DON'T GIVE YOUR KID THAT SHOT!: THE PUBLIC HEALTH THREAT POSED BY ANTI-VACCINE SPEECH AND WHY SUCH SPEECH IS NOT GUARANTEED FULL PROTECTION UNDER THE FIRST AMENDMENT

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INTRODUCTION

“The mercury in the vaccines causes autism, brain damage, and disease.”¹

“There was a close correlation between mercury doses from thimerosal-containing childhood vaccines and the prevalence of autism from the late 1980s through the mid-1990s.”²

“The idea that vaccines are a primary cause of autism is not as crackpot as some might wish. Autism’s 60-fold rise in 30 years matches a tripling of the US vaccine schedule. With so many kids with autism, the environment has to be to blame, and vaccines are an obvious culprit.”³

Vaccination has been called one of the top ten medical achievements of the twentieth century⁴ and “represents the single greatest promise of biomedicine: disease prevention.”⁵ Indeed, “it would be safe to say that vaccines have saved more lives than other medical technology.”⁶ Despite established scientific opinion to the contrary, anti-vaccination speech⁷ abounds on the Internet. The anti-vaccine speakers range from a parent who attributes her child’s autism to vaccination⁸ to


⁷ For purposes of this Article, I am using the term “Anti-vaccine” to refer to vaccine-critical speech and that purports to link routine vaccinations with a host of developmental disabilities, and autism in particular.

⁸ See e.g., International Memorial for Vaccine Victims, NAT'L VACCINE INFO. CENTER, http://www.nvic.org/vaccine-memorial.aspx (last visited Mar. 27, 2013). On the “memorial” website, parents can post personal reports of their belief that vaccinations caused autism spectrum disorders (“ASDs”) in their children.
an organization making shrill claims about the dangers of vaccination, but their agenda is the same: persuading the public that routine childhood vaccinations are dangerous and specifically, that vaccinations are a cause of autism.

With an estimated 75-80% of Americans that use the Internet using the it to look for health information, readily accessible anti-vaccination advocacy poses a genuine impediment to the willingness of easily frightened parents to vaccinate their children. Yet, the reliability of health information available online varies greatly and it is not always easy to determine whether health claims made on a given site have a scientific basis. Studies show that 52% of those who visit online health sites “believe that ‘almost all’ or ‘most’ of the health information they find online is credible.” There are no laws regulating who can give medical advice, whether accurate or not, on the Internet.


11 G.A. Poland & R.M. Jacobson, Understanding Those Who Do Not Understand: A Brief Review of the Anti-Vaccination Movement, 19 VACCINE 2440, 2440 (2001) (the anti-vaccine movement has “resulted in major disruptions and even cessation of vaccine programs, with resultant increased morbidity and mortality”). See also Sandra J. Bean, Emerging and Continuing Trends in Vaccine Opposition Website Content, 29 VACCINE 1874 (2011) (stating that vaccine opposition is fueled in part by anti-vaccine information on the Internet). Bean notes that anti-vaccination messages are more common on the Internet than in print or broadcast and the Internet may be more likely to contain unverified information.

12 Diego Pineda & Martin G. Myers, Finding Reliable Information About Vaccines, 127 PEDIATRICS S134 (2011) (the quality of health information on the internet “is extremely variable and difficult to assess”).

13 Phillip Kortum et al., The Impact of Inaccurate Internet Health Information In A Secondary School Learning Environment, 10 J. MED. INTERNET RES. e4388871 c17 (Apr. 2008). See also Robert M. Wolfe et al., Content and Design Attributes of Antivaccination Web Sites, 287 JAMA 3245 (June 26, 2002).

14 The practice of giving medical advice over the Internet has become increasingly common. The term “cybermedicine” is used to describe the “science of applying Internet and global networking technologies to the area of medicine and public health, of studying the impact and implications of the Internet and of evaluating opportunities and the challenges in health care.” Gunther Eysenbach, Towards the Millenium of Cybermedicine, 1 J. MED. INTERNET RES. supp.1 e2 (1999), available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1761771/.

Within the concept of cybermedicine is the concept of patient-physician interaction, “either through an online forum or a commercial website offering medical advice.” Carmen E. Lewis, Notes and Comments: My Computer, My Doctor: A Constitutional Call for Federal Regulation of Cybermedicine, 32 A.M. J. L. & MED. 585, 586 (2006). Whether, and how, the giving of professional advice over the Internet can be regulated, remains to be determined. See e.g., Katy
ther, the speed with which news travels via cyberspace gives anti-vaccination speakers unfiltered ability to misinform the public.\(^5\) Anti-vaccination speakers who may not have any medical background or who misinterpret data to support a particular conclusion, are therefore able to compete with recognized sources like the American Medical Association (AMA) or the National Institutes of Health (NHI) by asserting that their views are authoritative.\(^6\) More troubling, is that accurate scientific and medical information gets lost among the misleading information, leading the average person to believe that there is good reason to suspect that vaccines are, at the very least, a significant contributing factor in the development of autism.\(^7\)

The continued spread of misinformation about vaccine safety has serious public health implications. It undermines disease prevention and presents a challenge to the government and health agencies in maintaining adequate vaccination rates.\(^8\) In recent years, vaccine preventable diseases have reemerged causing serious injury and even death. In California in 2010, pertussis, also known as “whooping cough,” killed ten infants under the age of three months\(^9\) and infected an estimated 6,000 other individuals in what was called the worst outbreak in sixty years.\(^10\) Out of the ten, nine of the dead children were under eight weeks of age. At such a young age, these babies were too young to receive the pertussis vaccination and their protection was dependent

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Ellen Deady, Note, Cyberadvice: The Ethical Implications of Giving Professional Advice over the Internet, 14 GEO. J. LEGAL ETHICS 891 (Spring 2001).

\(^5\) See e.g., The Vaccines that Worry Parents Most, MERCOLA.COM (Mar. 27, 2010), http://articles.mercola.com/sites/articles/archive/2010/03/27/vaccines-that-worry-parents-most.aspx. ("Unlike the old days, when parents had to unquestioningly accept everything health officials said as gospel truth, today they can think for themselves. If their 12-year-old athlete suddenly develops a neurological problem and is bedridden after the HPV vaccine, they can get online and find thousands of articles and blogs about HPV adverse reactions.").

\(^6\) Kortum, supra note 13. ("On the Internet, medical information from trusted sources like the American Medical Association or the National Institutes of Health must compete with information from groups and individuals who may not be trained in the field or who may interpret data in unscientific ways that support their particular viewpoints.").


\(^8\) Field, supra note 6 (Concerns over vaccine safety have led many parents to decline recommended inoculations).


\(^10\) Id.
upon other children surrounding being fully vaccinated. In recent years, there were pertussis outbreaks in Washington, California, Delaware, Illinois, Mississippi, Arizona, Oregon and Vermont. After the outbreak in Delaware, the Center for Disease Control ("CDC") stated that the distribution of pertussis was "similar to that observed in the pre-vaccine era."24

In 2009, an unusual outbreak occurred in Minnesota when a handful of children contracted meningitis caused by the bacterium Haemophilus influenzae type b, or Hib. Prior to the introduction of an effective vaccine, this bacterium was the most common cause of meningitis: a serious disease that often leaves children deaf, blind or mentally disabled. This disease can also cause an inflammation in the tissue at the back of the throat that can block the windpipe and require surgery in order to prevent suffocation. Although an effective vaccine has been in existence for nearly twenty years, none of the infected children in Minnesota were vaccinated. Nor was the Minnesota outbreak isolated. In 2008, there were outbreaks of Hib meningitis among unvaccinated children in Pennsylvania, New York, Oklahoma, and Maine. At least four children died.

Measles, a highly contagious virus that causes rash, respiratory symptoms and fever, is also making a comeback. In 2008, an intentionally unvaccinated seven year old from California went to Switzerland on a family vacation and was exposed to measles. Upon returning to San Diego, he unknowingly exposed over eight hundred

21 Id.
22 In one elementary school in the city of Ashland Oregon, not a single child is vaccinated against pertussis. See, PAUL A. OFFIT, DEADLY CHOICES: HOW THE ANTI-VACCINE MOVEMENT THREATENS US ALL xiv (2011).
23 OFFIT, supra note 22, at xiii.
24 Id. at xiv.
25 Id. at xi.
26 Id.
27 Id.
28 Id.
29 Id.
30 Id.
31 Amy Parker Fiebelkorn et al., Measles in the United States during the Postelimination Era, 202 J. INFECTIOUS DISEASES 1520 (Nov. 15, 2010).
people to the disease.\textsuperscript{33} Eleven unvaccinated children contracted measles, including an infant too young to have been vaccinated.\textsuperscript{34} The outbreak is not a surprise given that “in 2008, the parents of 10,000 California kindergartners chose not to vaccinate their children.”\textsuperscript{35} Thirteen other states also suffered measles outbreaks, with 140 children (mostly unvaccinated) suffering the disease.\textsuperscript{36}

Why in modern day America, where vaccines are readily available, are children contracting and dying from these diseases? Why are parents making the risky choice not to vaccinate their children against serious and life-threatening illnesses? Science has shown the safety and efficacy of vaccination, and yet, there remains a large segment of the population who are opting out of immunization. At the same time, there is a growing plethora of anti-vaccination or vaccine-critical information available in the media and particularly on the Internet.\textsuperscript{37}

We are facing an unprecedented collision between the fundamental American right of free speech and the state’s ability to effectively protect the health of the community. The ability to speak freely and without unwarranted government intrusion is a fundamental right in the United States. But when the speech has the specifically desired outcome of decreasing vaccination and thereby causes infectious diseases to spread and endangers the lives of children, is it not akin to shouting fire in a crowded theatre?\textsuperscript{38} Is the marketplace of ideas served by allowing misleading anti-vaccination speech? At what point does the health and safety of the greater community of people take priority over the individual speech rights of a few?

The purpose of this Article is to draw attention to the danger of anti-vaccination speech and to examine ways in which the law might be used as a tool to regulate such speech in order to prevent the spread of preventable disease and promote the public health. Part I of this Article will provide readers with a brief introduction to the concepts of public

\textsuperscript{33} Id.

\textsuperscript{34} Id. A similar situation happened in Indiana in 2005 when an unvaccinated child returned from a trip to Romania with measles. He then attended a church picnic attended by over 500 people and infected thirty-five picnic-goers. Thirty-one of the thirty-five infected individuals were unvaccinated. Offit, supra note 22, at xiv.

\textsuperscript{35} Offit, supra note 22, at xiii.

\textsuperscript{36} Id.

\textsuperscript{37} Richard K. Zimmerman et al., Vaccine Criticism on the World Wide Web, 7 J. MED INTERNET RES. e17 (Apr.–June 2005).

\textsuperscript{38} See Schenk v. United States, 249 U.S. 47, 52 (1919).
health and the role of vaccination in promoting public health. Part II of this Article will provide the reader with the history of the vaccine-autism theory and how overwhelming scientific and medical research has disproven this theory. Part III of this Article identifies three legal options that, while imperfect and incomplete, may ameliorate some of the damage done by anti-vaccine speech.

I. PUBLIC HEALTH AND VACCINES

A. History and Success of Vaccines

Vaccines are considered one of the top ten medical breakthroughs of the twentieth century. A vaccine works by "stimulating the immune system to create antibodies and immune cells that recognize the pathogen and are thus prepared to battle it when it presents itself at the portals of the body." It is generally accepted that an English doctor named Edward Jenner performed the world's first vaccination in 1796. The target was smallpox, a virus that caused high fevers and a "permanent disfiguring, pus-filled rash with a smell reminiscent of rotting flesh." In the eighteenth century, 400,000 people died annually of smallpox and one third of survivors went blind. Having heard that milkmaids appeared to be immune to smallpox after contracting cow-

39 A vaccine is defined as a "suspension of live (usually attenuated) or inactivated microorganisms (e.g., bacteria or viruses) or fractions thereof administered to induce immunity and prevent infectious disease or its sequelae." Stern, supra note 5.
40 CDC, supra note 4, at 241-43.
42 Jenner is credited with introducing the smallpox vaccination to Europe and for taking the first major step in eradicating the disease. However, inoculation against smallpox had in fact been taking place for years in other countries. In 1717, Lady Mary Wortley Montagu (who had previously been disfigured by smallpox), accompanied her British ambassador husband to Constantinople. There she learned of the local practice of deliberately stimulating a mild version of smallpox in an individual by placing smallpox matter from an infected person's sores directly into incisions in the skin of a healthy individual. The practice appeared to provide immunity against the disease and she subsequently had her own children immunized. She is credited with introducing England to the concept of inoculation. See Jean Mercer, Lady Mary Wortley Montagu: A Contributor to Public Health, PSYCHOLOGY TODAY (Sept. 3, 2009), http://www.psychologytoday.com/blog/child-myths/200909/lady-mary-wortley-montagu-contributor-public-health.
pox, Jenner decided to investigate this phenomenon. He removed matter from fresh cowpox lesions on dairymaid Sarah Nelms' hands and arms and administered the virus to an eight-year old boy named James Phipps. Within ten days of developing a mild fever and symptoms, Phipps was much better. Two months later Phipps was given another dose with matter from a fresh smallpox lesion. When the boy failed to develop the disease, Dr. Jenner concluded that immunization was complete. Despite some initial reservation, smallpox vaccination was eventually adopted throughout London and by 1800, most of Europe was vaccinating against smallpox. Jenner's smallpox vaccination offered the first hope at controlling the disease—and conferred an immense benefit on the public health in the process.

The success of the smallpox vaccination encouraged the development of vaccinations against other deadly diseases. A little more than a century ago, the U.S. infant mortality rate was 20%, and the childhood mortality rate before age five was another troubling 20%. Today, thanks in large part to vaccination, the childhood mortality rate in the United States is approximately .006%. Currently, the CDC recommends that children receive eleven vaccinations for sixteen different diseases. This article focuses on the vaccinations that are most commonly at the center of anti-vaccination speech. Below is a brief explanation of those diseases and the success vaccination has had on reducing the impact of those diseases.

45 Cowpox is a skin disease caused by the cowpox virus that got its name from the distribution of the disease when dairymaids touched the udders of infected cows. The disease, transmitted from infected animals to humans, manifests itself in the form of red blisters. It is related to, but is much milder, than smallpox. See Cowpox, http://www.princeton.edu/~achaney/tmve/wiki100k/docs/Cowpox.html (last visited April 17, 2013).
46 Reidel, supra note 44.
47 Id.
48 Id.
49 Id
51 Stern, supra note 5.
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i. Measles-Mumps-Rubella (MMR)

The combined MMR vaccine was first introduced in 1971 and provides protection against the diseases of measles, mumps and rubella.54 Prior to the measles vaccine, approximately half a million Americans acquired measles each year.55 Complications from measles can include pneumonia, seizures, deafness, permanent brain damage, mental retardation and death.56 It is estimated that vaccination against measles has prevented 74.5 million cases of measles, 7,450 deaths and averted 24,000 cases of mental retardation in the U.S.57 In the absence of vaccination, it is estimated that the measles virus "would infect almost 100 percent of the population, including most of the 688 million children under five in the developing world."58

The MMR vaccine also protects against mumps: a highly contagious virus that typically starts with a fever and headache and is followed by severe swelling of the salivary glands on the side of the face.59 Because infected individuals are contagious for a week prior to the onset of symptoms, and one-third of infected persons are asymptomatic, mumps spreads easily.60 Mumps, which is untreatable,61 can lead to severe complications including meningitis, seizures, paralysis, deafness, and miscarriage.62 Pre-vaccine, mumps virus infected approximately one million

56 Drutz, supra note 49.
57 Maurice R. Hilleman, Past, Present, and Future of Measles, Mumps, and Rubella Virus Vaccines, 90 PEDIATRICS 149 (1992). See also Drutz, supra note 49, at 321 (during the first 20 years after vaccine licensure it is estimated that the measles vaccination prevented 52 million cases of disease, 52,000 deaths and 17,400 cases of mental retardation).
59 Overview of Mumps, CDC (March 14, 2010), http://www.cdc.gov/mumps/about/disease-overview.html.
61 CDC, supra note 58.
62 Anders Hviid et al., Mumps, 371 THE LANCET 93 (2008). Additionally, the long-term consequences of mumps may not be fully recognized for years after the initial illness. See Weisberg, supra note 59, at 485 ("The onset of progressive neurological problems from mumps can be as late as 10 years after mumps disease.").
people every year.\textsuperscript{63} It is estimated that the mumps vaccine has prevented one million children from getting mumps and prevented meningitis and deafness in thousands.\textsuperscript{64}

The final disease that MMR vaccine protects against is Rubella, also known as German measles. This disease is a generally mild viral illness but poses an immense danger to a fetus.\textsuperscript{65} If acquired by a pregnant mother in the first twelve weeks of pregnancy, there is a greater than eighty percent risk of congenital defects—including deafness, cataracts, heart defects, mental retardation and liver and spleen damage—in the fetus.\textsuperscript{66} In the early 1960s, before the rubella vaccine was introduced, there were a reported 57,686 cases of rubella\textsuperscript{67} with more than 11,000 fetal deaths and 20,000 infants born with birth defects due to congenital rubella syndrome.\textsuperscript{68} Due to increased efficacy of vaccinations against rubella, congenital rubella syndrome has been nearly eliminated in the United States.\textsuperscript{69}

ii. Tetanus, Diphtheria and Pertussis ("TDaP")

Another currently recommended vaccine is the combined Tetanus, Diphtheria and Pertussis vaccine. The combined vaccine was licensed in 1997 and aims to prevent the diseases tetanus, diphtheria, and pertussis.\textsuperscript{70} However, prior to the licensing and use of the combined vaccine, there were separate vaccines available for the diseases individually. Vaccination against these diseases has significantly reduced their prevalence in the United States.

The disease of Tetanus is an "acute, spastic paralytic illness" caused by bacteria.\textsuperscript{71} In approximately half of the cases, the disease causes

\begin{itemize}
\item \textsuperscript{63} Offit, supra note 43, at 21.
\item \textsuperscript{64} Id. at 30.
\item \textsuperscript{65} Vaccine and Preventable Diseases: Rubella Disease In-Short, CDC (May 29, 2009), http://www.cdc.gov/vaccines/vpd-vac/rubella/in-short-adult.htm.
\item \textsuperscript{66} Jennifer M. Best, Rubella, 12 SEMINARS IN FETAL AND NEONATAL MEDICINE 182, 183 (2007).
\item \textsuperscript{69} Id.
\item \textsuperscript{70} Diphteriea, Tetanaus, Pertussis, NAT’L NETWORK FOR IMMUNIZATION INFO. (Dec. 26, 2011), http://www.immunizationinfo.org/vaccines/diphteria/history-of-the-vaccine.
\item \textsuperscript{71} Stephen S. Arnon, Tetanus, in NELSON TEXTBOOK OF PEDIATRICS 815 (Waldo E. Nelson et al. eds., 1996).
\end{itemize}
“lockjaw” in which the victim cannot open his mouth or swallow.\textsuperscript{72} Spasms of the vocal cords may lead to respiratory difficulties and fractures of the bones and spine may result from prolonged contractions and convulsions.\textsuperscript{73} Death from tetanus is not uncommon.\textsuperscript{74} Prior to the introduction of the vaccine for tetanus in the 1940s, 500-600 cases of tetanus were reported annually in the United States.\textsuperscript{75} Since the mid-1970’s rates of tetanus declined to between 50-100 per year, with nearly all reported cases involving unvaccinated persons.\textsuperscript{76}

Diphtheria is a disease caused by highly contagious bacteria that primarily affects the throat and respiratory system, resulting in obstructed breathing\textsuperscript{77} and leaving the victim prone to suffocation.\textsuperscript{78} In the United States in the 1920s, more than 125,000 cases and 10,000 deaths due to diphtheria were reported annually.\textsuperscript{79} After the individual Diphtheria vaccine was introduced in the 1970s, the incidence of diphtheria in the United States has plummeted to between zero and five cases per year.\textsuperscript{80}

The disease pertussis, also called “whooping cough,” is a highly contagious disease caused by bacteria that creates an accumulation of thick sticky mucus in the windpipe.\textsuperscript{81} As a result, an infected person coughs incessantly without taking a breath in, until a breath is taken through a narrowed windpipe causing an “unmistakable high-pitched sound.”\textsuperscript{82} Complications from pertussis include pneumonia, seizures, and suffocation.\textsuperscript{83} Prior to the introduction of the individual pertussis

\textsuperscript{72} Id.
\textsuperscript{74} Arnon, supra, note 70.
\textsuperscript{75} CDC, supra note 72.
\textsuperscript{76} Id.
\textsuperscript{78} Sarah S. Long, Diphtheria, in NELSON TEXTBOOK OF PEDIATRICS 776 (Waldo E. Nelson et al. eds.,1996).
\textsuperscript{80} Long, supra note 77.
\textsuperscript{81} OFFIT supra note 22, at xiii.
\textsuperscript{82} Id.
\textsuperscript{83} See Sarah S. Long, Age-Specific Presentation and Burden of Pertussis, 5 ADV. STUD. MED. S444 (2005).
vaccine in the 1940s, the disease was a major cause of morbidity and mortality among infants and children.\textsuperscript{84} Today, unvaccinated children are twenty-three times more likely to acquire pertussis than their vaccinated peers.\textsuperscript{85} While death from pertussis is rare, 90\% of pertussis-related deaths occur in children under six months.\textsuperscript{86}

\textbf{B. The Unique Role of Vaccines in Public Health}

Public health is "what we, as a society, do collectively to assure the conditions for people to be healthy."\textsuperscript{87} The "government has the primary responsibility to advance the public's health because it acts on behalf of the people."\textsuperscript{88} Because there are individual as well as communal aspects to health, any public health regulation will necessarily intrude upon individual liberty to some extent. In enacting public health regulations, the state must balance the greater good against the particular needs or wants of any one particular individual.\textsuperscript{89}

The success of any vaccination program is dependent upon its implementation in a broad fashion reaching the largest number of individuals. Accordingly, vaccination is a prime example of an individual health choice that affects not just the individual, but the community as well. In order for the collective to be protected against contagious disease, "a critical portion of a community" must be immunized.\textsuperscript{90} Commonly referred to as "herd immunity," group immunity "functions to decrease the number of people in a population who carry the disease so that an at risk population are not exposed."\textsuperscript{91} The disease's impact is reduced because "if there are not enough vulnerable people in a popula-


\textsuperscript{86} Dennis A. Brooks & Richard Clover, Pertussis Infection in the United States: Role for Vaccination of Adolescents and Adults, 19 J. AM. BOARD FAM. MED. 603 (2006).

\textsuperscript{87} Lawrence O. Gostin, Public Health Law in a New Century, Part I: Law as a Tool to Advance the Community's Health, 283 JAMA 2837 (2000).

\textsuperscript{88} LAWRENCE O. GOSTIN, POWER, DUTY & RESTRAINT 11 (2d ed. 2008) ("Achieving a just balance between constitutionally protected rights and the powers and duties of the state to defend and advance the public's health poses an enduring problem for public health law.").


\textsuperscript{90} Mark Crislip, Herd Immunity, SCIENCE BASED MEDICINE (June 5, 2009), http://www.sciencebasedmedicine.org/index.php/herd-immunity/.
tion, the disease cannot spread and perpetuate." \(92\) Research suggests "increasing rates of vaccine declination are, in fact, jeopardizing herd immunity in some communities." \(93\) It is the unique nature of infectious disease that places vaccination in such an important role in maintaining public health. In order for the community to be protected from infectious disease, enough individual members of that community must be vaccinated. Ensuring vaccination therefore requires government intervention.

Historically, states have had "great latitude under their police powers to legislate as 'to the protection of the lives, limbs, health, comfort, and quiet of all persons.'" \(94\) Each state, therefore, has the power to "pass and enforce quarantine, health, and inspection laws to prevent the introduction of disease, pestilence, and unwholesome food, and such laws must be submitted to by individuals for the good of the public." \(95\) The courts have repeatedly upheld the states' police power by implicitly recognizing the unique role vaccination plays in maintaining and preserving the public health.

The seminal case dealing with vaccination and the state police power is Jacobson v. Massachusetts. \(96\) In Jacobson, the Supreme Court was asked to rule on the constitutionality of a Massachusetts statute requiring mandatory vaccinations against smallpox. Under the statute, all inhabitants over the age of twenty-one were required to receive a smallpox vaccine and any adult who refused to receive the free vaccination would be fined five dollars. \(97\)

In July of 1902, Jacobson was criminally charged for failing to comply with Massachusetts' mandatory vaccination requirement. \(98\) The Supreme Judicial Court of Massachusetts upheld the jury's finding of guilty and ordered Jacobson to pay the five-dollar fine or be committed until such fine was paid. \(99\) On appeal to the U.S. Supreme Court, Jacobson argued a majority of states did not require mandatory vaccina-

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\(92\) Id.


\(95\) Moore v. Draper, 57 So.2d 648, 649 (Fla. 1952).


\(97\) Id. at Syllabus.

\(98\) Id.

\(99\) Id.
tion, that smallpox had "ceased to be the scourge it once was" and that those states without mandatory vaccinations "are not any more afflicted with smallpox than those which compel vaccination." He also argued that the compulsory vaccination law was a violation of liberty and violated equal protection because children, but not adults, could be exempted.

In his opinion upholding the decisions of the lower courts, Justice Harlan noted that the authority for the state to legitimately enact such legislation was derived from the state's "police power." That power "distinctly recognized the authority of a state to enact quarantine laws and 'health laws of every description'" and the state must therefore be able to enact "such reasonable regulations established directly by legislative enactment as will protect the public health and the public safety." In an extremely important statement for public health advocacy, the Court went on to find that although the Constitution promised a right of liberty to each individual, that individual liberty did not "import an absolute right in each person to be, at all times and in all circumstances, wholly freed from restraint." This is especially so where the restraints on individual liberty are for the benefit of the "common good." To protect the "common good," a state had the power to require vaccinations as a "principle of self-defense . . . against an epidemic of disease which threatens the safety of its members."

The Jacobson court noted with approval a New York appellate case, Viemeister v. White, in which the New York court was called upon to decide whether a state statute requiring mandatory vaccinations in order to attend public school was constitutional. In Viemeister, the plaintiff's ten-year-old son was removed from public school because he refused to be vaccinated against smallpox. In finding that the statute was constitutional, the New York court also relied on the state's power to "promote the public health, safety and welfare." The Viemeister

100 Id.
101 Id.
102 Id. at 25.
103 Id.
104 Id.
105 Id.
106 Id. at 28.
107 Viemeister v. White, 179 N.Y. 235 (1904).
108 Id. at 237.
109 Id.
110 Id. at 238.
court found that "when the sole object and general tendency of legislation is to promote the public health, there is no invasion of the Constitution, even if the enforcement of the law interferes to some extent with liberty or property." The constitutionality of mandatory vaccinations has been upheld in numerous cases thereafter.

Although the concept of the police power remains viable, there has been a growing tendency to emphasize individual liberty above the collective public good. A prime example of this trend towards individualism is the increase in "personal belief" exemptions from "mandatory" vaccinations for entrance into public school. At least nineteen states now allow parents to opt out of having their children vaccinated simply on the basis of the parents' "personal objection" to vaccination. In the context of vaccination, this focus on individual rights poses a significant threat to public health, especially when the liberty exercised is vaccine-refusal and anti-vaccine speech is aimed at encouraging others to opt out of vaccination as well. Although anti-vaccination speech and refusal is not new, in recent years anti-vaccination sentiment has swelled. One of the main concerns voiced by anti-vaccination speakers is the purported link between the developmental disability of autism and routine childhood vaccinations. The next section of this article explores autism and how it came to be at the center of the vaccination debate. This section also addresses the main theories behind the alleged autism-vaccine link and how the overwhelming scientific evidence refutes any such causal link.

II. ANTI-VACCINE SPEECH: FOCUS ON AUTISM

A. Autism

Autism is a "developmental disorder that appears in the first 3 years of life, and affects the brain's normal development of social and commu-

111 Id.
114 For instance, the development of a measles vaccine was delayed in part by a conflict between "those who accepted measles as a mild disease and a natural part of childhood and those who saw it as a severe and crippling disease." Drutz, supra note 49, at 318.
unication skills." In 1943, Leo Kanner gave the first detailed account of what was called "autistic disturbances of affective contact." He described eleven children, all of whom suffered from a disorder whose primary characteristic was the children's "inability to relate themselves in the ordinary way to people and situations from the beginning of life." Modern descriptions of autism echo Kanner's findings:

Perhaps the hallmark feature of autism, and one of the most dramatic, is the profound and pervasive deficit in social behavior and attachment. Children with autism often do not bond with their parents, do not play with other children, may ignore or avoid the social initiations of others, and prefer to be alone.

The diagnosis of autism is typically made at around age 2 or 3, when a child starts to show delays in talking and other milestones. It is estimated to affect an average of 1 in 100 children in the United States. There is no known cause of autism, although the general consensus appears to be that it is caused by a myriad of both genetic and environmental factors.

The lack of an identifiable cause of autism, coupled with the devastating effects autism has on those living with it and their families, has understandably lead to grasping at straws for any potential causes of autism. Two hypotheses on autism-vaccine links were raised that have had a significant impact "in the field of autism research and practice and on public health at large." One theory hypothesizes that the mercury-containing preservative thimerosal used in many vaccinations is a significant cause of the increase in autism rates. The other hypothesis places

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117 Leo Kanner, Autistic Disturbances of Affective Contact, 2 NERVOUS CHILD 217 (1943).
118 SCHREIBMAN, supra note 115, at 28.
the blame on the measles component of the MMR vaccine. Although both theories are now unaccepted by mainstream science, they continue to be clung to by many anti-vaccination groups, resulting in a continued—but unfounded—fear that vaccines routinely cause autism. This fear has had a significant impact on vaccination rates and in turn, allowed for the return of vaccine preventable diseases. In order to understand why the perpetuation of these theories via anti-vaccination speech is so dangerous, a brief background of the theories, and the science refuting them is necessary.

B. Theory One: Thimerosal/Mercury in Vaccines Causes Autism

In December of 1998, as a result of federal law mandating a report of mercury containing food and drugs, vaccine manufacturers were asked to provide information regarding the use of the preservative thimerosal in their vaccines. Thimerosal is an organic mercury compound that is metabolized to ethylmercury and has been used as a preservative in some vaccines since the 1930s. The information provided by vaccine manufacturers indicated that an infant whose parents adhered to the recommended vaccine schedule could receive a maximum combined total of 187.5 micrograms of ethylmercury by the age of six months. This amount exceeded the FDA’s limit for a different mercury compound known as methylmercury—the mercury associated with eating fish. There are no federal guidelines on ethylmercury consumption. However, given

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123 The theories are necessarily independent because the MMR vaccine has never contained thimerosal. See id.
126 Stratton, supra note 123 at 19.
127 Mookin, supra note 124, at 123.
128 Id. at 124.
130 Mookin, supra note 124, at 123.
131 Id.
the potential exposure to a potentially dangerous amount of ethylmercury, it was decided that thimerosal should be removed from pediatric vaccines, at least until further research could be conducted.\textsuperscript{132} Quickly thereafter, the American Academy of Pediatrics (AAP) and the Centers for Disease Control & Prevention (CDC) released public statements calling for the removal of thimerosal from all vaccines given to children under the age of six months.\textsuperscript{133} As of 2001, all routine childhood immunizations are available thimerosol-free.\textsuperscript{134}

The concerns over thimerosal provided some parents of autistic children a focus upon which to direct their search for a cause and cure for autism. In 2000, a group of parents of autistic children formed an organization called the Coalition for Sensible Action for Ending Mercury-Induced Neurological Disorders ("SafeMinds").\textsuperscript{135} A group of SafeMinds parents then co-authored a paper entitled: "Autism: A Novel Form of Mercury Poisoning" that was published in the journal Medical Hypotheses.\textsuperscript{136} The aim of the journal Medical Hypotheses is to "give novel, radical new ideas and speculations in medicine open-minded consideration, opening the field to radical hypotheses which would be rejected by most conventional journals."\textsuperscript{137} The authors of the article include Lyn Redwood, Sallie Bernard, Albert Enayati, Teresa Binstock, Heidi Roger and Woody McGinnis. Of these individuals, only two have medical backgrounds: McGinnis (physician) and Redwood (registered nurse). Redwood is one of the founders of SafeMinds and has a child with a neurological disorder.\textsuperscript{138} Enayati is an engineer by training and the father of an autistic child.\textsuperscript{139} Sallie Bernard, who has a child with a neurological disorder, and Heidi Roger are on the board of SafeMinds.\textsuperscript{140} Teresa Binstock is a self-proclaimed independent re-

\begin{itemize}
\item \textsuperscript{132} Id. at 124.
\item \textsuperscript{133} Id. at 125. See also Stratton, supra note 123, at 30.
\item \textsuperscript{134} Stratton, supra note 123, at 20.
\item \textsuperscript{135} MNOOKIN, supra note 124, at 142.
\item \textsuperscript{136} Sallie Bernard et al., Autism: A Novel Form of Mercury Poisoning, 56 MED. HYPOTHESES 462 (2001).
\item \textsuperscript{140} About, supra note 137.
\end{itemize}
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searcher of autism spectrum disorders without any apparent scientific, medical or other degree.\footnote{141 About Teresa, CHILDREN WITH STARVING BRAINS, http://www.starvingbrains.com/about-teresa.htm (last visited Jan. 10, 2013).}

The SafeMinds article concluded that “many cases of idiopathic autism are induced by early mercury exposure from thimerosal” and purported to find ninety-four common traits between autism and mercury poisoning.\footnote{142 MNOOKIN, supra note 124, at 142-43.} Many of these common traits – crying, temper tantrums, vomiting, rashes – are, however, also common to childhood in general.\footnote{143 Id. at 142.} While there were many symptoms that the article linked as common to both mercury poisoning and autism, the article failed to address any facts that could contradict the authors’ pre-ordained conclusion that thimerosal causes autism.\footnote{144 Id. at 144.} For instance, the paper failed to address the absence of any other studies showing a link between ethylmercury or methylmercury poisoning and autism or any study revealing elevated mercury levels in autistic children.\footnote{145 Id. at 144.} Essentially, the paper was an unscientific comparison of mercury-poisoning symptoms and autism spectrum symptoms and the authors’ conclusion that because there were some similarities, mercury poisoning must be at the root of autism. Despite its numerous flaws (and the authors’ obvious bias), parents and anti-vaccination groups repeatedly cite this article as scientific proof that thimerosal causes autism.\footnote{146 See Jonathan Campbell, The Thimerosal Connection to Autism and Other Developmental Disorders, CQS.COM (Apr. 29, 2004), http://www.cqs.com/autism.htm. See also Overloaded? New Science, New Insights About Mercury and Autism in Children, References, THE ENVIRONMENTAL WORKING GROUP (Dec. 13, 2004), http://www.ewg.org/research/overloaded/references; Autism (Scientific Citations, Congressional Hearings, and Articles Linking Vaccines and Autism), THINK TWICE GLOBAL VACCINE INSTITUTE, http://thinktwice.com/s_autism.htm (last visited January 11, 2013).}

Anti-vaccination groups also rely heavily on the research and publication by Mark and David Geier, a father-son team out of Maryland. Mark Geier is a physician with a Ph.D. in genetics.\footnote{147 See Riggins v. Sec’y of Health and Human Services, No. 99-382V, 2009 WL 3319818 (Fed. Cl. June 15, 2009).} His son David has a B.S. in biology.\footnote{148 Steve Mills & Tim Jones, Physician Team’s Crusades Shows Cracks, CHICAGO TRIBUNE, May 21, 2009.} Dr. Mark Geier is frequently an “expert” retained on behalf of plaintiffs pursuing cases before the national “vaccine
court." However, he is also frequently barred from testifying or receiving compensation by the court on the grounds that his science and conclusions are unreliable, based on "deeply flawed" methodologies. At least one court has noted that Dr. Geier's epidemiological studies "have been rejected by the relevant scientific community due to severe methodological flaws" and were rejected by the Institute of Medicine's Immunization Safety Review Committee ("IOM") as "uninterpretable" and therefore "noncontributory." Despite the unsubstantiated and unscientific nature of Geiers' conclusions, anti-vaccination groups cling to his studies as proof of mercury's role in autism.

Working out of a basement laboratory in their two-story house, the Geiers conduct "research" and together have written several published studies linking autism with thimerosal. The "noncontributory" nature of the Geiers' studies largely stems from the fact that their studies rely on parent-reported adverse vaccine reactions as opposed to controlled scientific studies. The Geiers' studies are largely based on subjective complaints filed by parents with the Vaccine Adverse Event Reporting System (VAERS). The federally managed VAERS system is a "passive" reporting system that "relies on health professionals, patients or guardians to submit reports of adverse reactions following vacc-

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149 The "vaccine court" is a congressionally created special court that is tasked with the hearing of vaccine injury claims pursuant to The National Vaccine Injury Compensation Program ("Vaccine Program"), which is part of the National Childhood Vaccine Injury Act of 1986, 42 U.S.C. §§ 300aa-1–34 (2012). Under the Vaccine Program, Congress created a no-fault compensation scheme for individuals allegedly injured as a result of compulsory childhood vaccines. Individuals known as "special masters" hear the vaccine claims in the U.S. Court of Federal Claims in a process that is intended to be less adversarial and swifter than traditional litigation. See Vaccine Program/OFFICE OF SPECIAL MASTERS, U.S. COURT OF FEDERAL CLAIMS, http://www.uscfc.uscourts.gov/vaccine-programoffice-special-masters (last visited Mar. 21, 2013).


152 Id.


cation." Reporting to VAERS is non-restrictive, and the system "accepts and includes any report submitted, no matter how tenuous the possible connection with vaccination might seem." While the VAERS system is important in potentially identifying new information about vaccine safety, it is severely limited as a tool to provide reliable evidence that vaccinations cause a particular adverse reaction. Because adverse events in unvaccinated people are not reported, there is no "control group" to study and therefore it is "impossible to assess whether the number of reported events is different from the number that would have been observed in the absence of vaccination." Relying on VAERS reports to establish causation is fundamentally unsound because "with virtually universal childhood immunization . . . any adverse medical event in a child will 'follow' vaccination." The mere fact that an adverse reaction follows vaccination cannot "by itself lead to the conclusion that the event was caused by the vaccine." Nonetheless, despite the severe limitations and unreliability of the Geiers' studies, anti-vaccination groups frequently cite these studies as proof that thimerosal-containing vaccines cause autism.

In truth, the "removal of Thimerosal created the impression of risk, where none existed." Numerous studies have concluded that thimerosal-containing vaccines do not cause autism. In August 2003, a study of children in Sweden and Denmark from the mid-1980's to the late 1990's was published in the American Journal of Preventative Medicine. The authors found that the rates of autism actually rose after the removal of thimerosal and concluded that the existing data "is not consistent with the hypothesis that increased exposure to thimerosal-containing vaccines cause autism."

155 Vaccine Adverse Events Reporting System (VAERS) Before Subcomm. on Criminal Justice, Drug Policy, and Human Resources of the H. Comm. on Gov't Reform (1999) (statement of Susan S. Ellenberg, Director Biostatistics & Epidemiology Division, Center for Biologics Evaluation and Research, Food and Drug Administration, Department of Health and Human Services).
156 Id.
157 Id.
158 Id.
159 Id.
160 See, e.g., Prate, supra note 1 (relying on the Geier's studies to support the theory that thimerosal in vaccines causes autism); Our Studies, FOURTEEN STUDIES, http://www.fourteenstudies.org/ourstudies.html (last visited Jan. 11, 2013).
sal-containing vaccines is responsible for the apparent increase in the rates of autism. 163 Two additional studies out of Denmark reached the same conclusion. In one study of the medical records of 1,000 Danish children diagnosed with autism between 1971 and 2000 (after thimerosal was removed from vaccines), researchers also found a significant increase in autism diagnoses after thimerosal was removed from vaccines. 164 In the other study, records of Danish children from 1990 to 1996 found that autism rates increased after thimerosal was removed from vaccines. 165 Both studies concluded that there was no correlation between thimerosal-containing vaccines and autism. 166

Other studies have reached the same conclusion. A 2004 study of the records of 14,000 children in the United Kingdom between 1991 and 1992 reached similar conclusions. 167 In that study, the authors actually found that the more thimerosal a child received, the less likely he or she was to develop autism. 168 In a different study, also out of London, researchers examined the records of 100,000 children who had received different amounts of thimerosal and again found thimerosal seemed to have an “apparent protective effect” against general developmental disorders. 169 The study’s authors concluded “there was no evidence that thimerosal exposure via DTP/DT vaccines cause[d] neurodevelopmental disorders.” 170 A 2006 study out of Montreal, Canada involved a survey of 28,000 children born between 1987 and 1998 who could have received vaccines with thimerosal. 171 The authors’ findings “ruled out an association between pervasive developmental disorder

163 Id.
165 Anders Hviid et al., Association Between Thimerosal-Containing Vaccine and Autism, 290 JAMA 1763 (2003).
166 Hviid, supra note 61 (data “did not support a correlation between thimerosal-containing vaccines and the incidence of autism.”); Madsen, supra note 161 (“our data did not support a correlation between thimerosal-containing vaccines and the incidence of autism.”).
167 Jon Heron et al., Thimerosal Exposure in Infants and Developmental Disorders: A Prospective Cohort Study in the United Kingdom Does Not Support a Causal Association, 114 PEDIATRICS 577 (2004).
168 Id.
170 Id.
171 Eric Fombonne et al., Pervasive Developmental Disorders in Montreal, Quebec, Canada: Prevalence and Links with Immunization, 118 PEDIATRICS 139 (2006).
and either high levels of ethylmercury exposure comparable with those experienced in the United States in the 1990s or 1- or 2-dose measles-mumps-rubella vaccinations.\textsuperscript{172}

The conclusions of these independent studies were reviewed and echoed by the Immunization Safety Review Committee ("IOM"). The IOM is an independent organization "devoted to 'providing objective and straightforward answers to difficult questions' related to health and science policy."\textsuperscript{173} The IOM is comprised of volunteers with backgrounds in a variety of fields including medicine, public health, risk assessment, ethics, all of whom "believe vaccination is beneficial" but who have no "vested interest in the safety issues" presented to it.\textsuperscript{174} Membership in the IOM is controlled and precludes participation by individuals with financial ties to vaccine manufacturers or their parent companies, with previous service on major vaccine-advisory committees, or who have given prior expert testimony or published on issues of vaccine safety.\textsuperscript{175} In 2004, the IOM was tasked with evaluating the theories linking thimerosal-containing vaccines and neuro-developmental disabilities. The committee reviewed various information sources including an extensive review of the published peer-reviewed scientific and medical literature pertinent to the hypothesis.\textsuperscript{176} After reviewing more than 200 published epidemiological and biological studies of the relationship between thimerosal and autism, the IOM released the following statement:

"The committee concludes that the body of epidemiological evidence favors rejection of a causal relationship between chimerical-containing vaccines and autism. The committee further finds that potential biological mechanisms for vaccine-induced autism that have been generated to date are theoretical only."\textsuperscript{177}

The evidence that there is no connection between thimerosal and autism is so strong that such causation theories have also been repeatedly rejected in court.\textsuperscript{178} Nonetheless, anti-vaccination groups continue to es-
pouse the connection on their websites, relying only on those studies that the courts (and other scientists) have declared unreliable, unscientific, and deeply flawed.

C. Theory Two: The MMR Vaccine Causes Autism

In February 1998, parents of autistic children thought they had found a potential answer to the question of why their child had developed autism: the MMR vaccine. A Canadian-trained surgeon named Andrew Wakefield published a scholarly article in the British medical journal, The Lancet, entitled “Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children.”Wakefield postulated that some children could not handle the combined three vaccines at once, and that in these children proteins from the measles virus took root in the intestine and then leaked through the intestine to the bloodstream. These unidentified proteins, he asserted, then took root in the child’s brain and caused autism.

Wakefield’s co-authors on the 1998 Lancet article were concerned about the impact of a bold pronouncement that the MMR vaccine caused autism and had agreed to specifically state that additional research was required and that children should continue to receive the MMR vaccine in the meantime. Nonetheless, at a press conference held by Wakefield, his co-authors, and study sponsor Royal Free Hospital of London, Wakefield asserted that he could no longer support the use of the MMR vaccine until more was known about what “the role of gut inflammation is in autism.”

Naturally, Wakefield’s announcement shocked the medical community and terrified parents. Headlines such as “Alert Over Child Jabs”

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181 MNOOKIN, supra note 124, at 107.  
182 OFFIT, supra note 43, at 159.  
183 MNOOKIN, supra note 124, at 107.  
184 Id. at 108.
and "Ban Three-In-One Jab Urge Doctors" were seen the next day in Britain's Daily Mail and The Guardian. Suddenly, parents without an explanation for their child's autism had one. In the months following Wakefield's announcement, one hundred thousand parents in the U.K. chose not to vaccinate their children. As a result, the incidence of measles in England and Ireland skyrocketed. The negative impact of the Wakefield article on the public health was immediately apparent. What makes its effect even more devastating was the fact that some time later the article was called "probably the worst paper that's ever been published in the history of [The Lancet]."

The flaws in the Wakefield study were many. Shortly after article appeared, Richard Horton, editor of The Lancet demanded that the paper be rewritten to clearly indicate the "speculative nature of the work" and placed an "Early Report" label above the title and each page. The article was not only speculative: it was unsubstantiated and had numerous holes. For instance, the article failed to take into account, or explain, the fact that autism was a well-known diagnosis prior to the use of the MMR vaccine. Further, Wakefield's correlation between the MMR vaccine and autistic symptoms was based solely on the parents' after-the-fact recollection about "the temporal connection between vaccination and the onset of their children's symptoms" — a connection that subsequent investigators using more sensitive and specific methods could not reproduce. Even more damaging to the entire theory presented by Wakefield was the absence of any vaccine viruses, including measles, in the bowel, brain, or any other tissue in the study's patients.

The problems with the Wakefield article were not simply the result of poor science or research. There were also significant ethical and conflict of interest issues. In 2004, British journalist Brian Deer ran a series of articles in the London Sunday Times based on a four month investi-

185 OFFIT, supra note 43, at 162.
186 Id.
187 Id.
188 MNOOKIN, supra note 124, at 11.
189 Id. at 108.
190 Id. at 111.
191 Id. at 111.
192 Id.
gation into Wakefield’s MMR study. Deer reported that at the time Wakefield was warning parents against MMR and asserting a positive link between the vaccine and autism, he failed to disclose that he was being funded by attorneys seeking evidence to use against vaccine makers. Moreover, it was discovered that many of the children who formed the basis of his “groundbreaking” study were actually the children of clients of a British attorney leading the attack against vaccines. Additionally, shortly before publishing the study linking the MMR vaccine to autism, Wakefield had filed for a patent on his own new measles vaccine. Deer also spoke with parents of children who were in the MMR study – one father stated that his son’s medical history had been altered. The child had in fact shown his first autistic symptoms prior to receiving the MMR vaccination.

Not only was the Wakefield paper scientifically and ethically suspect, his findings of a causal relationship between autism and the MMR vaccine could not be repeated in numerous follow up studies. One research team conducted a retrospective study of all children born in Denmark between January 1991 and December 1998 (537,303 children) and found no association between MMR vaccination and autistic disorder. The study concluded that there was “strong evidence against the hypothesis that MMR vaccination causes autism.” Another research team undertook a population-based study in the North East Thames region of the United Kingdom to “investigate trends in the incidence of autistic disorders before and after the introduction of MMR vaccine in October, 1988, and the immunisation [sic] histories of children with

194 Id.; See also Brian Deer, MMR Doctor Given Legal Aid Thousands, SUNDAY TIMES OF LONDON, Dec. 31, 2006, available at http://briandeer.com/mmr/st-dec-2006.htm (reporting that Wakefield received more than 400,000 pounds by lawyers who were trying to prove that vaccines were unsafe for his “research.”).
195 Id.
197 Brian Deer, Secrets of the MMR Scare: How the Case Against the MMR Vaccine was Fixed, 342 BRITISH MED. J. 77 (Jan. 6, 2011), available at: http://www.bmj.com/content/342/bmj.c5347.
199 Id.
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these disorders." The results showed an equal development of autistic symptoms in vaccinated and unvaccinated children, and the authors concluded that there was no "causal association between MMR vaccine and autism." A 2001 study out of California further supported the conclusion that MMR vaccination and autism are unrelated causally. In that study, it was shown that although the number of children with autism in the state’s mental health system increased rapidly between 1980 and 1994, the proportion of children immunized with MMR remained relatively stable. The study’s authors concluded that if the vaccine were causing autism, there should have been a parallel increase in MMR vaccinations.

In the early 2000s, the Institute of Medicine (IOM) conducted a comprehensive review of epidemiological studies to determine whether there was any support for an association between MMR vaccine and autism. The committee concluded that there was no causal connection. The IOM further noted that the Wakefield study was “uninformative with respect to causality between MMR and ASD [Austism Spectrum Disorder]” and that “the biologic model linking MMR and ASD is incomplete and fragmentary.” The committee concluded “evidence favors rejection of a causal relationship at the population level between MMR vaccine and autistic spectrum disorders (ASD).”

Despite overwhelming evidence that MMR vaccination does not cause autism, the damage caused by Wakefield’s study was immense. As a result of his conclusions, vaccination rates in the United Kingdom dropped precipitously. The alleged autism-vaccine connection has been called “the most damaging medical hoax of the last 100 years.” The danger of the hoax continues to spread as the Internet allows anti-vacci-

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201 Id.
203 Id.
205 Id. at 5.
206 Id.
207 Id. at 6.
208 Flaherty, supra note 17.
nation groups the opportunity to spread misinformation about the dangers of vaccination.209

The harm posed by the unregulated perpetuation of false anti-vaccination speech is significant. Yet the First Amendment guarantee of freedom of speech presents a significant hurdle in effectively combating false and misleading anti-vaccine advocacy. The government cannot practically or lawfully impose a ban on such speech. Nonetheless, the particular nature of some false anti-vaccine advocacy places it within certain categories of speech that are entitled to less First Amendment protection. Although imperfect, three potential solutions to the anti-vaccine advocacy problem are considered in the next section.

III. CONSTITUTIONAL MEANS OF LIMITING FALSE ANTI-VACCINE SPEECH

Despite the danger posed by anti-vaccine speech, there is no constitutional (or indeed, practical) way to prevent every form of anti-vaccine advocacy. Under the First Amendment, most forms of speech are guaranteed at least moderate protection from government regulation. Purely political speech, including pure opinion and speech relating to matters of public concern, receives the most heightened protection and direct restrictions on such speech are “presumptively invalid.”210 Any attempted government limitation on such speech must be justified by a government showing that the restrictions serve a compelling state interest, must be narrowly tailored to achieve that interest, and must be the least restrictive means of achieving that interest.211 As a consequence, content-based restrictions on speech do not usually survive judicial scrutiny.212 Speech designated as “commercial speech” receives less, but still significant, protection; while the government may be able to place restrictions on commercial speech, in order to do so it must establish that the restrictions are directly related to advancing a significant government

209 Stephen P. Calandrillo, Vanishing Vaccinations: Why Are So Many Americans Opting Out of Vaccinating Their Children?, 37 U. Mich. J.L. Reform 353, 357 (2003-2004) (“[M]edia coverage has largely passed over this lurking danger in America, often giving greater coverage to the risks posed by vaccines or the controversial link between immunizations and autism.”)


211 Id.

212 GOSTIN, supra note 88, at 142.
interest. Finally, with some exceptions, truly false statements of fact may receive no constitutional protection at all.

Where in the scheme of protected speech does anti-vaccine advocacy fall? At first glance, anti-vaccine advocacy is arguably within the most protected category of speech because it appears to be opinion speech that relates to a matter of public concern. On closer examination, however, most anti-vaccine speech is not merely opinion. Rather, anti-vaccine advocacy — whether made by medical providers or as part of a commercial transaction — is almost always conveyed as scientific or medical fact. While a mother's speculation that a vaccine caused her son's autism may be constitutionally protected as an opinion, a physician's apparently authoritative statement that vaccines cause autism, and therefore loving parents should adamantly refuse immunization, may not be. Likewise, a false statement about the safety of vaccination made with the intention of selling a product is also not entitled to First Amendment protection. This is because, while the First Amendment offers broad protection to many forms of speech, it does not offer a shield for those who make false statements that have the potential to, or actually do cause, injury. For this reason, the Constitution's promise of free speech does not completely immunize those who make false and defamatory statements about another, who commit perjury, who commit fraud, who misrepresent the quality of their products (or

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214 See, Gertz v. Robert Welch, Inc., 418 U.S. 323, 340 (1973) ("there is no constitutional value in false statements of fact").
215 E.g., Milkovich v. Lorain Journal Co., 497 U.S. 1, 20 (1990) ("statement of opinion relating to matters of public concern which does not contain a provably false factual connotation will receive full constitutional protection").
216 See id. ("Since the latter half of the 16th century, the common law has afforded a cause of action for damage to a person's reputation by the publication of false and defamatory statements").
217 E.g., Gates v. Dallas, 729 F.2d 343, 346 (5th Cir. 1984) ("we reject the argument that mere exposure to criminal perjury or false-report charges unconstitutionally inhibits conduct protected by the First Amendment").
218 E.g., In re Grand Jury Matter, Gronowicz, 764 F.2d 983, 988 (3d Cir. 1985) (the First Amendment does not prohibit application of a mail fraud statute against an author).
the poor quality of another’s products), or whose false statements lead to physical injury to another.\textsuperscript{220}

Because of its capacity to inflict harm, it is at the very least arguable that anti-vaccine advocacy, like other false statements of fact, is not automatically entitled to First Amendment protection. Rather, apparently authoritative anti-vaccine speech has all the characteristics of false speech that places it into well-established categories of speech that have already been determined to warrant limited First Amendment protection. First, some anti-vaccine advocacy can be categorized as false or misleading commercial speech. This type of speech is not entitled to protection under the First Amendment and may be directly regulated by the government.\textsuperscript{221} Second, significant amounts of anti-vaccine speech can be designated as false speech that leads to pecuniary or business harm.\textsuperscript{222} Finally, some anti-vaccine advocacy may be viewed as false statements of fact that lead to physical harm. The First Amendment does not act as a shield to civil liability claims based on the torts arising out of false statements of fact.\textsuperscript{223}

While there are several possible means by which anti-vaccine advocacy could be constitutionally limited, no one solution is perfect. The most promising approach would be aimed not only at increasing public awareness of the falsity of such advocacy, but also in having effective legal tools that could be used to limit such speech. Due to the nature of First Amendment law, and the long-held preference for allowing speech, each of the following alternatives is inherently limited. An approach aimed at commercial anti-vaccine advocacy won’t be applicable to the plethora of speech that does not fall within the narrow definition of commercial speech. Likewise, the alternative suggestion that vaccine manufacturers be given a statutory right to sue for product disparagement is even more narrowly applicable. Finally, the suggested option of using tort law to pursue damages from anti-vaccine advocates whose speech leads to physical harm may simply be cost prohibitive for most

\textsuperscript{220} E.g., Robb v. Gylock Corp., 384 Pa. 209 (Pa. 1956) (plaintiff’s reasonable reliance on statements that containers were empty of sulphuric acid gave rise to negligent misrepresentation claim and liability for physical harm sustained by exposure to acid).


\textsuperscript{222} E.g., Bose Corp., 529 F. Supp. 357 (D. Mass. 1981) (recognizing a cause of action for product disparagement where the defendant makes a false statement about the nature or quality of plaintiff’s product).

\textsuperscript{223} Stevens v. U.S., 559 U.S. 460 (2010) (defamation (false statement of fact) is one of the categories of speech which is not entitled to constitutional protection).
plaintiffs. Nonetheless, while imperfect and limited, the following approaches to anti-vaccine advocacy might provide the public with some protection against the harmful effects of anti-vaccine speech.

A. Regulation of False and Misleading Commercial Anti-Vaccination Speech by the Federal Trade Commission

A significant amount of anti-vaccine speech has the characteristics of speech that is classified as "commercial speech" and in particular, false and misleading commercial speech. This is so even though the anti-vaccine speech is almost always couched as speech on matters of public concern. The most widely accepted definition of "commercial speech" is that it is an expression "related solely to the economic interests of the speaker and its audience" and that "does no more than propose a commercial transaction." This type of speech is only entitled to reduced levels of First Amendment protection. A classic example of commercial speech under this definition is an advertisement for the sale of a particular product. The speech is incidental to the main purpose of the speaker: to sell the product. Likewise, some anti-vaccine speech is clearly aimed at selling a particular product, most often in the form of unregulated vitamins or supplements. The fact that such anti-vaccine commercial speech also involves a discussion of a matter of public importance like vaccination does not remove the commercial nature of that speech. Instructive on this issue is the case of Bolger v. Young Products Corp.

i. Anti-vaccine speech as commercial speech

In Bolger, the Supreme Court considered whether a federal statute prohibiting the unsolicited mailing of information on contraceptives, combined with the advertisement for a contraceptive product, violated the free speech of a condom manufacturer. Young Products was a manufacturer and distributer of condoms that began the unsolicited mailing of informational pamphlets about the desirability of using condoms generally, including Young Products's condoms. One of the informational pamphlets entitled "Condoms and Human Sexuality," referred to

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227 Id. at 61.
several of Young's condoms and the advantages of each type. The other pamphlet was entitled "Plain Talk about Venereal Disease" and discussed condoms generally, with only a single reference to Young's particular brand of condom. In finding that the pamphlets constituted commercial speech, the court noted that advertising which "links a product to a current debate" is not thereby entitled to the constitutional protection afforded noncommercial speech. Thus, even though Young's pamphlets "contain[ed] discussions of important public issues such as venereal disease and family planning," they were nonetheless commercial speech. If all speech could be made non-commercial simply by inclusion of a reference to public issues, then "anyone selling a product could include a reference to public issues and be immunized from government regulation." This decision closely echoed an earlier Supreme Court decision in which the Court was called upon to decide whether a statute that barred the distribution of "commercial and business advertising matter" in public places was an unconstitutional infringement on First Amendment rights. In that case, the owner of an exposition submarine sought to get around the ban on passing out advertisements by including, within his advertisement for his submarine tours, a protest against the local government's refusal to allow him docking privileges at the city pier. As affirmed later in Bolger, the Court found that the handbill at issue remained commercial speech even thought it included a public

228 Id. at 67 n.13.
229 Id.
231 Id. at 67-68.
232 Id. at 68. For an interesting discussion of the application of the commercial speech doctrine to "industry publications," see Joanna K. Sax, Protecting Scientific Integrity: The Commercial Speech Doctrine Applied to Industry Publications, 37 Am. J.L. & MED. 203 (2011). Sax argues that an industry publication should be considered commercial speech, rather than scientific or academic if it is published in a "non-peer reviewed journal, the publication deliberately omits important scientific information and the purpose of the publication is to reach the medical community in order to promote the sale of the product." Id. at 220. See also Martin H. Redish, Product Health Claims and the First Amendment: Scientific Expression and the Twilight Zone of Commercial Speech, 43 Vand. L. Rev. 1433, 1458 (1990) (suggesting that under current First Amendment jurisprudence, scientific claims, "when included as part of direct commercial promotion, are deemed to constitute commercial speech and receive the reduced level of first amendment protection provided by the Central Hudson test.")
234 Id. at 53.
protest because, otherwise, “every merchant who desires to broadcast advertising leaflets in the streets need only append a civic appeal, or a moral platitude, to achieve immunity from the law’s command.” Thus, the Supreme Court has clearly established that the mere inclusion of information that might be considered speech on a matter of public importance, does not transform economically aimed speech into fully protected speech.

When this rationale is applied to some of the anti-vaccine speech found on the Internet, it is clear that such speech is easily classified as commercial. Consider, for example, speech found on www.Mercola.com, a website run by Joseph Mercola, D.O. This website claims to be the “world’s largest natural health” website and through its “natural drug store” markets and sells a variety of “natural” and homeopathic supplies for house and home. This website also contains a plethora of articles that warn the public about the dangers of vaccines and in particular, their alleged causal link to autism or other neurodevelopmental disorders. One article titled, “Help Knock Out Your Baby’s Health Enemies - Use This Remarkable Supplement,” states that some children develop a syndrome called “Gut and Psychology Syndrome (GAPS)” which has the alleged potential of causing autism, among other medical and psychological problems. The article goes on to state:

Adding a vaccine that further stresses your baby’s immature immune system is like adding fuel to a fire—conditions that raise your child’s risk for a major adverse vaccine reaction. In other words, a vaccine could be the proverbial “final straw” if your baby has GAPS. But all of this may be corrected, or even averted, by the addition of some natural probiotics.

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235 Id. at 55.
239 Id.
At the bottom of this webpage (and indeed many other articles available on the website), the reader can be linked directly to a host of products, including probiotics, being sold by Mercola.com. Dr. Mercola has an economic motivation to promote the use of his products on his website, and indeed an economic motivation to convince the public that vaccination is dangerous. It follows that, if Dr. Mercola can convince you that your child might develop or has developed autism as a result of vaccination, he can also convince you to purchase products aimed at either replacing vaccination or alleviating autistic symptoms. Thus, his anti-vaccine speech is aimed at encouraging an economic transaction whereby Dr. Mercola benefits financially. The fact that the anti-vaccination speech found on this website can be arguably classified as information on a matter of public concern, does not remove it from regulation as “commercial speech.” Like the speech in Bolger, it combines information with a sales pitch, and in the process, loses much of its protection. As the Supreme Court has made clear, speech that is both informational and promotional may be classified as commercial speech. To grant such commercial speech First Amendment protection because it references an issue of public concern, would impermissibly grant “broad constitutional protection to any advertising that links a product to a current public debate.”

In short, simply because anti-vaccine speech of advocates like Dr. Mercola, that promotes a commercial transaction, arguably also discusses a matter of public importance, such speech is still classified as commercial speech. As such, it is afforded less protection under the First Amendment.

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240 Mercola.com is not the only anti-vaccination website which contains articles that refer to products that are available for purchase through the website. For instance, Generation Rescue, a vaccine-critical website represented by celebrity Jenny McCarthy, contains articles that assert that autism should be treated with special diets and supplements. Those supplements are available for purchase on the Generation Rescue website. www.generationrescue.com.

241 Id.

242 On his website, Dr. Mercola appears to deny that he profits financially from the sale of products he recommends on his website, stating that “profit generated from the sale of the products I recommend goes right back into maintaining and building a better site.” See About Dr. Mercola, MERCOLA.COM, http://www.mercola.com/forms/background.htm (last visited Jan. 13, 2013).


244 Cent. Hudson, 447 U.S. at 562 n.5.
ii. False commercial speech may be constitutionally restricted far more than truthful commercial speech.

Like any other form of commercial speech, commercial anti-vaccine advocacy, is entitled to a lesser degree of protection under the First Amendment than other forms of protected speech. If commercial speech is truthful and not misleading, the government must meet the advanced standard of protection test established in Central Hudson Gas & Electric Corp. v. Public Service Commission before it can impose regulations on such speech. In Central Hudson, the Supreme Court was called upon to decide whether a New York state ban on advertising aimed at increasing electricity consumption was constitutional. In analyzing the constitutionality of such a restriction on commercial speech, the Court crafted a protective four-prong test. First, the speech must "concern lawful activity and not be misleading." Second, the asserted government interest in regulating the speech must be "substantial." If both inquiries are answered in the affirmative, then the third question is whether "the regulation directly advances the governmental interest asserted." Finally, the court must consider whether the regulation is "more extensive than is necessary to serve that interest."

However, where the commercial speech is false or inherently misleading, the First Amendment does not provide even a residual level of protection and the Central Hudson test does not even apply. This is because there is no constitutional objection "to the suppression of commercial messages that do not accurately inform the public about lawful activity." Indeed, the government may "ban forms of communication more likely to deceive the public than to inform it." Recognizing that deceptive advertisements are inherently harmful to the public, Congress has given significant authority to the Federal Trade Commission (FTC) to regulate, and in some circumstances prohibit, commercial speech.

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245 See Bolger, 463 U.S. at 64 (the Constitution "accords less protection to commercial speech than to other constitutionally safeguarded forms of expression.").
247 Id at 566.
248 Id.
249 Id.
250 Id.
251 Id. at 563.
252 Id.
15 U.S.C. §52 (a) authorizes the FTC to regulate advertisements and provides that it is unlawful for any "person, partnership or corporation to disseminate, or cause to be disseminated, any false advertisement . . . having an effect upon commerce of food, drugs, devices, services or cosmetics." In order to prove a violation of this provision, the FTC must show three elements: 1) the existence of "a representation, omission, or practice," that is 2) likely to mislead consumers acting reasonably under the circumstances," and 3) "the representation, omission, or practice is material." Traditionally, under this section of the Code, the FTC regulates products about which the seller has made unsubstantiated health claims so long as the advertiser lacks a "reasonable basis" for its claims. In order to regulate such speech, the FTC must demonstrate "what evidence would in fact establish such a claim in the relevant scientific community" and "compare the advertisers’ substantiation evidence to that required by the scientific community to see if the claims have been established." Where the advertiser "lacks adequate substantiation evidence, they necessarily lack any reasonable basis for their claims" and without a reasonable basis for a claim, ads are "deceptive as a matter of law.

For reasons that are unclear, the FTC has rarely, if ever, used its authority to regulate false and misleading anti-vaccine advocacy. In light of the dangers that such speech poses, the FTC can and should use its authority to regulate commercial anti-vaccine speech and could do so in two different ways. First, the FTC could exercise its more traditionally understood authority to regulate a product that is being marketed by asserting unfounded health claims. Thus, the FTC could regulate a product that is being sold on the basis of misinforming customers of the danger of vaccination.

Consider the “Vaccine Kit” being sold by www.exlixrs.com. This website will sell customers a post-vaccination kit "to help the body elim-
inate substances that affect the brain and nervous system." On the product’s webpage, customers are informed: "MMR Vaccine may contribute to autism" and are advised to "select MMR Vaccine Kit" for assistance. Under even the narrowest definition of commercial speech, the promotion of the Vaccine Kit is commercial speech because it is speech that proposes a commercial transaction. The advertisement relies on misinforming parents that MMR is a cause of autism in order to encourage the purchase of the Vaccine Kit.

Under 15 U.S.C. §52 (a), the FTC could prosecute the seller of the Vaccine Kit for false and deceptive advertising. First, the speech contains a material misrepresentation because it states unequivocally that "MMR vaccine may contribute to autism." This statement is not simply a misrepresentation of fact, it would also qualify as an "omission of material information" because it fails to apprise the consumer that the overwhelming scientific evidence has reached the opposite conclusion — namely, that MMR vaccine is not a cause of autism. Second, the misrepresentation that "MMR vaccine may contribute to autism" would "likely mislead consumers" about the safety of vaccinations. The misleading nature of the representation is enhanced by virtue of the fact that an "advertisement's reference to a public issue as a means to induce consumer purchases is relevant to whether the advertisement is misleading or deceptive." Finally, the representation is obviously material because it "involves information that is important to consumers, and that is therefore likely to affect a consumer's choice of or conduct regarding a product." This is especially so where, as here, the claims involve matters of health.

See Bd. of Trs. of State Univ. of N.Y. v. Fox, 492 U.S. 469, 482 (1989) (commercial speech is speech that proposes a commercial transaction).

See Fed. Trade Comm'n v. World Travel Vacation Brokers, Inc., 861 F.2d 1020 (7th Cir. 1988) (the omission of material information, even if an advertisement does not contain falsehoods, may cause the advertisement to federal law).

See Standard Oil Co. of Ca. v. Fed. Trade Comm'n, 577 F.2d 653, 659 (9th Cir. 1978) (air pollution is a matter of public concern which is relevant to the lawfulness of the advertisement. See also Fed. Trad Comm'n v. Pharmtech Research, Inc., 576 F. Supp. 294 (D. D.C 1983) (the advertiser's representation that use of "Daily Greens" food supplement reduced the risk of cancer "played on the average consumer's well-founded fear of cancer as a vehicle for the sale of its product" and contributed to its misleading and deceptive nature).


In addition, the FTC could arguably use its authority to regulate health related claims about someone else’s product that are used to sell the speaker’s product. An example of such a situation would be where an individual attempts to sell various formulations of probiotics or other supplements, by specifically claiming that the product for sale is needed to limit the toxicity or other danger associated with a vaccination. Thus, the effectiveness of the advertisement is entirely dependent on making untrue claims about the safety of a vaccine, rather than simply touting the benefit of the product for sale.267

Nothing in the language of 15 U.S.C. §52 requires that the FTC limit its regulation of misleading commercial speech to speech related to a product marketed or sold by the speaker only. While traditionally the FTC regulates misleading advertisements about a particular product, it should be able to regulate misleading advertisements about someone else’s product when those false statements are used in order to promote the speaker’s product. Returning to the example from www.mercola.com, the commercial speech involved is a misrepresentation that vaccines may unduly stress an infant’s body, causing a “major adverse vaccine reaction”. This reaction – caused by vaccines – can allegedly be prevented or ameliorated with the purchase of Mercola’s offered probiotics. In order for Mercola to convince the consumer to buy the probiotics, he has to first persuade the consumer into believing that vaccines are extremely and routinely dangerous. Because such speech meets the elements of a claim under 15 U.S.C. §52, the FTC would appear to have the authority to regulate and prohibit this type of anti-vaccine advocacy. Again, there is a misrepresentation – that vaccines cause autism or, at the very least, are the “final straw” that pushes the susceptible infant over the edge. This misrepresentation is misleading because there is no scientific evidence to support this purported statement of fact. Finally, the misrepresentation is likely to induce a frightened consumer to purchase a product sold on Mercola’s website.

False and misleading commercial anti-vaccine speech can, and should, be controlled by the FTC. This would serve to deter or eliminate a substantial amount of truly misleading anti-vaccine advocacy and would prohibit unscrupulous individuals from profiting off of the mis-

267 For an even more basic and extreme example, consider if Pepsi Company chose to advertise the sale of Pepsi Cola, not by using glowing celebrities to tout the wonderful taste of Pepsi, but rather by using a white-coated physician to say something like “Pepsi Cola is a safe and effective way to counter the toxic and dangerous effects of drinking Coca-Cola brand products.”
placed fears of worried parents. Because the FTC's reach is limited only to commercial speech, other options must be considered in order to have any meaningful effect on anti-vaccine advocacy. As discussed in the next section, one such approach would be to provide vaccine manufacturers with a statutory cause of action for product disparagement.

B. False Statements of Fact that Cause Pecuniary Harm: Product Disparagement or Trade Libel

Another feature of anti-vaccine advocacy is the inherent need to insinuate, if not outright state, that vaccines are dangerous products. The anti-vaccine advocate's position is dependent upon making claims, most of which are false, about the safety and efficacy of vaccines. In making such statements, the anti-vaccine advocate is making false assertions that can have negative financial effects on vaccine manufacturers. Despite the significant legal protections afforded speech, individuals who make false and disparaging claims about another's business or product, can be held liable for damaging the interests of that falsely disparaged business. Thus, false statements of fact about the quality of a particular vaccine may open the speaker up to civil liability under a theory of product disparagement. Disparagement, like defamation, is a tort based on an injury due to the false statement of another.268 Where defamation provides a remedy for injury to reputation,269 product disparagement and/or trade libel claims seek to redress injury to a property or pecuniary interest.270

Under common law product disparagement, one who publishes a false statement harmful to the interests of another is subject to liability where: 1) the speaker knows the statement is false or acts with reckless disregard to its truth or falsity and 2) the speaker intends for the false statement to inflict pecuniary harm on the other and knows that the statement is likely to have that result.271 While the Supreme Court has yet to rule on how the First Amendment applies to product disparage-

268 See BLACK'S LAW DICTIONARY 397 (9th ed. 2009) (disparagement is defined as a "false and injurious statement that discredits or detracts from the reputation of another's character, property, product, or business").

269 RESTATEMENT (SECOND) OF TORTS § 559 (1976) (a statement is defamatory where it tends to harm the reputation of another).

270 50 AM. JUR. 2D Libel and Slander § 527 (2009) (trade libel (or slander or disparagement of property) is a tort "addressing aspersions cast upon one's business operation" and that tends to "disparage the quality, condition, or value of the property of another").

ment claims, the common law requirement of "knowledge of falsity" suggests that, as with defamation, proof of "actual malice" would be required.272 Thus, under common law product disparagement, in order for the manufacturer of MMR vaccine, Merck, to sue for the disparaging statement, "MMR vaccine causes autism," Merck would have to prove: 1) a false statement; 2) about the condition, value or quality of plaintiff's product or property; 3) publication to a third person; 4) actual malice; and 5) special damages.273 "Actual malice" requires proof that the statement was made with "knowledge that it was false or with reckless disregard of whether it was false or not."274

This is a difficult test to pass. For many product disparagement plaintiffs, the element of "falsity" and "actual malice" can be a costly and insurmountable burden.275 In the context of vaccine disparagement, proof of "falsity" may be difficult because it may place a manufacturer like Merck in the untenable position of having to prove that the MMR vaccine can absolutely never cause autism. In a typical disparagement or "trade libel" case, the "false" statement is demonstrably so. For instance, Company X produces a video showing its own electronic products being dropped next to the products manufactured by Company Y. Company X's products survive the impact while Company Y's products are shattered. In truth, Company Y's products were actually dropped numerous times before the video was made in order to ensure destruction during the actual video. In a trade libel suit, Company Y could

272 See Eric Jan Hansum, Where's the Beef? A Reconciliation of Commercial Speech and Defamation Cases in the Context of Texas's Agricultural Disparagement Law, 19 REV. LITIG. 261 (Spring 2000) (arguing that disparagement claims should be analyzed under the criteria used for defamation cases); J. Brent Hagy, Let Them Eat Beef: The Constitutionality of the Texas False Disparagement of Perishable Food Products Act, 29 TEX. TECH L. REV. 851 (1998) (citing numerous articles in which the authors have asserted that disparagement claims must be analyzed under the framework for defamation claims).


275 See Auvil v. CBS 60 Minutes, 67 F.3d 816 (9th Cir. 1995). In the Auvil case, Washington state apple growers sued CBS after it ran a report linking a common chemical used in apple production (Alar) with cancer. CBS relied on a National Resources Defense Council (NRDC) report that had relied on studies of the effect of Alar on rats but not humans. The apple growers wanted the court to find the cancer-linking statements to be false because although only studied in rats, it implied that there was proof of a cancer-link in humans as well. The Ninth Circuit threw out the growers' case on the grounds that they could not prove that the NRDC studies were false. An impression of falsity based on true statements was not actionable as a product disparagement claim.
prove the falsity of the "statement" that its products break when Company X's do not by conducting its own tests and showing that when both companies products are dropped once, neither (or both) break. Proving "falsity" is easy – Company Y's products either break after one drop or they don't. In contrast, proving the "falsity" of the statement "MMR is a known cause of autism" is less easy because no matter how persuasive the proof of actual safety, there is always a chance that there may be a particular circumstance in which the vaccine could (even remotely) be a cause of autism.

Of even greater difficulty for Merck, would be meeting the required element of proving special damages. The actual damages in a vaccine disparagement case would not only be difficult to prove, but would also be relatively insignificant because vaccines are not a particularly lucrative part of the pharmaceutical industry. The difficulty in proving damages would stem from the fact that Merck would somehow have to prove the number of MMR vaccine doses that were not administered or were refused by virtue of a particular person's disparagement of the product. This would be an insurmountable task, requiring Merck to track down individuals who did not vaccinate their children, inquiring as to the reason they refused vaccination, and then determining how many unvaccinated people were influenced by the particular anti-vaccine speaker. Merck would have to establish a "direct and immediate" relationship between the number of MMR vaccines that were not given and the particular speech at issue. More importantly, even if Merck could ascertain this evidence, the monetary value would be insignificant. The manufacture and production of vaccines is not a profitable part of

276 See FLIR Sys., Inc. v. Sierra Media, Inc., No. CV-10-971-HU, 2011 U.S. Dist. LEXIS 50048 (D. Or. May 10, 2011). I have taken the liberty of adding facts — that Company Y's products were dropped numerous times — to this scenario that are not present in the actual case. In the FLIR opinion, the plaintiffs alleged that repetitive drops of its product may have taken place but, as the cited opinion was dealing with a motion to dismiss, such facts were not actually established.

277 See Paluck v. Sec'y of Health and Human Servs., No. 07-889V, 2011 U.S. Claims LEXIS 2435, *45-*50 (Dec. 14, 2011) (discussing the facts of a different Vaccine Court case in which the court awarded damages for an "on-table" injury to a child who developed autistic-like symptoms after vaccination, where the child had an underlying mitochondrial disorder).

278 David J. Bederman, Of Banana Bills and Veggie Hate Crimes: The Constitutionality of Agricultural Disparagement Statutes, 34 HARV. J. ON LEGIS. 135, 141 (1997) (citing RESTATEMENT (SECOND) OF TORTS §§ 632, 633 (1976) for the proposition that disparagement claims require both a publication that is a "substantial factor" in causing damages as well as proof of a "'direct and immediate' relationship between the publication and the damages").
the pharmaceutical industry. Moreover, because the financial damages would potentially be nominal, the anti-vaccine advocate, even if ultimately the losing party in a disparagement case, may be undeterred. That is, after paying a small amount in damages to the manufacturer, the speaker may very well continue disparaging vaccines and might conceivably become a proverbial martyr to the anti-vaccine cause.

Thus, while product disparagement claims may provide a way to deter false anti-vaccine speech, the obstacles posed by a common law disparagement claim are significant. For this reason, a better option would be for states to provide Merck, and other vaccine producers, with a statutory cause of action that would modify the elements of the common law claim that are the most burdensome, and unreasonable, as applied to vaccine producers. States should adopt legislation that would provide a cause of action for vaccine manufacturers when their products are the targets of false and harmful statements of fact. Such “vaccine disparagement” statutes would also need to be crafted to provide not only for compensatory damages (that is, the actual damages caused by the disparagement) but also for potential punitive damages. Further, a vaccine disparagement statute would also need to include a definition of the type of “false information” that could form the basis of liability. For instance, the statute might define false information as “information that is not based upon competent and reliable scientific and medical evidence and/or upon information which the disseminator knows to be false or states with reckless disregard for the truth of the scientific or medical community.”

279 See Paul A. Offit, Why Are Pharmaceutical Companies Abandoning Vaccines, 24 HEALTH AFFAIRS 622, 624 (2005) ("Among the four large companies still making vaccines . . . none has revenue from vaccines that exceeds 10 percent of total revenue. All four companies could stop making vaccines tomorrow without much impact on their bottom lines").

280 Vaccines covered by such statutes would need to clearly be limited to those which are intended for use in humans, and which have been licensed by the Federal Drug Administration. Requiring that “vaccine” be approved by the FDA would prevent the potential misuse of the statute by individuals offering untested and unproven homeopathic-type vaccines from seeking reprieve under the statute.


282 “Competent and reliable scientific and medical evidence” is a term borrowed from the Federal Trade Commission regulations and is defined as “tests, analyses, research, studies, or other evidence based on the expertise of professionals in the relevant area, that has been conducted and evaluated in an objective manner by persons qualified to do so, using procedures
The adoption of vaccine disparagement statutes would inevitably be met with vigorous opposition, not only by anti-vaccine advocates, but also perhaps by academics. Such critics would likely see the similarity between the vaccine disparagement statute and controversial “agricultural disparagement” statutes and argue that both types of statutes are unconstitutional. In a handful of states, legislatures have adopted agricultural disparagement statutes (“veggie libel laws”) that are aimed at protecting agricultural producers from disparaging statements about food quality. Many First Amendment scholars have decried these veggie libel laws as unconstitutional infringements on free speech. Yet, states could adopt vaccine disparagement statutes that would much more easily pass constitutional muster and possibly be met with less fervent opposition.

A primary reason that a vaccine disparagement statute would be less repugnant would be that while agricultural disparagement statutes are aimed at protecting the pecuniary interests of agribusiness, a vaccine disparagement statute would serve to protect the physical health generally accepted in the profession to yield accurate and reliable results.” See Fed. Trade Comm’n v. Garden of Life, Inc., 845 F. Supp. 2d 1328, 1332 (S.D. Fla. 2012); Fed. Trade Comm’n v. Sili Neutraceuticals, LLC, No. 07 C 4541, 2008 U.S. Dist. LEXIS 105683 (N.D. Ill., Jan. 23, 2008) (same definition for “competent and reliable scientific evidence”).

Several states have adopted agricultural disparagement statutes: Alabama (ALA. CODE § 6-5-620); Arizona (ARiz. REV. STAT. § 3-113); Colorado (COLO. REV. STAT. ANN. § 35-331-01); Florida (FLA. STAT. ANN. § 865.065); Georgia (GA. CODE ANN. § 2-16-1); Idaho (IDAHO CODE ANN. § 6-2001); Louisiana (LA. REV. STATE. ANN. § 4501-4504); Mississippi (MISS. CODE. ANN. § 69-1-251); North Dakota (N.D. CENT. CODE §§ 32-44-01, 32-44-04); Ohio (OHIO REV. CODE ANN. § 2307.81); Oklahoma (OKLA. STAT. ANN. tit 2 §§ 5-100–102); South Dakota (S.D. CODIFIED LAWS §§ 20-10a-1–20-10a-4); Texas (TEX. CIV. PRAC. & REM. CODE § 96.001). In general these statutes are adopted to protect the asserted state interest in protecting the state’s economy, which often relies on agricultural production. E.g., OHIO REV. CODE § 2307.81(A) (the General Assembly finds that the “dissemination in this state of false information about the safety of Ohio’s food supply would be extremely detrimental to Ohio’s economy”).

See e.g., Bederman, supra note 267 at 135 (stating that not only are agricultural disparagement statutes bad public policy, they are “also flagrantly unconstitutional as a matter of law.”). Various arguments have been made that these statutes are for example, unconstitutional prior restraints, place an unfair burden of proof on defendant, and unconstitutionally broaden the class of people able to sue for a particular false statement.

Every state that has adopted an agricultural disparagement statute has made a legislative finding that agricultural production constitutes a large proportion of the state’s economy and the “vitality” of the agricultural economy necessitates the adoption of such cause of action. See IDAHO CODE § 6-2001 (agricultural production is an important part of state economy); MISS. CODE ANN. § 69-1-251 (production of agricultural and aquacultural food products constitutes an important and significant portion of the state economy).
and well being of the population.\textsuperscript{286} It is well established that the government has the authority to enact laws, even burdensome ones, in order to promote the public health.\textsuperscript{287} In contrast, restricting speech in order to protect the economic interests of agri-business seems inherently suspect.\textsuperscript{288} The purpose or protecting the public health underlying the vaccine disparagement statute therefore differentiates it from agricultural disparagement statutes.

In addition, the proposed statute would avoid the criticism often made about agricultural disparagement statutes, that they lack an “of and concerning” element required under defamation law.\textsuperscript{289} Under the “of and concerning” requirement, a defamation plaintiff must establish that the defamatory comment was made about him in particular, rather than about a group of which the plaintiff is a member.\textsuperscript{290} Thus, “even where a publication may be clearly defamatory as to somebody, if the words have no personal application to the plaintiff they are not actionable by him.”\textsuperscript{291} Assuming that the Supreme Court would read such a requirement into a constitutional standard for product disparagement, the “of and concerning” would be met under the proposed statute because of the unique nature of the vaccine industry. Unlike the hundreds of thousands of American food producers, there are very few pharmaceutical companies that manufacture vaccinations and comparatively few vaccinations. Indeed, Merck is the only pharmaceutical company that holds a license to manufacture and sell the MMR vaccine.\textsuperscript{292} Thus, the statement “MMR vaccine is a known cause of autism” is of and

\textsuperscript{286} The proposed statute might include a preamble that states that the legislature recognizes its role in protecting the public health, and that vaccination plays an important part in assisting the state in meeting that goal.

\textsuperscript{287} See People ex rel. Baker v. Strautz, 386 Ill. 360, 365 (1944) (“It has almost universally been held in this country that constitutional guaranties must yield to the enforcement of the statutes and ordinances designed to promote the public health as a part of the police powers of the State”).

\textsuperscript{288} Surely, however, the anti-vaccine conspiracy theorists will suggest that such a statute would be aimed at protecting the profits of the vaccine manufacturers.

\textsuperscript{289} See Bederman, supra note 267, at 160-61.

\textsuperscript{290} See N.Y. Times v. Sullivan, 376 U.S. 254, 292 (1964) (defamation requires that the defamatory statement be “of and concerning” the plaintiff; an “otherwise impersonal attack on governmental operations” cannot be libel of an official responsible for those operations).


\textsuperscript{292} See Measles, Mumps, Rubella, NAT'L NETWORK FOR IMMUNIZATION INFO. (Apr. 21, 2010), http://www.immunizationinfo.org/vaccines/measles (the only MMR vaccinations available are manufactured by Merck).
concerning Merck, and implicates only Merck’s product, because only Merck manufacturers MMR vaccine. This differentiates the vaccination disparagement statute from agricultural disparagement statutes. Apples, for instance, are not grown by a single producer but are grown by hundreds of different growers all over the country. Thus, it would certainly be more difficult to find that a general statement indicating that apples are unsafe for consumption concerns any particular apple grower. Additionally, unlike vaccinations that are known to contain certain ingredients (the very substances that give rise to many of the anti-vaccination complaints), a statement regarding the alleged toxins in apples does not necessarily implicate any particular apple.

Third, whereas many agricultural disparagement statutes have been criticized for shifting the burden to the defendant to prove the truth of the statement (rather than requiring the plaintiff to prove falsity), nothing in the proposed statute would require such burden shifting. What the proposed statute would do, however, would be to define “falsity.” The burden of proving that the disparaging statement about vaccine safety was false would still rest upon Merck. A statutory definition of falsity that requires reference to “competent and reliable scientific medical evidence,” is particularly applicable in the health and medical context. Defining “falsity” would not shift the burden to the defendant; the plaintiff manufacturer would still bear the burden of establishing that the statutory definition of falsity was met. The burden, as in any other litigation, would only shift to the defendant after the plaintiff had already established the basic elements of the disparagement claim.

Fourth, the proposed statute would not remove the “actual malice” standard applied in defamation claims, and that has always been part of the common law product disparagement claim. Ensuring that “actual malice” remains a part of the statutory cause of action serves as another distinguishing characteristic of the vaccine disparagement statute as

293 E.g., Auvil v. CBS 60 Minutes, 800 F. Supp. 928, 931 (E.D. Wash. 1992) (disparagement claim brought by 4,700 Washington growers allegedly harmed by statements made about the safety of apples).

294 E.g., Julie K. Harders, The Unconstitutionality of Iowa’s Proposed Agricultural Food Products Act and Similar Veggie Libel Laws, 3 Drake J. Agric. L. 251 (Spring 1998) (arguing that Iowa’s agricultural disparagement statute is unconstitutional because it assumes falsity unless proven otherwise by reliable scientific evidence); Bederman, supra note 267, at 159 (many agricultural disparagement statutes are unconstitutional because they “place the burden of proof on the speaker to show that what the speaker said or wrote about food safety was true”).
compared to many agricultural disparagement statutes. 295 Nothing in the vaccine disparagement statute would remove the requirement that the plaintiff prove that the anti-vaccine speaker knew of the falsity of the statement, or spoke with reckless disregard to the truth or falsity of that statement. Indeed, such a standard would be built directly into the statute. 296 Merck would be able to prevail on this element as well. Most, if not all, anti-vaccination speakers on the Internet maintain theories that explain away scientific and medical conclusions that vaccinations are safe. These theories may include suggesting that there is cover-up by regulatory bodies or a conspiracy between the government and vaccine manufacturers to hide information in order to protect manufacturers and doctors from claims that vaccinations are unsafe. While these speakers may discount the scientific information, they are aware of it. 297

A vaccine disparagement statute would be a constitutionally sound way to protect the public health by subjecting those who spread false anti-vaccine propaganda to civil liability. As almost every state has compulsory vaccination laws, 298 a vaccine disparagement statute is a legiti-

295 Harders, supra note 284 (arguing that Iowa's proposed agricultural disparagement statute was unconstitutional because it required a lesser standard of culpability than actual malice, imposing liability when a person "knows or fails to take reasonable cause to know" that the information about the agricultural product or process is unreliable or not based on scientific facts).

296 The actual malice requirement, however, would reward those anti-vaccine speakers who hide their heads in the proverbial sand, choosing only to read like-minded websites that also make false statements about vaccine safety. See St. Amant v. Thompson, 390 U.S. 727, 731 (1967) (recognizing that requiring proof that a publisher of defamatory information knew that the actual malice requirement, however, puts a "premium on ignorance").

297 See e.g., Dr. Sunadas, Fake Science and Vaccines, Dr. SUNDARDARAS BLOG ON NATURAL MEDICINE (Oct. 18, 20, 2012), http://drsundardas.wordpress.com/2012/10/08/fake-science-and-vaccines/ (referring to many scientific studies as "literally nonsense").

mate state tool to encourage compliance with those state vaccination statutes. At its heart, the proposed vaccine disparagement statute is a public health measure, designed to ensure that the public is protected through maintaining vaccination rates. Again, unlike a statute aimed at protecting the profits of a company, it "is one of the first duties of a state to take all necessary steps for the promotion and protection of the health and comfort of its inhabitants."\(^{299}\) State legislatures have significant discretion to "determine not only what the interest of the public requires, but what measures are necessary for the protection of such interests."\(^{300}\) Courts are therefore reluctant to restrict the state's ability to protect the public health,\(^{301}\) with one court even stating "health regulations enacted by the state under its police powers and providing even drastic measures for the elimination of disease . . . are not affected by constitutional provisions, either of the state or national government."\(^{302}\) Mandatory vaccination laws have been repeatedly upheld against constitutional challenges because such laws are necessary for the protection of society.\(^{303}\) Likewise, vaccine disparagement statutes that further a state's compelling interest in protecting the public health are equally necessary and should be upheld as a constitutional exercise of police power.

Enacting product disparagement statutes might provide a means by which false anti-vaccination speech could be limited. However, because such statutes would provide a cause of action to such a narrow group of plaintiffs, and may simply not be cost-effective for a manufacturer to

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\(^{299}\) In re Halko, 246 Cal. App. 2d 553 (1966). See also Williams v. Scudder, 102 Ohio St. 305, 307 (1921) ("public health is the very heart of public happiness").

\(^{300}\) Holden v. Hardy, 169 U.S. 366, 392 (1898) (quoting Lawton v. Steele, 152 U.S. 133, 136 (1894)).

\(^{301}\) See People ex rel. Baker v. Strautz, 386 Ill. 360, 365 (1944) ("It has almost universally been held in this country that constitutional guaranties must yield to the enforcement of the statutes and ordinances designed to promote the public health as part of the police powers of the State.")

\(^{302}\) In re Halko, 246 Cal. App. 2d 553 (citing Lausen v. Harrison Cnty., 214 N.W. 682, 684 (Iowa 1927)).

\(^{303}\) See e.g., Workman v. Mingo Cty. Bd. of Educ., 419 Fed Appx 348 (4th Cir. 2011) (mandatory immunization as a condition of admission to school did not unconstitutionally infringe on plaintiff's right to free exercise of religion); Wright v. De Witt Sch. Dist., 238 Ark. 906 (1965) (regulation requiring vaccination of all school children is a valid exercise of police power); Brown v. Stone, 378 So. 2d 218 (1979) (mandatory immunization serves the compelling and overriding public interest in protecting children from communicable diseases).
pursue, such statutes may not do much to limit false anti-vaccine speech. Therefore a third option should be considered: the use of tort litigation against anti-vaccine speakers who cause physical harm to others.

C. Negligent Misrepresentation That Causes Physical Harm

The greatest threat posed by anti-vaccine advocacy is the fact that physical harm will inevitably result by virtue of individuals refusing vaccination either for themselves or for their children based on their reliance on anti-vaccine speech. What recourse, if any, does the father who chooses not to vaccinate on the false warning that vaccines cause autism have when his son or daughter dies of a vaccine preventable disease? The fact is, that there is no automatic constitutional protection afforded to false statements of fact that cause physical harm.\(^{304}\) Thus, an alternative approach to combating anti-vaccine speech would be the imposition of civil liability on anti-vaccine speakers for damages caused by their negligent misrepresentation as to vaccine safety and/or efficacy.

The Restatement of the Law Torts (Second) 311 provides that:

One who negligently gives false information to another is subject to liability for physical harm caused by action taken by the other in reasonable reliance upon such information, where such harm results (a) to the other, or (b) to such third persons as the actor should expect to be put in peril by the action taken."\(^{305}\)

Such negligence may consist of failing to exercise reasonable care in: "(a) ascertaining the accuracy of the information, or (b) in the manner in which it is communicated."\(^{306}\) While the tort has significant application to individuals who provide information as part of their profession—physicians\(^{307}\)—, it extends to "any person who, in the course of an activity

\(^{304}\) See e.g., Haralson v. Jones Truck Line, 270 S.W.2d 892 (1954) (extending liability to a truck driver who signaled (misrepresented) that it was safe to pass, and the passing vehicle struck and injured a pedestrian).

\(^{305}\) Restatement (Second) of Torts § 311(1)(a)(b).

\(^{306}\) Id. at (2)(a)(b).

\(^{307}\) See Morgan v. Christman, No. 88-2311-O, 1990 U.S. Dist. LEXIS 12179 (Dist. Kan. July 20, 1990) (recognizing a cause of action pursuant to Restatement §311 against a physician who negligently misrepresented that a particular fertility treatment would not cause multiple gestation; the drug did cause multiple gestation and the children were born prematurely and with permanent disabilities. The court stated there should be recognized a cause of action for one "who allegedly conveyed false information in a negligent manner to a patient where the
which is in furtherance of his own interests, undertakes to give information to another, and knows or should realize that the safety of the person of others may depend upon the accuracy of the information. In order to prevail on a Section 311 negligent misrepresentation claim, a prospective plaintiff would need to show: 1) false information, 2) given negligently, 3) reasonable reliance, 4) causation, and 5) harm.

Suppose a parent decides to use the Internet to research which vaccinations he can expect at his son’s twelve-month checkup. This father searches the web and lands upon a website run by a licensed physician who touts his board certification in family medicine and training in “natural medicine.” Dad is impressed by the doctor’s list of apparent qualifications and searches this website for information on vaccination. There he comes across numerous articles detailing the danger of vaccination. Several articles warn against giving children the recommended vaccinations, asserting that doing so places the child at risk of developing disorders such as autism. Based on this information, the father declines to have his son vaccinated. Thereafter, the child contracts a vaccine-preventable disease and dies. Nothing would prevent this father from bringing a negligent misrepresentation claim against the anti-vaccine advocate for damages arising out of the speaker’s negligent and misleading anti-vaccine speech. All the elements of the tort would be met: 1) false information (vaccines are dangerous and cause autism);
2) given negligently (either by virtue of the failure to ensure the accuracy of the information, or by the failure to include a disclaimer about the accuracy of such statement); 3) "reasonable reliance" by the plaintiff upon statements made by a seemingly authoritative and knowledgeable figure; 4) causation (the false warning that vaccines cause autism directly and naturally resulted in the parent's failure to vaccinate and the failure to vaccinate directly and naturally resulted in illness). Given that of the roughly 21 million individuals who use the Internet to obtain health information, 70% state that the information found online "influenced their decision about how to treat an illness or condition," it is more than reasonable to find a causal link between anti-vaccination statements and the decision not to vaccinate.

To date, no court appears to have considered a negligent misrepresentation claim against false anti-vaccine speakers or, even more generally, against authors whose works contain false information. However, courts have previously considered whether publishers can be held liable — either in negligence or strict liability — for physical injury caused by reliance upon false or erroneous information contained within a particu-

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313 Notably, "only 36% of [anti-vaccine] websites in the current study contained disclaimers and only 16% disclosed sponsors or authors." Bean, supra note 11.

314 This would be especially so where the anti-vaccine speaker is a licensed physician or health care provider. See, RESTATEMENT (SECOND) OF TORTS § 311 cmt. b ("there may be no reasonable justification for taking the word of a casual bystander, who does not purport to have any special information or any interest in the matter"). See also Bloskas v. Murray, 646 P.2d 907, 915 (Colo. 1982) (recognizing a cause of action for negligent misrepresentation against a physician who negligently misrepresented his experience in performing ankle surgery; the representation was relied upon and plaintiff's ankle had to be amputated); Skillings v. Allen, 173 N.W. 663 (Minn. 1919) (physician liable for negligently misrepresenting that a patient with scarlett fever was not a danger to those who came into contact with her).

315 The law requires proof of "proximate causation" which is defined generally as a cause "which in natural and continuous sequence, unbroken by any efficient intervening cause, produces the injury, and without which the injury would not have occurred." Rowell v. Wichita, 176 P.2d 590, 595-96 (Kan. 1947).

lar published work. In almost uniformly denying liability, courts have repeatedly cited a concern that the imposition of such liability would have a "chilling" impact on publishers if they can be held liable for misinformation contained within one of its publications. The concern is that if publishers, of potentially hundreds or thousands of books, are required to fact-check every single statement made by one of its authors, the publisher will simply stop publishing books that could possibly lead to physical harm. Few, if any, will want to voluntarily undertake the work of ensuring the accuracy of its author's statements. Not only would it be cost-prohibitive to undertake such fact-checking in the first place, but also the voluntary assumption of such duty could open the publisher up to additional liability for negligently fact-checking.

Implicit in these decisions is the judiciary's hesitance to impose liability upon speech without evidence that the publisher actually knew of the falsity of the statements contained within a particular book or magazine. That is, the courts seem to be imposing an "actual malice" constitutional standard into these types of cases, even though the cases do not involve defamation claims. The Supreme Court has also read a constitutional actual malice standard into non-defamation tort claims involving speech. In Hustler v. Falwell, the Supreme Court held that a public figure (Reverend Jerry Falwell) could not recover on a claim for intentional infliction of emotional distress against the magazine "Hustler," because there was no evidence of actual malice on the part of the magazine. In that case, Falwell sued Hustler for a parody published in the magazine, which suggested that Falwell's first sexual experience was with his mother in an outhouse. The Court declined to allow Falwell

317 See e.g., Jones v. JB Lippencott & Co., 694 F. Supp. 1216 (D. Md. 1988) (lawsuit against the publisher of a medical textbook for erroneous information on how to perform an enema which led to reader's physical injury); see also, Winter v. G.P. Putnam Sons, 938 F. 2d 1033 (9th Cir. 1991) (lawsuit against book publisher by individuals who became seriously ill and needed liver transplants as a result of eating poisonous mushrooms misidentified in a book as safe for human consumption).


320 Others have argued that publishers don't fact check because libel law says they have to know and if they play head in the sand, they are safe. See, St. Amant v. Thompson, 390 U.S. 727, 731 (1967) (recognizing that requiring proof that a publisher of defamatory information knew that the actual malice requirement, however, puts a "premium on ignorance").

to maintain his tort claim, despite the offensive and outrageous nature of the Hustler publication, because he could not maintain a showing of actual malice. That is, Falwell could not show that the speaker made a false statement of fact, knowing the statement was false or was reckless in determining its validity. In the Falwell case, the advertisement was clearly false — but the statement was never intended as a statement of fact and no reasonable reader would believe it to be factually accurate.

In contrast, the majority of anti-vaccine statements found on the Internet are intended by the speaker to be seen as factual statements. Accordingly, either where it can be shown the speaker knew that a statement linking vaccinations and autism is false, or that the speaker acted recklessly in determining whether such statements were true or false, actual malice would be shown. For this reason, tort claims against antivaccination advocates for negligent misrepresentation — if actual malice was in fact required — would withstand constitutional scrutiny. This further distinguishes anti-vaccine tort claims from those publisher liability cases, because liability would be premised on the defendant’s actual culpability, rather than in strict liability.\(^{322}\) It is reasonable to impose liability on an author who is aware, (or is recklessly unaware) that a publication contains false statements than to impose liability upon a publisher who may have no knowledge that the publication contains erroneous statements of fact.\(^{323}\) One who purports to speak with legitimate authority, especially in giving medical and health information, should be expected to engage in reasonable research to ensure the validity of his or her statements. This is especially so if the individual receives a benefit — perhaps by a contribution to the site\(^{324}\) or by encouraging the reader to purchase a product being sold by the antivaccine advocate.\(^{325}\)

\(^{322}\) Publishers have been held strictly liable for false information only in cases involving the publication of aeronautical charts. Courts faced with these types of claims have viewed the chart itself as a product, analogous to a compass or other instrument. See, Susan M. Gilles, Poisonous" Publications and Other False Speech Physical Harm Cases, 37 WAKE FOREST L. REV. 1073, n.12 (Winter 2002) (listing various “chart cases” in which publishers of aeronautical charts have been held strictly liable for errors contained within the charts).

\(^{323}\) Cardozo, 342 So. 2d at 1047 (acknowledging that the question of liability might be different if the publisher were alleged to have actually known that the book it sold contained recipes with poisonous ingredients).

\(^{324}\) For instance, http://www.nvic.org has a prominent display on every single page asking for a donation and providing a quick link for payment either by credit card or PayPal.

\(^{325}\) See infra, and discussion of anti-vaccine sites as commercial speech.
There is further reason to believe that the reluctance in imposing liability on publishers in other false statement claims, would be less strong in anti-vaccine advocacy tort claims. Here, we are dealing with a publication that is, by its nature, offering health and medical advice. In the specific area of vaccination, the false statements of fact are likely to affect not just the individual reader, but rather if the reader chooses not to vaccinate, then the false information will also affect the community with whom the reader comes into contact. Moreover, false anti-vaccination speech is very often given (and interpreted) as medical advice. The practice of medicine is an area that is highly regulated by the states. Individuals who choose to practice medicine and other healing arts are required by every state to obtain licensure, undergo continuing education, and comply with the applicable standard of care. Those who practice without a license, or outside the parameters of their license, face both criminal and civil liability. Unlike a publication relating to the picking and eating of mushrooms, the subject matter of anti-vaccine speech at its core is medicine. Given the highly regulated nature of the field of medicine, courts should be more willing to restrict unsubstantiated and dangerous medical speech on the Internet.

Another reason that courts should weigh in favor of imposing liability upon anti-vaccine advocates who make false statements of fact relates to the identity of the injured party. In general these anti-vaccine websites are aimed at parents who are making health decisions for their children. While adults are cognitively and legally able to make health care decisions for themselves, children do not generally possess the same privilege. Courts are regularly willing to step in and require the pro-

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326 See Alison M. Sulentic, Crossing Borders: The Licensure of Interstate Telemedicine Practitioners, 25 J. LEGIS. 1 (1999) (each state has "established a scheme to license physicians, nurses and other health care providers who offer services within its borders" and "federal and state courts have ratified the state legislatures to set standards for the exercise of the health care professions").

327 Most states have adopted so-called "Medical Practices" Acts that impose criminal liability for the unlicensed practice of medicine. See e.g., CAL. BUS. & PROF. CODE § 2052 (2012) (any person "who practices or attempts to practice, or who advertises or holds himself or herself out as practicing, any system or mode of treating the sick or afflicted in this state... without having at the time of so doing a valid, unrevoked, or unsuspended certificate... is guilty of a public offense, punishable by a fine not exceeding ten thousand dollars ($10,000), by imprisonment... or by both").

328 Winter v. G.P. Putnam Sons, 938 F. 2d 1033 (9th Cir. 1991).

329 See e.g., In re J.J., 64 Ohio App. 3d 806 (1990) ("while it is true that an adult can refuse medical treatment on religious grounds, the law does not grant a similar right to a juvenile... the state may compel a juvenile who has not reached the age of majority to submit to medical
vision of medical care to minors, even against the wishes of the minor's parent or guardian.\textsuperscript{330} Thus, because anti-vaccine speech has such a dramatic impact on the well being and health of minors, the balance of equities weighs in favor of protecting minors from false anti-vaccine advocacy.

Finally, and most importantly, imposing liability upon anti-vaccine advocates differs markedly from imposing liability on publishers of books offering other forms of advice because of the reach of anti-vaccine advocacy. For instance, if I eat a poisonous mushroom, the injury stops with me.\textsuperscript{331} Due to the community aspect of vaccination and immunity, the decision not to vaccinate affects not just the unvaccinated child but those around him as well. The threat to public health posed by false anti-vaccine advocacy must outweigh any potentially chilling effect such litigation may pose to the anti-vaccine advocate's right to speech. This is in keeping with other cases in which the greater good of society has been held to outweigh other constitutional rights, including a parent's right to make religious decisions,\textsuperscript{332} the right of individuals to assemble in groups,\textsuperscript{333} and even the right to free speech.\textsuperscript{334} In these cases, the courts have reasonably concluded that there are times when the balance between speech and the public health requires choosing the latter.

\textsuperscript{330} See e.g., People in Interest of D. L. E., 645 P.2d 271 (Colo. 1982) ("Acting to guard the general interest in the youth's well being, the authority of the state, as parens patriae, is not nullified merely because a parent grounds his claim to control the child's course of conduct on religion or conscience . . . The right to practice religion freely does not include the right or liberty to expose the community or the child to ill health or death.") (citing Prince v. Mass., 321 U.S. 158 (1944)).

\textsuperscript{331} See e.g., Winter v. G.P. Putnam Sons, 938 F. 2d 1033 (9th Cir. 1991) (lawsuit against book publisher by individuals who became seriously ill and needed liver transplants as a result of eating poisonous mushrooms misidentified in a book as safe to eat).

\textsuperscript{332} Prince v. Mass., 321 U.S. 158 (1944) (state could constitutionally prohibit minors from engaging in the sale of religious literature on the street). See also, People v. Pierson, 68 N.E. 243, 211 (Ct. App. N.Y. 1903) (under its police powers, the state can require that children be given appropriate medical care regardless of the religious beliefs of the parent or guardian).

\textsuperscript{333} See St. Marks Baths v. N.Y., 497 N.Y.S.2d 979 (1986) (public bath house where there was a high risk of unprotected sexual activity and risk of transmission of AIDS, could be lawfully closed because the right to association or expression "was insufficient to obstruct the exercise of the State's police power to protect public health and safety").

\textsuperscript{334} See State of Tex. v. Knights of Ku Klux Klan, 853 F. Supp. 958 (E.D. Tex. 1994) (in ruling that the KKK could not adopt a highway near a desegregated housing project, the state had a compelling interest (desegregation) that trumped the KKK's First Amendment free speech right).
Given the impact anti-vaccine speech has on the health and welfare of society, courts faced with these types of claims should assign greater weight to protecting the public health than to anti-vaccine advocate's right to free speech.

**Conclusion**

In the end, it is abundantly clear that false anti-vaccine speech poses a serious and unwarranted threat to public health. It is equally clear that we, as a nation, need to identify appropriate legal avenues by which the threat posed by such speech can be limited. Individuals or groups who profit economically by knowingly or recklessly making false and misleading statements about the safety or efficacy of vaccines should be regulated by the Federal Trade Commission. Vaccine manufacturers should have effective legal recourse to pursue anti-vaccine advocates who knowingly or recklessly disparage vaccines and such manufacturers should be encouraged to pursue these types of claims. Finally, anti-vaccine advocates who make false statements of fact about vaccine safety, and thereby cause physical harm to anyone who relies on such statements in choosing not to vaccinate, must be held accountable. The three potential avenues identified in this Article, by which false and dangerous anti-vaccination speech could be constitutionally limited, may not be the only alternatives. They are, however, three of the most promising means of combating at least some of the proliferating false anti-vaccine speech occurring today. Hopefully this Article will encourage conversation between legal scholars and public health advocates as to ways in which the law can be used to combat dangerous and false anti-vaccine speech and in the process promote the general public health.