemics. The Court could not predict the future of science to know that scientists would create vaccines for non-fatal diseases. Since the Justices were armed only with the scientific and medical information available to them at the time, they did not explicitly limit the scope of the decision, but they did lay out the standard and the exceptions.

Jacobson solidified that states, while under great danger, have the police power to enact health laws that are necessary to protect the public health, even if they infringe upon individual rights. ³¹ There are limits to this power; it is not absolute. ³² Judicial review of the health laws may be justified if the enacted laws are unreasonable, oppressive, or arbitrary. ³³ The law must also have a real or substantial relationship between the problem and the solution, and the laws may not go "beyond what [is] reasonably required for the safety of the public"³⁴

In the specific case of smallpox in Cambridge, the epidemic was clearly a great danger, there was a century old vaccine available, and "[t]he state legislature proceeded upon the theory which recognized vaccination as at least an effective, if not the best-known, way in which to meet and suppress the evils of the smallpox epidemic that imperiled an entire population."³⁵ The Court also included a clear exemption to the state laws for individuals who would be harmed by an immunization, stating that forcing immunization on a person with a health risk is "cruel and inhuman in the last degree."³⁶ This medical exemption exists in all vaccination mandate laws

³⁰ *Id*..

³¹ *Id*. at 26-28.

³² *Id*..

³³ *Id*. at 28.

³⁴ *Id*.

³⁵ *Id*. at 31.

³⁶ *Id*. at 39.

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Zucht v. King, in which a parent challenged her child's exclusion from school for failure to obtain vaccines, was decided seventeen years later. ³⁸ The Court found there was no substantial federal question and, therefore, did not apply the standards laid out in Jacobson. ³⁹ The Court did not balance the dangers of the epidemic against individual liberties. Instead, it simply affirmed that under Jacobson, states clearly have the police power to mandate compulsory vaccinations for school attendance. ⁴⁰ The case was, again, regarding a deadly smallpox epidemic. ⁴¹ The Court's three paragraph decision granted broad discretion to state authorities to enact laws necessary to protect the public health, including compulsory school vaccination mandates, but failed to balance individual liberties against state police power.

Similarly, state courts have applied *Jacobson* mechanically to hold all vaccine mandates constitutional. As a general matter, courts have not wrestled with oppression or reasonableness of the solution, but rather have simply held that all mandatory vaccination laws for children are constitutional without a thorough analysis. In 1948, the New Jersey Supreme Court held that "the question of desirability or efficacy of compulsory vaccination and whether it is wise or unwise is strictly a legislative and not a judicial question."⁴² The Court seemed to disregard the language in *Jacobson* giving court discretion to reject unreasonable, oppressive, or arbitrary state actions. ⁴³ In 1964, the Arkansas Supreme Court held that parents had no right to refuse the smallpox vaccine.⁴⁴

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³⁷ What is an Exemption and What Does it Mean?, CTRS. FOR DISEASE CONTROL AND PREVENTION https://www.cdc.gov/vaccines/imz-managers/coverage/schoolvaxview/requirements/exemption.html (last visited April 19, 2021).

³⁸ Zucht v. King, 260 U.S. 174.

³⁹ *Id*. at 177.

⁴⁰ *Id*. at 176.

⁴¹ *Id.* at 174.

⁴² Sadlock v. Bd. of Educ., 58 A.2d 218, 220 (N.J. 1948).

 $^{^{43}}Id.$

⁴⁴ Cude v. State, 377 S.W.2d 816, 819 (Ark. 1964).

The Court, referring to *Jacobson*, stated that "it is within the police power of the State to require that school children be vaccinated against smallpox . . . In fact, this principle is so firmly settled that no extensive discussion is required."⁴⁵ After decades of deference to police powers in vaccine challenges, plaintiffs saw a claim under *Jacobson* as futile and litigation turned to exemptions instead.

C. The Progression of Parental Autonomy as a Fundamental Right under the Fourteenth

Amendment

Twenty years after *Jacobson*, the Court began developing a jurisprudence about parental rights in the upbringing of their children. Collectively, the Supreme Court and federal court rulings recognize parents' fundamental right under the Fourteenth Amendment to make decisions regarding their children's upbringing, education, and care.⁴⁶

In 1923, at the parent's request, a teacher in a parochial school was teaching German to a 10-year-old student.⁴⁷ He was convicted of violating a Nebraska state law forbidding teaching in a language other than English to any student before completing the eighth grade.⁴⁸ The Supreme Court declared the state law unconstitutional because it violated the right of parents to make decisions for their children.⁴⁹

Pierce v. Society of Sisters, decided two years later, held that children cannot be required to attend public instead of private school, and stated that "the child is not the mere creature of the state; those who nurture him and direct his destiny have the right. . . to recognize and prepare him

⁴⁵ *Id*.

⁴⁶ See Meyer v. Nebraska, 262 U.S. 390 (1923); Pierce v. Society of Sisters, 268 U.S. 510 (1925); Prince v. Massachusetts, 321 U.S. 158 (1944); Wisconsin v. Yoder, 406 U.S. 205 (1972); Troxel v. Granville, 530 U.S. 57 (2000).

⁴⁷ *Meyer*, 262 U.S. at 396.

⁴⁸ *Id*. at 396-97.

⁴⁹ *Id*. at 403.

for additional obligations."⁵⁰ The state did not show a reasonable relationship between the legislation mandating that children must attend public school and a legitimate state interest.⁵¹ Therefore, the Court held that the law unreasonably interfered with parent's protected liberty interest.⁵²

In 1972, quoting *Meyer*, the Court held that Amish parents have the right to direct the upbringing and education of their children by exempting children from attending school after the eighth grade.⁵³ Since there was no physical or mental harm to the children, compelling these students to continue to attend school was in sharp contrast with their religious beliefs and was an overstep of parental autonomy.⁵⁴

Troxel v. Granville is the most recent Supreme Court case addressing parental autonomy.⁵⁵ The Court struck down a Washington statute allowing any person to petition for a court-ordered right to see a child over a parent's objection, but the Justices were split on the holding.⁵⁶ The plurality held that even if the visitation is in the best interest of the child, that is not a compelling reason to interfere with a parental decision and doing so would violate the due process clause of the Fourteenth Amendment.⁵⁷ While Justice O'Connor stated that the "liberty interest at issue in the case - the interest of the parents in the care, custody, and control of their children - is perhaps the oldest of the fundamental liberty interest recognized by this Court,"⁵⁸ she did not explicitly state that parental autonomy is a fundamental right requiring strict scrutiny. Justice Thomas, in

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⁵⁰ *Pierce*, 268 U.S. at 535.

⁵¹ *Id*. at 535-36.

⁵² *Id*. at 536.

⁵³ Yoder, 406 U.S. at 207.

⁵⁴ *Id*. at 230.

⁵⁵ Troxel, 530 U.S. 57.

⁵⁶ *Id*. at 57.

⁵⁷ *Id*. at 59.

⁵⁸ *Id*. at 65.

his concurring opinion pointed out that instead of being vague, the court should have explicitly stated that the strict scrutiny level of judicial review applies.⁵⁹ It is apparent from decades of jurisprudence that strict scrutiny should apply when the state infringes on parental autonomy.⁶⁰

There are, of course, limits to parental autonomy under the Fourteenth Amendment. In *Prince v. Massachusetts*, decided in 1944, Sarah Prince allowed three children in her custody to distribute religious pamphlets in exchange for money on public streets.⁶¹ This activity violated a Massachusetts statute prohibiting child labor on the street and public places.⁶² The Court upheld the statute stating that while parental liberties are important, they are not absolute.⁶³ The Court found that prohibiting employment of children is necessary to protect them from being exploited.⁶⁴ The Court also stated that religious freedom "does not include liberty to expose the community or the child to communicable disease or the latter to ill health or death."⁶⁵

D. The Application of Strict Scrutiny

When a law interferes with the exercise of a fundamental right, U.S. courts must apply the strict scrutiny standard of review.⁶⁶ In these cases, the court must presume the infringing legislation to be invalid unless the government can demonstrate a compelling state interest to justify the policy and prove that the infringement is narrowly tailored to achieve the goal in the

⁵⁹ *Id*. at 80.

⁶⁰ See e.g., Zablocki v. Redhail, 434 U.S. 374, 388 (1978) ("When a statutory classification significantly interferes with the exercise of a fundamental right, it cannot be upheld unless it is supported by sufficiently important state interests and is closely tailored to effectuate only those interests.")

⁶¹ Prince v. Massachusetts, 321 U.S. 158, 161-62 (1944).

⁶² *Id*. at 160.

⁶³ *Id.* at 167.

⁶⁴ *Id*. at 166.

⁶⁵ *Id*. at 166-67.

⁶⁶ U.S. v. Carolene Products Co., 304 U.S. 144, 152–53 n. 4 (1938).

least restrictive way possible.⁶⁷ If either part of the standard is not fulfilled, the law will be held unconstitutional.

Since parental autonomy is a fundamental right, when a state mandates a parent to unwillingly vaccinate his or her child to attend school, the court must apply the strict scrutiny standard. The court must assume the vaccination mandate is unconstitutional unless there is a compelling state interest, and the law is narrowly tailored.

Since the development of jurisprudence that parental rights are fundamental, courts can no longer assume all vaccination mandates are valid under *Jacobson*, a case from 1905. Instead, courts must determine if the particular vaccination mandate is valid under the lens of strict scrutiny. The mandate must have a compelling state interest to protect the public and be narrowly tailored to achieve the goal in the least restrictive way possible.

II. HUMAN PAPILLOMAVIRUS

A. The Disease

HPV is the most commonly transmitted sexual disease in the United States.⁶⁸ It is a group of viruses that are transmitted through vaginal, anal, or oral sex with a partner who is already infected with the virus even if they do not have symptoms.⁶⁹ Almost every sexually active person will become infected with HPV vaccine and there are more than one hundred types of the infection.⁷⁰ While the disease has infected seventy-nine million Americans and infects fourteen

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⁶⁷ See e.g. Zablocki, 434 U.S. at 388 (1978); Reno v. Flores, 507 U.S. 292, 302 (1993).

⁶⁸ Genital HPV Infection- CDC Fact Sheet, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/std/hpv/stdfact-hpv.htm (page last reviewed Aug. 20, 2019).

⁶⁹ Newsroom, Fact sheets, Details, Human papillomavirus and cervical cancer, WORLD HEALTH ORG., https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer (last updated Nov. 11, 2020).

 $^{^{70}}$ *Id*.

million new people each year in the United States, ninety percent of HPV infections do not need any treatment and do not have any negative health implications.⁷¹

The most common health problem associated with HPV is genital warts which may go away on its own or can be treated with a prescription.⁷² Certain HPV infections can lead to cell changes that may become cancerous over many years.⁷³ HPV is associated with cervical, vulvar, vaginal, penile, and anal and oral oropharyngeal cancers. ⁷⁴ HPV causes about 34,800 new cases of cancer each year.⁷⁵ This represents .01% of the current American population.⁷⁶ A large majority of the cases are cervical (10,900 cases) and oropharynx (13,500) cancers.⁷⁷ According to the American Cancer Society, cervical cancer caused by HPV is usually preventable and treatable with routine health care.⁷⁸ There is a 90% survival rate once diagnosed and pre-cancers found during routine pap smears are treatable.⁷⁹

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https://www.census.gov/popclock/ (updated Mar. 14, 2021). 77 *Id*.

⁷¹ *Id*.

⁷² Genital HPV Infection- CDC Fact Sheet, supra note 68.

⁷³ *HPV and Cancer*, NATIONAL CANCER INSTITUTE, https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-and-

 $cancer\#:\sim: text=Although\%\ 20 HPV\%\ 20 infection\%\ 20 itself\%\ 20 cannot, infection\%\ 20 with\%\ 20 high\%\ 2D risk\%\ 20 HPV\ (updated\ Jan.\ 10,\ 2020).$

⁷⁴ Ask the Experts, Human Papillomavirus, IMMUNIZATION ACTION COALITION, https://www.immunize.org/askexperts/experts hpv.asp (updated Mar. 1, 2020).

⁷⁵ HPV and Cancer, *How Many Cancers and Link with HPV Each Year?*, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/cancer/hpv/statistics/cases.htm (last reviewed Aug. 2, 2019).

⁷⁶ U.S. and World Population Clock, UNITED STATES CENSUS BUREAU,

⁷⁸ Cancer A-Z, Cervical Cancer, Key Statistics for Cervical Cancer, AMERICAN CANCER SOCIETY, https://www.cancer.org/cancer/cervical-cancer/about/key-statistics.html (last revised July 30, 2020). ⁷⁹ *Id*.

The vast majority (80%) of HPV related cancers are linked to HPV types 16 and 18, which are preventable if a person is vaccinated for HPV before being exposed.⁸⁰ The cancers associated with HPV do not manifest for many years, or usually several decades, after a person is infected.⁸¹

B. The Prevention of HPV and the Related Diseases

The FDA approved the first HPV vaccine in 2006 for use in females.⁸² Gardasil-9 by Merck was approved by the FDA in 2014 for use in both males and females, and it is currently the only HPV vaccine distributed in the United States.⁸³ The Advisory Committee on Immunizations Practices recommends vaccination for all eleven and twelve year old children, a catch-up

vaccination for males and females up to 26 years old, and for some older than 26 as well.⁸⁴ The vaccine is given in a series of two or three immunizations and protects against the two strains that cause the majority of HPV related cancers (types 16 and 18) and seven other strains.⁸⁵ Since HPV is highly contagious and a large majority of the population is infected, the CDC recommends vaccinating all boys and girls before they become sexually active for the greatest benefit.⁸⁶

⁸⁰ Ask the Experts, Human Papillomavirus, IMMUNIZATION ACTION COALITION, https://www.immunize.org/askexperts/experts hpv.asp (last updated Mar. 1, 2020).

⁸¹ Newsroom, Fact sheets, Details, Human papillomavirus and cervical cancer, WORLD HEALTH ORG., https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer (last updated Nov. 11, 2020).

⁸² Ask the Experts, Human Papillomavirus, IMMUNIZATION ACTION COALITION, https://www.immunize.org/askexperts/experts_hpv.asp (updated Mar. 1, 2020). ⁸³ Id.

⁸⁴ Elissa Meites, et al., *Human Papillomavirus Vaccination for Adults: Updated Recommendations of the Advisory Committee on Immunization Practice*, 68 MMWR 698, 698 (2019), https://www.cdc.gov/mmwr/volumes/68/wr/pdfs/mm6832a3-H.pdf.

⁸⁵ Human Papillomavirus (HPV) Vaccines, NATIONAL CANCER INSTITUTE,

https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-vaccine-fact-sheet#how-many-doses-of-the-hpv-vaccine-are-needed (reviewed Sept. 9, 2019).

⁸⁶ Human Papillomavirus (HPV) Vaccination: What Everyone Should Know, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/vaccines/vpd/hpv/public/index.html (last reviewed Mar. 17, 2020).

There are also lifestyle and behavioral choices that can prevent a person from becoming infected with HPV. A person can abstain from sexual encounters and never become infected.⁸⁷ A person can also greatly lower his or her chances of infection by practicing safe sex with condoms and by limiting sexual contacts.⁸⁸ While these alternative options are not realistic for most adolescents, HPV is preventable without a vaccine.⁸⁹

C. Current HPV Mandates

The District of Columbia, Rhode Island, Virginia, and as of July 2020, Hawaii, all mandate the HPV vaccine as a prerequisite for school attendance. Each state has different opt-out provisions.

Virginia began mandating the HPV for girls in 2007. The Virginia law states that "because the human papillomavirus is not communicable in a school setting, a parent . . . may elect for [his or her] . . . child not to receive the human papillomavirus vaccine after having reviewed materials describing the link between the human papillomavirus and cervical cancer approved for such use by the Board." Essentially, no student is required to receive the vaccine even though it is a "mandatory" vaccination. Washington D.C.'s 2007 law mimics Virginia's law in that it is "mandated" for students, but parents can choose to opt out for any reason after being informed about the HPV Vaccine. 91

Rhode Island requires that all students begin the HPV vaccine series prior to entry into

⁸⁹ General HPV Infection – Fact Sheet, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/std/hpv/stdfact-hpv.htm (last reviewed Aug. 20, 2019).

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⁸⁷ Sexually Transmitted Diseases (STDs), How You Can Prevent Sexually Transmitted Diseases, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/std/prevention/default.htm (last reviewed Mar. 30, 2020).

⁸⁸ *Id*.

⁹⁰ Va. Code Ann. § 32.1-46(D)(3) (2019), https://law.lis.virginia.gov/vacode/.

⁹¹ D.C. Code Ann. § 7-1651.04 (2007).

seventh grade.⁹² There are no special opt-out provisions in Rhode Island for the HPV vaccine; a parent may exempt his or her child for a medical or religious reason only.⁹³ While this mandate appears more restrictive than Washington D.C. and Virginia, there are no court cases in the state regarding requiring the vaccination. The state allows a very broad religious exemption.⁹⁴ It is reported that Rhode Island school districts are advised not to enforce the mandate by the Rhode Island Health Department and the state does not appear to refuse any student school attendance under this mandate, regardless of vaccination or opt-out status.⁹⁵

Hawaii is the most recent state to enact a mandatory HPV vaccine beginning July 1, 2020.⁹⁶ The opt-out provision exempts students for medical and religious reasons, mimicking the legislation for all other mandatory vaccinations in the state.⁹⁷ Since students will not return to school in large numbers until at least September 2021⁹⁸, it is unclear if the mandate will be enforced and how strictly.

III. MANDATING THE HPV VACCINE IS UNCONSTITUTIONAL

Compulsory HPV vaccine mandates for school attendance are unconstitutional. Under the Jacobson standards, states have the power to pass laws and regulations that infringe on

^{92 216} R.I. Gen. Laws § 30-05-3.5 (2014).

⁹³ Id

⁹⁴ Jennifer Mcdermott, *Health officials say they won't change HPV vaccine mandate*, ASSOCIATED PRESS, August 17, 2015, http://www.businessinsider.com/ap-health-officials-say-they-wont-change-hpv-vaccine-mandate-2015-8.

⁹⁵ Rhode Island Immunization Case Study, NATIONAL HPV VACCINATION ROUNDTABLE, http://hpvroundtable.org/wp-content/uploads/2017/09/Rhode-Island-HPV-Vaccination-Case-Study_HPV-RT.pdf (Sept. 2017).

⁹⁶ HAW, ADMIN, RULES § 11-157 (2019), Exhibit A (July 1, 2020).

⁹⁷ *Id*

⁹⁸ Due to the COVID-19 pandemic, it is unclear at the time of writing if students have fully returned to inperson schooling in Hawaii. Hawaii State Dept. of Ed. "Return to Learn" Re-opening Plan, https://www.hawaiipublicschools.org/ConnectWithUs/MediaRoom/PressReleases/Pages/school-year-2020-21.aspx (Updated March 17, 2021); Governor expects Hawaii schools to fully reopen for in-person learning in the fall, HAWAII NEWS NOW,

https://www.hawaiipublicschools.org/ConnectWithUs/MediaRoom/PressReleases/Pages/school-year-2020-21.aspx (April 15, 2021)

fundamental rights in order to ensure public health and safety. The following phrases used by the Court suggests that the situation must be dire: "under pressure of great dangers" in "an emergency" when there is "imminent danger" and an "epidemic that imperiled an entire population." Even in these situations, laws must not be unreasonable, arbitrary, or oppressive in light of the public health problem. 103

HPV's threat to public health is not great enough to meet the standards laid out in *Jacobson*. Therefore, without a generalized opt-out provision, the vaccine mandates for school attendance are unreasonable, oppressive, and arbitrary, and go beyond what is "necessary to protect the public health and secure the public safety." ¹⁰⁴

A. It is a Constitution we are expounding

Public health officials have noted that "[a]lmost one hundred years after *Jacobson*, neither medicine nor constitutional law is what it was. We now take constitutional rights much more seriously." As the Court's recognition of the importance of individual liberty and parental rights has evolved, and as vaccine science is revolutionized, vaccine jurisprudence has stood still. Chief Justice Marshall reminds us that "[w]e must never forget that it is a constitution we are expounding . . . intended to endure for ages to come, and consequently, to be adapted to the various crises of human affairs." 106

⁹⁹ Jacobson, 197 U.S. at 29.

¹⁰¹ *Id*. at 29.

¹⁰⁰ *Id*. at 27.

 $^{^{102}}$ *Id*. at 31.

¹⁰³ *Id*. at 26.

¹⁰⁴ *Id*. at 28.

¹⁰⁵ George J. Annas, *Blinded by Bioterrorism: Public Health and Liberty in the 21st Century*, 13 HEALTH MATRIX 33, 56 (2003).

¹⁰⁶ M'Culloch v. Maryland, 17 U.S. 316, 407 (1819).

Even before the development of strict scrutiny judicial review for fundamental rights, Justice Harlan did not give a blank check to state legislators. The state must still show that the vaccine mandate is necessary and reasonable and not oppressive or arbitrary. With the development of strict scrutiny review for fundamental rights, courts must view the *Jacobson* test through the lens of strict scrutiny. The Court should, at the very least, interpret "not arbitrary" to mean that the state must have a compelling state interest.

B. Courts must apply the Jacobson standards under modern jurisprudence

If litigated under the current interpretation of due process rights, *Jacobson* and *Zucht* would have the same result because the deadly smallpox epidemic was a compelling state interest.¹⁰⁸ Instead of applying modern strict scrutiny, or even the literal language of *Jacobson* to determine the constitutionality of each vaccine mandate, courts have instead applied an overly broad interpretation of *Jacobson*. Regardless of whether a court subscribes to the view that strict scrutiny is required ¹⁰⁹, *Jacobson*, on its own terms, required a far more searching review than courts have employed.

In 2002, an Arkansas District Court deemed a religious exemption from the immunization requirement under state law unconstitutional. 110 After Ashley Boone was suspended for not

¹⁰⁷ *Jacobson*, 197 U.S. at 28.

on the other hand, Buck v. Bell, 274 U.S. 200 (1927) would not have the same outcome. In <u>Buck</u>, the Court upheld a Virginia law authorizing the sterilization of "feeble minded" persons in institutions against their will. *Id.* at 205, 207. The Court held that the public welfare of sterilization was sufficient to justify the invasion of the fundamental liberty of freedom from bodily intrusion. *Id.* at 207. This liberty, much like parental autonomy, has evolved over the last 100 years. Under the *Jacobson* standard today, it would be unheard of to force surgery on a woman against her will. *See* Cruzan v. Director, Missouri Dep't of Health, 497 U.S. 261 (1990). Not only would the state's interest not be compelling enough to overcome the strict scrutiny review required for the invasion of personal liberties under evolving jurisprudence, but the solution would be considered oppressive and unreasonable.

¹⁰⁹ Mary Holland, *Compulsory Vaccination, the Constitution, and the Hepatitis B Mandate for Infants and Young Children*, 12 YALE J. HEALTH POL'Y L. & ETHICS 39, 83 (2012) (arguing that the current Supreme Court would not likely apply strict scrutiny to review a vaccine mandate).

¹¹⁰ Boone v. Boozman, 217 F. Supp. 2d 938 (E.D. Ark. 2002).

receiving the Hepatitis B vaccination, Cynthia Boone, her mother, challenged the constitutionality of the statute. Boone claimed a religious exemption under the statute, but was denied because she was "not a member of a recognized religion with tenets against vaccination." While this case focused on First Amendment rights, Boone also "complain[ed] that Jacobson and Zucht are utterly archaic in 14th Amendment substantive due process terms, and worthless as a precedent in light of the extensive jurisprudence of the 20th Century." The Plaintiff complained the Court blindly followed *Jacobson* without any discussion regarding the substantial differences between hepatitis B and smallpox since the "disease at issue was avoidable without a vaccine." The Court failed to march through the standards and exceptions from *Jacobson*, did not apply strict scrutiny judicial review, and instead simply stated that it's the court's legal responsibility to follow the precedent of the Supreme Court.

In *McCarthy v. Boozman*, a school suspended a child for not receiving the required immunizations. The parent brought the suit on religious grounds, but, again, the court stated that "[t]he Supreme Court long ago held that a state may adopt a program of compulsory immunization for school-age children." The court did not touch on which vaccine(s) the parent objected to, but instead held that states have the power to mandate vaccines and the claim "warrants no extensive discussion." 118

C. HPV is sufficiently different

HPV is sufficiently different from other diseases subject to mandatory vaccination for

¹¹¹ *Id*. at 941.

¹¹² *Id.* at 943.

¹¹³ *Id.* at 956.

¹¹⁴ Note, *Toward a Twenty-First-Century*, 121 HARV. L. REV. 1820, 1831 (2008).

¹¹⁵ *Boone*, 217 F. Supp. 2d at 956.

¹¹⁶ McCarthy v. Boozman, 212 F.Supp.2d 945, 946 (W.D. Ark. 2002).

¹¹⁷ *Id.* at 948.

¹¹⁸ *Id*.

school attendance. In 1905, the year *Jacobson* was decided, there were only five vaccines developed: smallpox, rabies, typhoid, cholera, and the plague.¹¹⁹ They were each created in defense of deadly diseases in response to epidemics or pandemics.¹²⁰ The next vaccine was not developed until 1923, a year after *Zucht* was decided.¹²¹ Twenty-one additional vaccines were created between 1923-1999.¹²² The Supreme Court's decisions in *Jacobson* and *Zucht* did not take into account the future of vaccination development. The application of heightened scrutiny to laws mandates these new vaccines for school attendance must account for differences in the nature of the diseases and for the method of transmission.

Mandating a vaccine for smallpox that societies worldwide had used for over 100 years to stop the spread of an airborne, deadly, and highly contagious disease that has ravaged communities must be distinguished from the HPV vaccine. Smallpox was deadly for thirty percent (30%) of those infected and those who survived were often physically scarred. An estimated three hundred million (300,000,000) people died of smallpox worldwide in the twentieth century. Smallpox was a "frightening disease that caused severe symptoms and high fever followed by the development of ugly, painful pustules which extended over the entire body. . . [t]hose who recovered were left with deep scars over the face; some were blind."

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¹¹⁹ *Timeline*, The History of Vaccines, https://www.historyofvaccines.org/timeline/all (last visited Aug. 3, 2020).

¹²⁰ *Id*.

¹²¹ *Id*.

 $^{^{122}}$ *Id*.

¹²³ *History of Smallpox, supra* note 20.

¹²⁴ Donald A. Henderson, *The eradication of smallpox – An overview of the past, present, and future*, 29 Supp. 4, VACCINE D7-9 (Dec. 30, 2011).

¹²⁵ *Id*.

On the other hand, the HPV vaccine was developed less than 20 years ago. 126 HPV cures itself in ninety percent of those infected and for those who remain infected, the related cancers do not develop for years, and more likely, decades, after infection occurs. 127 The cancers HPV may cause are both preventable and usually treatable with routine care from a health provider. 128 The negative impacts of HPV on adult health are certainly not comparable to devastating effects of smallpox.

The spread of HPV is also sufficiently different from other mandated vaccinations.¹²⁹ Measles, mumps, rubella, pertussis, polio, chickenpox, HiB¹³⁰, and pneumococcal bacteria are all spread through either respiratory secretions or person to person contact and, therefore, spread easily during a regular school day. HPV, on the other hand, spreads only through sexual contact and students will not transmit it to one another during the activities of a normal school day.¹³¹ Therefore, the relationship between un-vaccinated school attendance and transmission of the disease is extremely attenuated.

D. The HPV Vaccine Mandate is Unconstitutional

It is unconstitutional for a state to deny any child an education for not receiving the HPV vaccine for any reason. Under strict scrutiny judicial review, a parent claiming a Fourteenth Amendment due process rights violation should prevail. Even if a court does not apply strict

¹²⁶ *Gardasil Vaccine Safety*, U.S. FOOD AND DRUG ADMINISTRATION, https://www.fda.gov/vaccines-blood-biologics/safety-availability-biologics/gardasil-vaccine-safety_(page updated Feb. 2, 2018).

¹²⁷ Cornelia Liu Trimble, HPV: 5 Things All Women Should Know, JOHN HOPKINS

 $[\]label{lem:medicine.org/health/conditions-and-diseases/human-papillomavirus-hpv/hpv-5-things-all-women-should-know (last visited April 4, 2021).$

¹²⁸ Protecting Yourself Against HPV, MAYO CLINIC HEALTH SYSTEM,

https://www.mayoclinichealthsystem.org/hometown-health/speaking-of-health/protecting-yourself-against-hpv (last updated Nov. 23, 2020).

¹²⁹ Hepatitis B is the only other vaccine in this category.

¹³⁰ Haemophilus influenzae type B.

¹³¹ Protecting Yourself Against HPV, supra note 128.

scrutiny and instead reviews the case through the appropriate heightened *Jacobson* standards, it should hold the law unconstitutional. Both of these paths should lead to holding that the HPV vaccine mandate is unconstitutional as applied.

The strict scrutiny standard has two parts. The law must have a compelling state interest that is narrowly tailored and must also achieve its goal in the least restrictive way possible. The state would argue that the compelling interest is the state's goal to protect children's health and the health of the community. This is a very weak public health interest based on the facts of the HPV disease. HPV itself is not harmful; the disease is spread through sexual contact, and even if the disease leads to a more harmful health issue, the child would be well into his or her adulthood by that time. This public health interest is not great enough to override the fundamental right of parental autonomy.

Even if the court decides that protecting children from HPV is a compelling state interest, the legislation will still not pass the strict scrutiny review. The law is not narrowly tailored, and it is certainly not the least restrictive alternative. Narrowly tailored refers to a close connection between the means and the end. While the vaccine itself has a close connection to the goal of preventing HPV, the requirement of the vaccine as a condition of education is overbroad. There is no spread of HPV during the school day, and therefore there is no close connection between denying a child access to school based on not being vaccinated. It is also not the least restrictive alternative since the disease is not spread through casual contact. Children can protect themselves

¹³² See e.g., Zablocki, 434 U.S. at 388; Reno, 507 U.S. at 302.

¹³³ In *Zablocki*, 434 U.S. 388 the Court held invalid a statute requiring court approval of orders for marriages of state residents who had child support obligations, on the grounds that it violated the fundamental right to marriage. Even though there was a legitimate state interest in protecting the out-of-custody child, the law was an inefficient way to achieve that state interest. It unnecessarily intruded on the right to marry, failed to protect children whose parent was not seeking to marry, and failed to account for parents for whom marriage might enable payment of child support. Therefore, it was not narrowly tailored to achieve the state goal. 434 U.S. at 389-90.

by abstaining from sex and practicing safe sex. The harmful effects of HPV, if any, can be mitigated by routine health care as an adult. Under strict scrutiny judicial review, legislation mandating the HPV vaccine to attend school is unconstitutional.

The vaccine mandate will also be held unconstitutional if the court instead applies the *Jacobson* health law standards through the lens of modern jurisprudence. While states have the power to enact laws to protect the health of the public, they must "not go so far beyond what is reasonably required."¹³⁴ Under the evolving jurisprudence of parental rights, the otherwise appropriate use of police power by the states is oppressive and unreasonable.

The law is oppressive because the threat to public health is not great enough to override the fundamental rights of parents to raise their children as they see fit. The HPV vaccine is sufficiently different from other vaccines. The disease itself is not a deadly communicable disease that can seriously injure or kill children. Additionally, HPV is only spread through sexual contact, not through casual contact, and the vaccine is not necessary to protect infants who are too young to be vaccinated or those who cannot be vaccination for medical reasons.

The law is unreasonable because the punishment does not fit the crime. It is completely unreasonable to punish a child by not allowing him or her to attend school because he or she is not vaccinated for a disease that is not transferable at school. School attendance and the spread of HPV have no link to each other. Whether a child attends school with or without the vaccine has no correlation with his or her sexual encounters outside of school.

State laws requiring compulsory HPV vaccination for school attendance are unconstitutional. The mandates infringe on the right of parents to control the upbringing of their

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¹³⁴ *Jacobson*, 197 U.S. at 28.

children and are oppressive and unreasonable. Whether the Court reviews the state mandates under a faithful application of *Jacobson* or under strict scrutiny, the result is the same.

IV. A NEW LEGISLATIVE FOCUS

The legislative goal of linking the HPV vaccine to school attendance is to increase the vaccination rates among children. States have taken two routes to achieve this goal, but a new path is needed.

The first route mandates the vaccine for school attendance, but provides broad opt-outs, so the law does not infringe on parental choice. The issue with this path is that while mandatory vaccinations for school-entry have increased the vaccination rate for other childhood diseases, the same is not true for the HPV.¹³⁵ In 2013, coverage rates were almost identical for girls in states without vaccine mandates (57%), girls in states with education mandates (56%), and for girls in states and jurisdictions with school-entry mandates (58%).¹³⁶ This data shows that current legislation mandating the HPV vaccine but allowing generalized opt-outs is no more effective than not having a mandate at all.

The second path, taken by Rhode Island and Hawaii, requires the vaccine for school attendance and provides more limited opt-out measures. This path may increase vaccination rates, but is subject to serious constitutional challenges, and, therefore, is likely an ineffective remedy. Legislators must instead develop a new, constitutionally sound strategy to encourage parents to vaccinate children against HPV while maintaining parental autonomy.

State legislators should begin by evaluating both the constitutionality and effectiveness of their current and proposed laws regarding mandatory HPV vaccines, especially as they relate to

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¹³⁵ Rebecca B. Perkins et al., *Impact of school-entry and education mandates by states on HPV vaccination coverage: Analysis of the 2009-2013 National Immunization Survey-*Teen, 12 Human Vaccines & Immunotherapeutics 1615, 1615 (2016).

¹³⁶ *Id*.

future vaccines. It will become increasingly important to have a solid, legislative plan in place as vaccines are developed in the upcoming years. To declare a vaccine mandatory for school attendance, when it is not mandatory at all because of the broad opt-outs, is overly paternalistic and causes distrust of the government and other mandatory vaccination laws.

Anti-vaccination websites promulgate that "vaccines cause idiopathic illness, vaccines erode immunity, adverse vaccination reactions are underreported, and vaccination policy is motivated by profit." A large majority of the sites also have information about civil liberties being attacked by "Big Brother." All of these claims have been disproven by the science community regarding vaccinations for deadly childhood diseases. These vaccines are universally needed to protect the public health in the way that *Jacobson* and *Zucht* intended — to prevent outbreaks of contagious, deadly diseases that affect children. By categorizing the HPV vaccine with other, absolutely necessary, vaccines, adds fuel to the fire of these anti-vaccination groups, undermining the true necessity of more universally needed vaccines. It is not the wrong solution to reach the goal of increasing the coverage rate of the HPV vaccination among middle schoolers.

State legislators should consider requiring the vaccination for middle schoolers, but completely remove the link to school, separating it from other truly mandated vaccinations. By drawing the public's eye to a new category of vaccine, it will begin to instill trust in the government. The category will consist of vaccines that the CDC and state and local Health Boards highly recommend, without linking them school enrollment. This would ultimately leave the decision up to parents without the punitive measure of barring school attendance. Vaccines in this

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¹³⁷ Robert M. Wolfe et. al., *Content and Design Attributes of Antivaccination Web Sites*, 24 JAMA 3245, 3245 (2002).

¹³⁸ *Id*.

¹³⁹ *Id*.

category should continue, or begin to receive, the same federal and state funding as mandatory vaccinations to cover vaccines for children who are uninsured or underinsured.

One focus of the new category would be to draw a health provider's attention to the tools available to them to encourage parents to vaccinate their child. Vaccination coverage is significantly higher when a health care provider recommends the vaccine. For the HPV vaccine, the rate of vaccination was 62.2 percent versus 21.5 when a child's physician recommended the vaccine. The CDC has a wide array of material available to health care providers with recommendations, flyers, and training materials to boost HPV vaccination rates. 142

Legislation for required vaccines should take guidance from Rhode Island. Before the state mandate, Rhode Island's vaccination rate was the highest in the country. The state supplied the HPV vaccine to healthcare providers and to school-based clinics through a program called "Vaccinate Before You Graduate." The Department of Health partnered with healthcare providers to educate and promote the HPV. 144

Differentiating required vaccines from mandatory vaccines is a constitutionally sound solution to ensure that the number of children immunized continues to increase, instills trusts in the legislation, and does not overstep parental autonomy.

V. CONCLUSION

HPV is an important and scientifically proven vaccination to help improve health outcomes of adults. Based on scientific research, vaccinating children against HPV before they are sexually

¹⁴⁰ Christina Dorell, et al., *Factors That Influence Parental Vaccination Decisions for Adolescents, 13 to 17 Years Old: National Immunization Survey-Teen, 2010,* 52 CLINICAL PEDIATRICS, 162, 162 (2013).

¹⁴¹ Id

¹⁴² 5 Ways to Boost Your HPV Vaccination Rates, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/hpv/hcp/boosting-vacc-rates.html (last updated Mar. 22, 2019).

¹⁴³ *Programs, Vaccinate Before You Graduate*, STATE OF RHODE ISLAND HEALTH DEPARTMENT, https://health.ri.gov/programs/detail.php?pgm_id=1010 (last visited Aug. 7, 2020). ¹⁴⁴ *Id*.

active, as recommended by the CDC and the WHO, is likely the best decision for parents to make for their child's health. This does not make mandating the vaccine a compelling state interest that should override parental autonomy.

At the time of authoring this paper, there were no reported lawsuits regarding the HPV mandate. The wide opt-out provisions for the HPV mandates in Virginia and Washington D.C., and Rhode Island's loose enforcement of the mandate, have allowed parents to still make the choice about vaccinating his or her child without the effect of being denied admittance to school. This will likely change as more states enact HPV mandates for school attendance such as Hawaii.¹⁴⁵

State legislators must re-evaluate the mandatory vaccination laws and proposed legislation and find alternative paths to achieve higher vaccination rates while maintaining trust among its citizens. Requiring the vaccine without the threat of denying children an education can be achieved simply. Developing a new category of required vaccines and involving physicians, nurses, pharmacists, and other health care providers is the most effective, constitutionally sound, option. It both prevents anti-vaccination groups from claiming that the government is overstepping and begins to instill trust back into the government.

This will become increasingly important as new vaccines continue to emerge. Researchers are currently working on multiple types of vaccines to help prevent prostate cancer, pancreatic cancer, skin cancer, leukemia, non-small cell lung cancer, breast cancer, HIV, RSV, Zika, and

¹⁴⁵ Additionally, clinical trials for COVID-19 vaccinations have begun with children. Because scientists have differing opinions on the transmission rates and seriousness of the virus in children, there will likely be extensive litigation if states begin to mandate this brand-new vaccine for school attendance, especially if the mandate occurs while the vaccine is approved for emergency use only. Baker Donelson, COVID-19 K-12 Students be Mandated to Take Them?, Vaccinations: Will JDSUPRA.COM, https://www.jdsupra.com/legalnews/covid-19-vaccinations-will-k-12-81551 (last updated Dec. 24, 2020). While the vaccines for COVID-19 and HPV are not similar, the outcomes and rationale of these potential cases have the ability to change vaccine precedent for decades to come.

pneumococcal infections (bacteria that cause pneumonia, meningitis, sinusitis and ear infections). As researchers continue to develop and deliver new vaccinations, state legislatures also need to develop and enact new vaccine legislation. Mandating every vaccine available will not be practical and it will most certainly be an unconstitutional invasion of fundamental rights.