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Anti-Vax FEAR* Speech: A Public-Health-Driven Policy Initiative When Counter-Speech Won't Work (*Fake, Flawed, Fraudulent, False, Endangering, and Reckless)

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ANTI-VAX FEAR* SPEECH:
A PUBLIC-HEALTH-DRIVEN
POLICY INITIATIVE WHEN
COUNTER-SPEECH WON'T
WORK (*FAKE, FLAWED,
FRAUDULENT, FALSE,
ENDANGERING, AND
RECKLESS)

Barbara Pfeffer Billauer, JD MA PhD†

ABSTRACT

The 2018-19 measles epidemic was the worst the world (and the US) has seen in 30 years, manifesting in increased morbidity, mortality, hospitalizations, and public health expenditures. Public Health officials and legal scholars attribute the rise to the emergence of organized and well-funded anti-vax groups. Nevertheless, these groups continue to disseminate false, endangering, and reckless “propaganda”¹ (what I call FEAR

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1. Brandy Zadrozny, *Brooklyn Measles Outbreak: How a Glossy Booklet Spread Anti-Vaccine Messages in Orthodox Jewish Communities*, US NEWS (Apr. 12, 2019), <https://www.nbcnews.com/news/us-news/brooklyn-measles-outbreak-how-glossy-booklet-spread-anti-vaccine-messages-n993596>

speech) and junk science, with the objective of fostering vaccine resistance. We are on track for similar resistance regarding COVID-19 vaccination, raising the issue of reigning in such misinformation and disinformation.

To validate incursions on constitutional liberties such as freedom of speech or religion, the materiality of the harm must be considered. To date, quantitative demonstration of cause (of vaccine resistance) and effect (of (anti-vax rhetoric) data is wanting. This research fills that gap, the first such research to do so via a systematic methodology. Using a novel approach, I also establish that pamphleteering and conferences/symposia have been effective dissemination means for targeting insular or vulnerable communities.

After evaluating several proposals to deal with the threat presented by these groups and discussing constitutional predicates, I propose a novel means of redress – a policy-driven response that should overcome constitutional obstacles to muzzling anti-vax rhetoric. This involves governmental speech in the form of mandated educational curricula targeted at the high school level.

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[<https://perma.cc/38NE-CABQ>] (noting that anti-vax nurse Blima Marcus stated that “the magazine was a piece of anti-vaccination propaganda that was particularly effective in the Orthodox community in part due to an almost genetic fear of whether what the government says is true.”).

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INTRODUCTION

“Within days of the first confirmed novel coronavirus case in the United States on 20 January [2020], antivaccine activists were already hinting on Twitter that the COVID-19 virus was a scam—part of a plot to profit from an eventual vaccine,”²

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2. Warren Cornwall, *Just 50% of Americans Plan to Get A COVID-19 Vaccine. Here's How to Win Over The Rest*, SCIENCE INSIDER (June 30, 2020), <https://www.science.org/news/2020/06/just-50-americans-plan-get-covid-19-vaccine-here-s-how-win-over-rest> [<https://perma.cc/W7DN-9SBQ>]; Mansur Shaheen, *A QUARTER of American Adults Under 40 Do Not Plan to Get a COVID-19 Shot Due Lack of Trust in Vaccines and Fears of Potential Side Effects*, DAILY MAIL (June 21, 2021), <https://www.dailymail.co.uk/health/article-9709599/Nearly-25-American-adults-40-not-plan-COVID-19-vaccine.html> [<https://perma.cc/EEL5-BBCW>]. *But see* Kristin Lunz Trujillo and Matt Motta, *A Majority of Vaccine Skeptics Plan to Refuse a COVID-19 Vaccine, a Study Suggests, and That Could Be a Big Problem*, THE CONVERSATION (May 4, 2020), <https://theconversation.com/a-majority-of-vaccine-skeptics-plan-to-refuse-a-covid-19-vaccine-a-study-suggests-and-that-could-be-a-big-problem-137559> [<https://perma.cc/A4FH-JP2L>] (claiming that the percentage is half that figure at 23%); Emily K. Vraga and Leticia Bode, *Addressing*

culminating with the anti-vax activists being designated an “industry,”³ complete with incredible financial rewards documented as being associated with it.⁴ Some states have considered enacting mandatory COVID-19 vaccination.⁵ As of January 2022, only 40% of Americans have received a booster shot.⁶ A Supreme Court showdown is virtually inevitable.

- COVID-19 Misinformation on Social Media Preemptively and Responsively*, 27 EMERGING INFECTIOUS DISEASES 2, 399-401 (2021); Ashley Kirzinger, Grace Sparks, & Liz Hamel, *Is the COVID Vaccine Dangerous? Many Unvaccinated Americans, Mostly Republicans, Falsely Believe the Vaccine is More Hazardous Than the Coronavirus, Survey Finds*, GENETIC LITERACY PROJECT (Aug. 5, 2021), <https://geneticliteracyproject.org/2021/08/05/is-the-covid-vaccine-da...-believe-vaccine-is-more-hazardous-than-the-coronavirus-survey-finds/> [<https://perma.cc/4F2G-JB4J>].
3. Barbara Pfeffer Billauer, *Religious Freedom vs. Compelled Vaccination: A Case-Study of the 2018–2019 Measles Epidemic- or the Law as a Public Health Response*, 71 CATH. U. L. REV. (forthcoming 2022), <https://ssrn.com/abstract=3775590> [hereinafter Billauer, *Measles I Public Health*]; see also Imran Ahmed, *Dismantling the Anti-Vaxx industry*, NATURE MEDICINE (Mar. 15, 2021), <https://www.nature.com/articles/s41591-021-01260-6> [<https://perma.cc/W992-9HUD>].
 4. Milton Packer, *Is Money Driving Those Who Spread COVID Disinformation?*, MEDPAGE TODAY (Feb. 2, 2022), <https://www.medpagetoday.com/opinion/revolutionand revelation/96978> [<https://perma.cc/R2MU-YXME>].
 5. Stephanie Desmon, *Could COVID-19 Vaccines Become Mandatory in the U.S.?*, HUB (Nov. 20, 2020), <https://hub.jhu.edu/2020/11/20/could-coronavirus-vaccines-become-mandatory/> [<https://perma.cc/MCR5-FRXP>].
 6. Mae Anderson & The Associated Press, *Only 40% of Fully Vaccinated Americans Have Received a Booster Shot, CDC Says*, FORTUNE (Jan. 25, 2022), <https://fortune.com/2022/01/25/40-percent-fully-vaccinated-americans-booster-shot-cdc-report/> [<https://perma.cc/ELP2-RHKB>]. See Barbara Pfeffer Billauer, *The ‘Backfiring’ Of Anti Vaccine-Mandating: Is It Real Or An Artifact?*, AM. COUNCIL ON SCI. & HEALTH (Feb. 14, 2022), <https://www.acsh.org/news/2022/02/14/backfiring-anti-vaccine-mandating-it-real-or-artifact-16131> [<https://perma.cc/8QBR-AJQE>]. See also Cornwall, *supra* note 2; Peter Jamison, *Infected by Doubt: A 26-Year-Old Film Editor’s Descent into Coronavirus Vaccine Conspiracy Theories*, WASH. POST (Aug. 31, 2020), <https://www.washingtonpost.com/dc-md-va/2020/08/31/covid-19-vaccine-conspiracy-theories-public-support/> [hereinafter *Infected*] [<https://perma.cc/ANF6-QF37>](reporting that a CNN poll in mid-August found that 40 percent of Americans said they

This Article details the connection between rhetoric promulgated by organized anti-vax groups,⁷ increased voluntary vaccine resistance, and pandemic proliferation, using recent measles epidemics as a case-study. In so doing, we can better assess the threat presented by these groups and assess potential responses. While these responses might include restricting or regulating anti-vax literature and rhetoric, such an initiative would surely trigger First Amendment objections. As anti-vax groups work to deter COVID-19 vaccination,⁸ it is imperative that we quickly realize a strategy for countering what the World Health Organization (WHO) listed as one of the top ten global health threats of 2019.⁹

- would not try to get a coronavirus vaccine and just over 50% would try to get one). *Cf.* Shannon Mullen O’Keefe, *One in Three Americans Would Not Get COVID-19 Vaccine*, GALLUP NEWS (Aug. 7, 2020), <https://news.gallup.com/poll/317018/one-three-americans-not-covid-vaccine.aspx> [<https://perma.cc/KS9A-C4F2>] (acknowledging that when Americans were asked about the vaccine, “65% say they would [get it], but 35% would not.”). *See also* Mansur Shaheen, *A Quarter Of American Adults Under 40 Do Not Plan To Get A Covid-19 Shot Due Lack Of Trust In Vaccines And Fears Of Potential Side Effects*, DAILY MAIL (June 21, 2021), <https://www.dailymail.co.uk/health/article-9709599/Nearly-25-American-adults-40-not-plan-COVID-19-vaccine.html> [<https://perma.cc/EUG6-NGCS>]. *See* Maayan Hoffman, *20% of Citizens Would Not Take a Coronavirus Vaccine*, JERUSALEM POST (Sept. 7, 2020), <https://www.jpost.com/health-science/20-percent-of-israelis-would-not-take-a-covid-19-vaccine-new-survey-641224> [<https://perma.cc/Z43Z-WXTM>] (describing that 75% of Israelis reported that they would think about the vaccine or get the vaccine, whereas only 64% of ultra-Orthodox individuals said they would get the vaccine).
7. *See With End of New York Outbreak, United States Keeps Measles Elimination Status.*, HHS.GOV (Oct. 4, 2019), <https://public3.pagefreezer.com/browse/HHS.gov/31-12-2020T08:51/> <https://www.hhs.gov/about/news/2019/10/04/end-new-york-outbreak-united-states-keeps-measles-elimination-status.html> [<https://perma.cc/99PN-64AF>].
 8. LAWRENCE O. GOSTIN & LINDSAY F WILEY, PUBLIC HEALTH LAW: POWER, DUTY, RESTRAINT 147 (3d ed. 2016) (“The level of review also signals how carefully the court will scrutinize the public health policy . . . [and] how much deference the court will give to the legislature or agency.”).
 9. *See The Anti-vaccine Movement is One of the Ten Threats to Global Health*, BRAZ. SOC’Y TROPICAL MED. (Apr. 11, 2019), <https://www.sbmt.org.br/portal/anti-vaccine-movement-is-one-of->

As demonstrated by this research, the anti-vax threat is a) real, b) immediate and c) significant, and coalesced by organized and well-funded anti-vax groups,¹⁰ the majority of which are registered as bona fide non-profits, at least some of which received governmental benefits under the COVID-19 stimulus packages.¹¹ Hence, establishing legal remedies might be too cumbersome and time-intensive to provide immediate response. As a stopgap measure, I propose a policy response driven by a mandatory public health education campaign. In that the anti-vax message is insidious and draws on false science, I propose such a venture be targeted to high school students in the throes of the educational arena, where hard science can be employed as the preferred means of counter-speech, a format that would not be amenable to a science-averse public.

The public health law community well recognizes the dangers of exposure to anti-vax rhetoric.¹² Applying this principle to the activities of anti-vax groups would require shutting off or preventing (i.e., muzzling) toxic rhetoric at the source. Such an approach, however, might run afoul of constitutional scholars; however, these academics, perhaps not as well-versed in the public health dangers, might be averse to interventions perceived

the-ten-threats-to-global-health/?locale=en-US&lang=en [https://perma.cc/ZM3T-JQZJ]; Billauer, *The 'Backfiring' Of Anti Vaccine-Mandating: Is It Real Or An Artifact?*, *supra* note 6; Aristos Georgiou, *The Anti-vax Movement has Been Listed by WHO as One of the Top 10 Health Threats for 2019*, NEWSWEEK (Jan. 15, 2019), <https://www.newsweek.com/world-health-organization-who-un-global-health-air-pollution-anti-vaxxers-1292493> [https://perma.cc/77FP-54AP]. *See also Ten Threats to Global Health in 2019*, WORLD HEALTH ORG., <https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019> [https://perma.cc/VF33-ZPH7].

10. Dennis Thompson, *Anti-Vaxxers Wage Campaigns Against COVID-19 Shots*, WEBMD (Jan. 29, 2021), <https://www.webmd.com/vaccines/covid-19-vaccine/news/20210129/anti-vaxxers-mounting-internet-campaigns-against-covid-19-shots> [https://perma.cc/JQ47-884F].
11. Elizabeth Dwoskin & Aaron Gregg, *The Trump Administration Bailed Out Prominent Anti-Vaccine Groups During a Pandemic*, WASH. POST (Jan. 18, 2021), <https://www.washingtonpost.com/business/2021/01/18/ppp-loans-anti-vaccine/> [https://perma.cc/LG55-ABSS].
12. *See e.g., infra* note 21.

to threaten constitutional freedoms, especially freedom of speech. This may be due to chivalry or to chauvinism. Regardless, the conflict in approach is real.

The generally accepted method to deal with noxious linguistic insults in the legal world, then, is counter-speech. But anti-vax counter-speech is notoriously ineffective – some say counter-productive.¹³ Ultimately, we will need to come to terms with the fact that century-old rubrics for protecting constitutional rights might be outmoded in our era of modern communication.¹⁴ In the short term, some means must be found to address this threat – one that works better than counter-speech. Indeed, in the longer term, overcoming constitutional challenges will be imperative for containment of the noxious threat of anti-vax rhetoric.

To overcome constitutional hurdles protecting free speech requires *inter alia*, a demonstration of the extent, immediacy, and nature of the harm involved.¹⁵ But the assessment is not merely qualitative. As the Supreme Court has acknowledged, “[t]he State bears the burden of showing not merely that its regulation will advance its interest, but also that it will do so *to a material degree*.”¹⁶ Even “[w]hen a prohibition is intended to prevent consumer deception, the burden lies with the government to ‘demonstrate that the harms it recites are real and that its restriction will in fact alleviate them *to a material degree*.’”¹⁷ The

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13. Emily K. Vraga and Leticia Bode, *Addressing COVID-19 Misinformation on Social Media Preemptively and Responsively*, 27 EMERGING INFECTIOUS DISEASES 2, 399-401 (2021).
 14. *See, e.g.*, David Andrew Logan, *Rescuing Our Democracy by Rethinking New York Times Co. v. Sullivan*, 81 OHIO ST. L.J. 759, 760 (2021).
 15. *See generally* GOSTIN & WILEY, *supra* note 8, at 119-126.
 16. 44 Liquormart Inc. v. R.I., 517 U.S. 484 (1996) (emphasis added) (determining the State failed its burden). *But see* Edenfield v. Fane, 507 U.S. 761, 1798 (1993) (“[U]nder the test set forth in Central Hudson we must ask whether the State’s interests in proscribing it are substantial; whether the challenged regulation advances these interests in a direct and material way; and whether the extent of the restriction on protected speech is in reasonable proportion to the interests served.”). *See also* Florida Bar v. Went For It, 515 U.S. 618, 628 (1995).
 17. *Disc. Tobacco City & Lottery, Inc. v. U.S.*, 674 F.3d 509 (6th Cir. 2012) (citing *Ibanez v. Fla. Dep’t of Bus. & Pro. Regul., Bd. of Acct.* 512 U.S. 136 (1994)(emphasis added).

research undertaken for this Article attempts to fulfill this requirement by demonstrating the severity of the harm realized.¹⁸

In so doing, I come to a startling conclusion: contrary to common impression,

anti-vax groups have focused on insular communities with targeted tactics – which do not include social media. Thus, these groups are targeted with pamphlets and conferences that prey upon their unique and idiosyncratic fears. The method of persuasion is the same: FEAR speech – false, flawed, fraudulent, fake, endangering and reckless speech. The difficulties in countering such speech are only now beginning to be studied. But the pamphlet/conference/seminar means of dissemination opens the door to a broader array of restricted speech, which enables the building of intellectual siege towers needed to overcome constitutional challenges, discussed in a companion article.¹⁹

It also must be noted that the latest vulnerable population targeted by the anti-vax groups is the Black community, who are especially at risk. Early on, per a Washington Post survey, “only 32 percent of black adults said they would definitely get a [COVID-19] vaccine, compared with 45 percent of whites and Hispanics,”²⁰ with anti-vax groups playing on historical fears harbored by the Black population based on, for example, the heinous experimentation at Tuskegee.²¹

This research has several purposes: 1) to lay the groundwork for future constitutional challenges sure to be invoked if restrictions to anti-vax speech are sought; 2) to demonstrate the

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18. GOSTIN & WILEY, *supra* note 8, at 146-47 (3d. ed. 2016) (“[D]ifferent levels of constitutional review depend on the nature of the classification or the civil liberty in question, . . . [which] signals how a court will balance the various interests in a particular case[:] . . . the government’s interest in advancing the public good and the individual’s interest in . . . liberty.”).
 19. *See infra* note 20.
 20. Peter Jamison, *Anti-Vaccination Leaders Fuel Black Mistrust of Medical Establishment as Covid-19 Kills People of Color*, WASH. POST (July 17, 2020), <https://www.washingtonpost.com/dc-md-va/2020/07/17/black-anti-vaccine-coronavirus-tuskegee-syphilis/> [<https://perma.cc/MGC7-89TX>].
 21. Barbara Pfeffer Billauer, *Sisyphus, A Safer COVID-19 Vaccine, And Susceptible Populations*, AM. COUNCIL SCI. & HEALTH (Nov. 2, 2020), <https://www.acsh.org/news/2020/11/02/sisyphus-safer-covid-19-vaccine-and-susceptible-populations-15123> [<https://perma.cc/Y72F-3923>].

nature of the harms generated by the organized anti-vax movement in a systemic basis, 3) to demonstrate the quantitative nature of increased harms perpetrated by anti-vax groups, the first research to do so; 4) to identify the means and manner of dissemination employed by anti-vax groups so that a variety of potent counter-mechanisms can be deployed; and 5) to provide a novel short-term policy approach for enabling the populace to detoxify anti-vax speech being spewed at them, in whatever vehicle.

Previously, I and others illustrated the role of anti-vax groups via a case-study of measles epidemics.²² But ferreting out the extent of harm achieved by the anti-vax movement via objective methodology has yet to be undertaken in any systemic or scientific manner. This research is designed to fill that gap, again using measles epidemics in the recent years to serve as the test populations.

In the developed world, the largest measles outbreaks in the last decade were concentrated in five localities, two in the United States (New York and Minnesota), two in Israel (considering the country, as a whole, and Jerusalem as a nested cohort), and London.²³ Each of these five localities also sustained an earlier, prodromal outbreak²⁴ occurring roughly within the prior decade. In each case, organized anti-vax groups had infiltrated the communities in the interim using distinctive, targeted messages disseminated via conferences, home-meetings, and pamphlets – decidedly low tech.²⁵ In four venues, the organized groups infiltrated *after* the first epidemic; in the fifth, a limited initial

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22. Barbara Pfeffer Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3. See also Dorit Rubinstein Reiss & John Diamond, *Measles and Misrepresentation in Minnesota: Can There Be Liability for Anti-Vaccine Misinformation That Causes Bodily Harm?*, 56 SAN DIEGO L. REV. 531, 533 (2019).
 23. See *infra* Part I.
 24. In a crisis management a prodrome is defined as a pre-crisis event. See Katsuyuki Kamei, *Crisis Management*, in SCIENCE AND SOCIETAL SAFETY, TRUST: INTERDISCIPLINARY PERSPECTIVES 2 141, 142-149 (S. Abe et al. eds., 2019).
 25. See *infra* Part I; Barbara Pfeffer Billauer, *When Public Health is Eroded by Junk Science: Muzzling Anti-Vaxxer FEAR Speech -- and the First Amendment* (2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3550670 [<https://perma.cc/96TM-TKPC>].

foray preceded the first epidemic, but was not successful.²⁶ Subsequent and expanded outreach, however, had a major impact on the ensuing epidemic.²⁷ This sequence of events, fortuitously, allows us to set the initial vaccine resistance level as a baseline for comparison with the later ones. Further, a single outbreak infected two other insular communities, one which escaped anti-vax group infiltration, the Amish community in Ohio in 2014, and one which was victimized by the anti-vax groups, the Hasidic (ultra-Orthodox²⁸ Jewish) community in Rockland County in 2018-19.²⁹ Comparing these two groups provides additional bases for comparison.

Using this novel methodology in a legal setting (comparing two recent outbreaks within the same locality occurring within roughly a decade of each other) – which I call an ecologic case-control study, also allows us to control for other factors which might have impacted the outcome: e.g., population demographics, idiosyncrasies, government policies, and lifestyles, and avoid objections of the ecologic fallacy.³⁰ Because indigenous factors remained relatively unchanged during the duration between the epidemics,³¹ we can rule them out as causal effectors of increased vaccine resistance in the second outbreak.

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26. *See infra* Part II.
 27. Andrew Welsh-Huggins, *Largest U.S. measles outbreak in 20 years hits Ohio Amish community*, PJ STAR NEWS (July 1, 2014), <https://www.pjstar.com/article/20140701/NEWS/140709914> [<https://perma.cc/329C-XWPW>].
 28. Throughout this article, the references to “orthodox” refer to Orthodox Jews.
 29. Paul A. Gastañaduy et al., *A Measles Outbreak in an Underimmunized Amish Community in Ohio*, 376 NEW ENG. J. MED. 1343, 1344 (noting that at least single dose vaccination status pre-outbreak was estimated to be about 14%); Aaron Short, *Why Rabbis Can't Contain the Measles Outbreak*, CITY & STATE N.Y. (May 3, 2019), <https://www.cityandstateny.com/policy/2019/05/why-rabbis-cant-contain-the-measles-outbreak/177395/> [<https://perma.cc/G6HT-28R3>] (noting that residents point to robocalls from a hotline and a glossy 40-page magazine called the Vaccine Safety Handbook).
 30. *See infra* Part II(E).
 31. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25. *See infra* Part II(E).

This Article consists of five parts. Part II provides an overview of the problem: discussing the virulence and harm of measles in Section A, introducing the tactics utilized by anti-vax activists in Section B, and providing an overview of the difficulties of counter-speech in Section C. Part III investigates trends in vaccine resistance in five localities, measured by increase in disease incidence. Part IV describes the organized anti-vax groups involved in disseminating these anti-vax messages. Part V provides a policy-driven mechanism for countering non-science-based rhetoric (FEAR speech and junk science). This policy driven initiative would require a high school curriculum designed to teach risk-benefit analysis and basic sciences needed to assess vaccine propriety and safety assessment, in general. While the curricula would be designed around assessment of the measles vaccine, to provide concrete examples, enabling regulations could be content-neutral. This research also lays the groundwork for overcoming constitutional objections and sustaining more significant restrictions on anti-vax rhetoric.

II. BACKGROUND

A. Measles: The Disease

With a raw replication rate ($R(0)$) of around 15,³² measles is considered one of the most infectious diseases known to humankind – five or six times more contagious than the first widespread strain of COVID-19, with a raw $R(0)$ of 2-3.³³ The measles case-fatality rate in the United States is 0.1%-0.2%, although this reflects a situation where a vast majority of the population is vaccinated with a two-dose protocol implemented in 1992, and a national herd immunity achieved in 2000.³⁴

32. R naught (0) is the number of people to whom one person can spread the disease. It is heavily influenced by social distancing, masking, quarantine, herd immunity and other secular trend factors which influence population mobility and susceptibility which then morphs into an R . See Erin Shumaker, *What is R-naught for the COVID-19 Virus and Why It's a Key Metric for Re-opening Plans*, ABC NEWS (May 26, 2020), <https://abcnews.go.com/Health/r0-covid-19-virus-key-metric-opening-plans/story?id=70868997> [<https://perma.cc/R98-7KEA>].

33. *Id.*

34. Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3.

In the middle of the 20th century, however, shortly before the measles vaccine was developed in 1963, measles claimed some 400-500 American lives a year³⁵ out of 500,000 diagnosed cases,³⁶ three to four million infections, 48,000 hospitalizations.³⁷ Between 1912 and 1914, some 5,300-6,000 Americans succumbed to measles-related deaths yearly.³⁸ In 1920, for example, 7,575 patients died,³⁹ yielding a case-fatality of 1-5%, similar to today's initial COVID-

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35. In 1951 there were 530,118 reported measles cases and 683 deaths. *See Reported Cases and Deaths from Vaccine Preventable Diseases, United States, 1950-2011*, CHILD. HEALTH DEF. (May 13, 2011), https://childrenshealthdefense.org/wp-content/uploads/CDC_Infection-and-Death-from-Childhood-illnesses1.pdf [<https://perma.cc/72GW-SYWC>].
36. *Epidemiology and Prevention of Vaccine-Preventable Diseases: Measles*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/vaccines/pubs/pinkbook/meas.html> [<https://perma.cc/H4F4-DW56>] (last visited Oct. 29, 2021); *Never too old: Measles is often spread by adults*, THE ECONOMIST (May 25, 2019), <https://www.economist.com/science-and-technology/2019/05/25/measles-is-often-spread-by-adults> [<https://perma.cc/5NHD-9YB4>]. *See also* Steve P. Calandrillo, *Vanishing Vaccinations: Why Are So Many Americans Opting Out of Vaccinating Their Children?* 37 U. MICH. J. L. REFORM 353, 356 (2004). *See generally* James G. Hodge & Lawrence O. Gostin, *School Vaccination Requirements Historical, Social, and Legal Perspectives*, 90 KY. L.J. 831 (2002); *States With Religious and Philosophical Exemptions From School Immunization Requirements*, NCSL (Apr. 30, 2021), <https://www.ncsl.org/research/health/school-immunization-exemption-state-laws.aspx> [<https://perma.cc/M6XW-676K>].
37. Hospitalizations ran as high as 18% in the Rockland 2018 epidemic. *See* Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3, at 13. *See With End of New York Outbreak, United States Keeps Measles Elimination Status*, U.S. DEP'T HEALTH & HUM. SERV. (Oct. 4, 2019), <https://www.hhs.gov/about/news/2019/10/04/end-new-york-outbreak-united-states-keeps-measles-elimination-status.html> [<https://perma.cc/7557-PQPV>].
38. Melinda E. Wharton, *Measles Elimination in the United States*, 189 J. INFECTIOUS DISEASES S1, S1 (2004). *See generally* *History of Measles*, CTRS. FOR DISEASE CONTROL & PREVENTION (Nov. 5, 2020), <https://www.cdc.gov/measles/about/history.html> [<https://perma.cc/2TY5-33JQ>].
39. *Achievements in Public Health, 1900-1999 Impact of Vaccines Universally Recommended for Children -- United States, 1990-1998*, CTRS. FOR DISEASE CONTROL & PREVENTION (Apr. 2, 1999), <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056803.htm>. [<https://perma.cc/2EYN-E3WF>].

19 case-fatality rate of 3%. As far as long-lasting sequelae of measles, many devastating effects are well known: pneumonia, encephalitis (a life-threatening swelling of the brain), seizure disorders,⁴⁰ and hospitalization (with a rate ranging from 10% to 20%,⁴¹ mostly owing to pneumonia⁴²). But other effects are also of concern. These include pan sclerosing encephalitis, a devastating condition that arises two to ten years after the original viral attack exposure.⁴³ Initial symptoms may include memory loss, irritability, seizures, involuntary muscle movements, and/or behavioral changes, leading to neurological deterioration.⁴⁴ According to the National Organization of Rare Disorders:

The first signs are usually behavioral changes such as failing schoolwork, memory loss, and/or irritability. Involuntary muscle movements (myoclonic jerks) and generalized seizures follow. . . . [It] is a progressive disease which results in . . . stupor, spasticity, loss of previously acquired intellectual skills, poor memory and judgment (dementia), and general neurological deterioration. Blindness may develop . . .⁴⁵

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40. Calandrillo, *supra* note 36, at 356.
 41. Billauer, *supra* note 21, at 10-11. 654 people were diagnosed with measles, 52 measles-related hospitalizations and 16 admissions to intensive care. *NYC Measles Outbreak Over: Official*, WEBMD (Sept. 4, 2019), <https://www.webmd.com/children/vaccines/news/20190904/nyc-measles-outbreak-over-officials> [<https://perma.cc/VR4K-NLLL>].
 42. Billauer, *supra* note 21, at 10-11.
 43. “Subacute sclerosing panencephalitis (SSPE) is a progressive neurological disorder of children and young adults that affects the central nervous system (CNS). It is a slow, but persistent, viral infection caused by defective measles virus[,]” which declined with broader administration of the measles vaccine. *Subacute Sclerosing Panencephalitis Information Page*, NAT’L INST. NEUROLOGICAL DISEASES & STROKE (Mar. 27, 2019), <https://www.ninds.nih.gov/Disorders/All-Disorders/Subacute-Sclerosing-Panencephalitis-Information-Page> [<https://perma.cc/R627-5YYD>]; *Subacute Sclerosing Panencephalitis*, NAT’L INST. HEALTH: GENETIC & RARE DISEASES INFO. CTR. (Apr. 20, 2016), <https://rarediseases.info.nih.gov/diseases/7708/subacute-sclerosing-panencephalitis> [<https://perma.cc/88Q9-87S7>].
 44. *Subacute Sclerosing Panencephalitis*, *supra* note 43.
 45. *Id.*

There is no cure for pan sclerosing encephalitis, and in those who survive, medication which might help must be taken for the rest of the patient's life.⁴⁶ Another sequelae of the diseases is immune amnesia, which wipes out the body's acquired immunity for other serious diseases.⁴⁷ The anti-vax message glosses over these serious sequelae when demoting the need for a measles vaccine, claiming it is a minor illness that is better experienced as a child. Indeed, the same message was leveled regarding a COVID-19 vaccine.⁴⁸

While the measles vaccine is said to be 97% effective, not everyone is vaccineeligible. For very young children (less than six months) and the immunocompromised (e.g., cancer patients, organ transplant patients, patients taking immuno-depressants such as cortisone or hydroxychloroquine), the vaccine is

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46. "Patients responding to treatment need to receive it life-long. Effective immunization against measles is the only solution presently available to the problem of this dreaded disease." See R K Garg, *Subacute sclerosing panencephalitis*, 78 POSTGRADUATE MED. J. 916 63, 63 (2002).
47. "In the California cases 1 in 600 people who got measles as infants developed SSPE." Maggie Fox, *Fatal Measles Complication Killed Patients Years Later*, NBC NEWS (Oct. 28, 2016), <https://www.nbcnews.com/health/health-news/fatal-measles-complication-killed-patients-years-later-n674706> [https://perma.cc/8ZYS-XPU7]. See generally *Complications of Measles*, CTR. FOR DISEASE CONTROL & PREVENTION (Nov. 5, 2020), <https://www.cdc.gov/measles/symptoms/complications.html> [https://perma.cc/D2PS-B3G8]; Ryan O'Hare, *Measles causes 'immune amnesia' leaving us vulnerable to other diseases*, IMPERIAL COLL. LONDON (Oct. 31, 2019), <https://www.imperial.ac.uk/news/193639/measles-causes-immune-amnesia-leaving-vulnerable> [https://perma.cc/KA6D-4443] (citing Velislava N. Petrova et al., *Incomplete genetic reconstitution of B cell pools contributes to prolonged immunosuppression after measles*, 4 SCI. IMMUNOLOGY 41 (Nov. 1, 2019)); Melissa Healy, *Measles infection causes 'immune amnesia' leaving kids vulnerable to other illnesses*, L.A. TIMES (Nov. 10, 2019), <https://www.latimes.com/science/story/2019-10-31/measles-infection-causes-immune-amnesia-leaving-kids-vulnerable-to-other-illnesses> [https://perma.cc/7DUZ-DP6S] ("[T]hose children lost at least some immunity to more than 40% of common childhood diseases.").
48. *COVID-19 vaccine myths debunked*, MAYO CLINIC: HEALTH SYS. (Jan. 7, 2022), <https://www.mayoclinichealthsystem.org/hometown-health/featured-topic/covid-19-vaccine-myths-debunked> [https://perma.cc/XY4-EDAH].

contraindicated, as their immune systems are not capable of processing it properly.⁴⁹ Thus, while each of us might wish to decide for ourselves whether to be vaccinated, our decisions will impact on others for whom that choice is unavailable. Those people depend on “herd” immunity for protection. This means that if the vast majority of persons in the population are immunized, the disease will not be able to spread as there will not be enough human carriers.⁵⁰

The risk of community spread infecting the immunocompromised is not theoretical. In the 2018-19 Israel measles outbreak, two immunocompromised persons died, a baby and an old woman.⁵¹ Like in the smallpox epidemics of yore, then, vaccination is not merely important to protect individual health, but to preserve the health of others –and the population at large. Further, when a disease is as contagious as measles, and an outbreak ensues, the public health costs of containment diverts public health resources that can better be spent on other imperatives.

B. The Problem: Free Speech vs. Toxic Speech

As stated above, the preferred means of addressing anti-vax speech – from a public health point of view – would be to prevent it. And indeed, “the right to free speech is not absolute.”⁵² Or stated differently, “to permit hurtful discourse is to violate another baseline assumption: individual freedom is subject to restriction when it causes harm to others.”⁵³ The conundrum is figuring out how to balance the two competing ideals: preserving freedom of expression and protecting public health. As the two ideals pit the most sacred of the nation’s pillars against each other

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49. E. Ben-Chetrit et al., *Measles-related Hospitalizations and Associated Complications in Jerusalem, 2018–2019*, 26 *CLINICAL MICROBIOLOGY & INFECTION* 637, 640-42 (2019).
50. Petrova et al., *supra* note 47.
51. Chetrit et al., *supra* note 49, at 639.
52. Gary Smith, *Hate Speech Law in Massachusetts*, MASS. GOV’T (May 23, 2017), <https://blog.mass.gov/masslawlib/legal-topics/hate-speech-law-in-massachusetts/> [<https://perma.cc/GQ8G-HFMY>].
53. Toni M. Massaro, *Equality and Freedom of Expression: The Hate Speech Dilemma*, 32 *WM. & MARY L. REV.* 211, 229 (1991).

–free speech⁵⁴ vs. the compelling state interest of protecting public health – the battle is sure to be bloody. Indeed, United States case law has set out various levels of review for actions restricting First Amendment rights.⁵⁵ Notwithstanding those levels of review, *Roman Catholic Diocese* sets everything in flux.⁵⁶ Understanding both its bounds and the extent of the harm posed by these groups is crucial to designing proper interventions.⁵⁷

For proponents of unfettered protection of obnoxious and extreme speech, often considered under the rubric of hate speech,⁵⁸ counter-speech is touted as the antidote of choice, “trust[ing] the audience to reject bad ideas and embrace good one.”⁵⁹ However, counter-anti-vax speech has been notoriously unsuccessful in its attempt to detoxify anti-vax messages.⁶⁰ For instance, consider how anti-vax advocate Robert Kennedy Jr. dupes Professor Alan Dershowitz. In an online interview with the former Harvard professor, Kennedy claims “that vaccines did not eradicate polio or smallpox.”⁶¹ After setting the stage with the premise that vaccine

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54. See GOSTIN & WILEY, *supra* note 8, at 138 (quoting Tim Wu: “Free speech is a cherished American ideal [but] companies are exploiting that esteem to accomplish goals that are not so closely related to free speech.”).
 55. *Cent. Hudson Gas & Elec. Corp. v. Public Serv. Comm’n*, 447 U.S. 557, 566 (1980) (setting forth four steps for review).
 56. Barbara Pfeffer Billauer, *Fundamentalism in Roman Catholic Diocese v. Cuomo: The Court’s Farrago of Religious Freedom, Public Health Law, and Scientific (II)Literacy*, ELSEVIER (Feb. 17, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3787319_ [<https://perma.cc/EYX6-2397>].
 57. *See Disc. Tobacco City & Lottery, Inc. v. United States*, 674 F.3d 509, 522 (6th Cir. 2012).
 58. NADINE STROSSEN, *HATE SPEECH: WHY WE SHOULD RESIST IT WITH FREE SPEECH, NOT CENSORSHIP*, 1 (Geoffrey Stone ed., 2018) (describing expression that conveys hateful or discriminatory views against specific individuals or groups . . .”). *See also* John Samples, *Counter-speech Offers an Effective Remedy for “Hate Speech,”* CATO INST. BLOG (June 1, 2018), <https://www.cato.org/blog/counter-speech-offers-effective-remedy-hate-speech> [<https://perma.cc/B9V4-APCH>].
 59. Massaro, *supra* note 53, at 219.
 60. See GOSTIN & WILEY, *supra* note 8, at 544.
 61. *See Heated Vaccine Debate – [Robert] Kennedy Jr. vs [Alan] Dershowitz*, YOUTUBE (Sept. 9, 2020), <https://www.youtube.com/watch?v=IfnJi7yLKgE> [<https://perma.cc/2GDK-3YC7>]

effectiveness is merely a belief (i.e., theology) and not a fact, and exhorting that “the proposition and the *theology* that smallpox and polio were eradicated due to vaccination is controversial [and] . . . is not universally accepted,” Kennedy then falsely asserts with great aplomb and a straight face that the Centers for Disease Control and Prevention (CDC) investigated whether *diseases* like polio and smallpox were eradicated by vaccines.⁶² In support, he brandishes a study published in the Journal *Pediatrics*, with “Gueir, [sic] I think, the lead author.”⁶³ Kennedy then goes on to say they “concluded that abolishment of infectious disease *mortality* had nothing to do with vaccination . . .”⁶⁴ Dershowitz doesn’t respond at all, seemingly convinced.⁶⁵

It might be claimed that Kennedy Jr.’s tactics are beyond all notions of fair play or bounds of full disclosure. The article, as he describes it, simply does not exist. The *Pediatrics* article which Guyer (proper spelling) lead-authored was not written to investigate vaccines, but rather to summarize *Trends in the Health of Americans During the 20th Century*.⁶⁶ Moreover, it specifically says, “the reductions in vaccine-preventable diseases . . . are impressive.”⁶⁷ Indeed, Professor Guyer is very much pro-vaccine. Another report lead-authored by Professor Guyer and published in the same year states that “[c]onstant vigilance is required to protect populations against vaccine-preventable diseases, and the country must do

(premiering July 23, 2020 with 38,000 likes and less than 1000 dislikes as of Sept. 9, 2020). Here Kennedy claims “all infectious diseases including scurvy . . . [and] measles all *disappeared* at the same time”) (27:54) (emphasis added). However, scurvy is not an infectious disease; it is a vitamin C deficiency and it is not cured by any of the means listed by Kennedy.

62. *Id.* 28:18.

63. *Id.* 29:07.

64. *Id.* 29:26.

65. *Id.* 30:00.

66. B. Guyer et al., *Annual Summary of Vital Statistics: Trends in the Health of Americans During the 20th Century*, 106 *PEDIATRICS* 1307, 1315 (2000).

67. *Id.* at 1315.

better.”⁶⁸ This conclusion is echoed by the CDC website, which states that “smallpox and polio were eradicated by vaccines.”⁶⁹

A careful review of Kennedy’s rhetoric reveals what some might call a slippery tongue. First, he talks about the controversy between disease and vaccine effectiveness. Then he switches to death and vaccine effectiveness, comingling morbidity and mortality as if getting sick is not a concern, only death is.⁷⁰ When the message reaches the lay anti-vaccine activists, it gets entirely convoluted, becoming “vaccines don’t work,” integrated into anti-vax literature, much like in the game “telephone.” So we see misstatements such as “smallpox was eradicated by quarantine,” not vaccination.⁷¹ Attempts to point this out do not work.⁷² Even where they do, when one message is proven wrong, the groups

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68. Bernard Guyer, *Calling the Shots: Immunization Finance Policies and Practices*, NAT’L ACADS. (June 16, 2000), <https://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=s9836> [<https://perma.cc/RTK7-GRVJ>] (“The country’s immunization system is weakening . . . increasing the risk of disease outbreaks . . . Every year diseases that can be prevented by vaccination kill 300 children and between 50,000 and 70,000 adults . . .”). See also Memorandum from *Nation’s Immunization Program Must Be Revitalized To Maintain Strength and Prevent Future Disease Outbreaks* (June 15, 2000) (on file with the author) (“We especially need to improve monitoring and outreach so the system can detect and respond when particular groups do not get the vaccines they need,” said Bernard Guyer.).
69. *Achievements in Public Health, 1900-1999 Impact of Vaccines Universally Recommended for Children -- United States, 1990-1998*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056803.htm> [<https://perma.cc/82HE-HVMD>] (“Four . . . [vaccine preventable] diseases including: smallpox has been eradicated, [and] poliomyelitis caused by wild-type viruses has been eliminated.”) (See appendix for graph.).
70. See *supra*, note 61 (29:19).
71. P.E.A.C.H., *The Vaccine Safety Handbook: An Informed Parent’s Guide*, ISSUU (Dec. 1, 2017), https://issuu.com/peachmoms/docs/the_vaccine_safety_handbook_a4 [<https://perma.cc/J9C3-WTU7>] [hereinafter P.E.A.C.H. Handbook].
72. See *Gedolim Letters on Vaccination, Parental Rights, and Religious Freedom*, <https://k6s3v6r4.ssl.hwcdn.net/?file=20200114181029.pdf> [<https://perma.cc/K7WG-CLE5>] (last visited Oct. 20, 2021) [hereinafter *Gedolim Letters*].

will simply choose to revert to another.⁷³ The difficulties of detoxifying speech involving scientific materials by “vigorous debate” where no independent referee exists to weed out false and flawed assertions becomes clearly apparent.

If Alan Dershowitz can be taken in, seemingly admitting that he concedes many of the points advocated by Kennedy, then we should not be surprised that the cadre of anti-vaccine adherents is growing. To prevent the spread of this insidious anti-vax disease, and before we scientifically retrogress further, it is crucial we teach our constituents how to detoxify, disentangle, unravel, and see-through the duplicitous tactics being perpetrated.

These groups utilize disingenuous techniques that contain a hodge-podge of propaganda purveying junk science. These include fake (or made-up) materials,⁷⁴ false claims,⁷⁵ flawed statistics,⁷⁶

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73. *Tracking Down the People Behind a Pamphlet That's Fueling New York's Measles Outbreak*, CBS NEWS (May 14, 2019), <https://www.cbsnews.com/news/measles-outbreak-tracking-down-the-people-behind-anti-vaccine-pamphlet/> [https://perma.cc/6U35-7UCT] (quoting Dr. Aaron Glatt, an infectious disease specialist and an orthodox rabbi in Woodmere, New York).
74. *See, e.g.*, J. Kern et al., *Systematic Assessment of Research on Autism Spectrum Disorder (ASD) and Mercury Reveals Conflicts of Interest and the Need for Transparency in Autism Research*, SCI. ENG. ETHICS 1691, 1712 (2017) (“[t]his study was supported by the non-profit 501(c)(3) Institute of Chronic Illnesses, Inc., and the non-profit 501(c)(3) CoMeD Inc known anti-vax groups”); Stephen Barrett, *Dr. Mark Geier Severely Criticized*, CASEWATCH, <https://quackwatch.org/cases/civil/geier/> [https://perma.cc/3YNZ-KWN4] (last visited Oct. 29, 2021); *see also* Brian Deer, *Autism Research: What makes an expert?* 334 BMJ 666, 666-67 (2007) (discussing the disgrace of once doctor Mark Geier); *Id.* at 667. (“[t]he Geiers have . . . been] . . . hired to appear in hundreds of vaccine related lawsuits [where] . . . they’ve come under fire, with judges handing down stinging criticisms.”).
75. P.E.A.C.H. Handbook, *supra* note 71. *See also* F. Fenner et al., *Smallpox and its Eradication*, WORLD HEALTH ORG. 2, 310 (1988) (discussing the ring vaccination method of eradicating smallpox); Lindzi Wessel, *Four Vaccine Myths and Where They Came From*, SCI., 2019, at 1.
76. P.E.A.C.H. Handbook, *supra* note 71, at 11. *See generally* Jayne L.M. Donegan, *Childhood Vaccinatable Diseases and Their Vaccines- A Review* (2009) (on file with author). Both graphs take data from government bodies that show deaths and vaccine rates over time, but omit the data for disease incidence. The graphs also do not accurately depict the changes at the lower end of the scale.

fraudulent (misrepresented) data,⁷⁷ which endanger lives (in promoting vaccine resistance),⁷⁸ and recklessly using emotional images⁷⁹ – such as the Holocaust. Often hyperbole and emotionally crafted appeals are employed as an adjuvant in the dissemination vehicle,⁸⁰ or what I call FEAR speech.

Their approach takes “junk science” to a high art, designed to mislead viewers, readers, and seminar participants by marketing their materials under “informed consent” or educational conferences, purposefully designed to foster vaccine

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77. Emily Willingham, *Is the CDC Hiding Data About Mercury, Vaccines, and Autism?* FORBES (Feb. 22, 2014), <https://www.forbes.com/sites/emilywillingham/2014/02/22/is-the-cdc-hiding-data-about-mercury-vaccines-and-autism/?sh=512c02581363> [https://perma.cc/AA88-RQKC] (citing articles that don't sustain the proposition asserted); *see, e.g.*, Guyer, *supra* note 66, at 1315.
 78. Vaccine misinformation is dangerous. For a discussion of the misinformation behind boosting immunity via vitamin intake rather than vaccines, *see* Zaria Gorvett, *COVID-19: Can Boosting Your Immune System Protect You?*, BBC FUTURE (Apr. 9, 2020), <https://www.bbc.com/future/article/20200408-covid-19-can-boosting-your-immune-system-protect-you> [https://perma.cc/AB6R-DCAX]. ENDANGERING E.g., “Quarantine is preferred to vaccination; vitamins will protect better than vaccines.”
 79. For a discussion of reckless propaganda surrounding unvaccinated children, *see infra* Part II(B). *See also* *Elonis v. United States*, 575 U.S. 723, 745 (2015) (Alito, J., dissenting).
 80. Beth Mole, *Measles Cases Hit 1,001 as Anti-vaxxers Hold Another Rally of Disinformation*, ARSTECHNICA (June 6, 2019) (citing VIN reporter), <https://arstechnica.com/science/2019/06/anti-vaxxers-continue-spreading-wild-conspiracy-theories-amid-measles-outbreak/> [https://perma.cc/Y3PY-A2V8] (reporting on Del Bigtree at a Rockland County rally billed under an informed consent education seminar) (“Over the course of about 12 minutes, Bigtree linked vaccines to the Holocaust and then to child sacrifice. He compared them to Nazi experimentation on unwilling Jewish medical subjects, then to the intentional ritual murder of children, in an effort to debunk the scientific consensus that a critical mass of vaccinated people, or herd immunity, means that even those who cannot be vaccinated for genuine medical reasons will have some protection from getting sick. ‘It’s hard to imagine what it would be that would let you accept killing an innocent child,’ he said. ‘What if I presented to you that this would make it worth it? This is the argument, right? Herd immunity. Herd immunity is the reason we’re allowed to kill some children.’”).

resistance.⁸¹ This FEAR speech infiltrates all streams of communication, social media as well as the low-tech means discussed in Part III.

C. *The Problems with Counter-speech*

The notion of counter-speech as an antidote to noxious political speech⁸² was first cogently articulated by Justice Brandeis in *Whitney v. California* (1927):

If there be time to expose through discussion the falsehood and fallacies, to avert the evil by the processes of education, the remedy to be applied is more speech, not enforced silence.⁸³

Echoing this sentiment, in *United States v. Alvarez* (2012), Justice Anthony Kennedy wrote “the remedy for speech that is false is speech that is true.”⁸⁴

Alas, Kennedy’s statements to Dershowitz are wholly untruthful. But defusing or detoxifying such noxious sentiments will prove challenging – no matter how much “true” speech we throw at it. Recent research is now proving that while highly sophisticated graphics can diffuse some of the underlying false science that might be put forward by the anti-vax movement, disproving beliefs in the efficiency of fake alternatives to vaccines – such as hot baths – can’t be done, even if we effectively disprove the false science underpinning the claim. And that’s regarding a rather inoffensive “junklet” – that hot baths protect against

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81. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25 (discussing using the Daubert paradigm to evaluate evaluating junk science in the context of anti-vax rhetoric, a novel approach which has not heretofore been explored. In this envisioned mechanism, the “truth” deciders would be akin to a judicial determination).
82. David L. Hudson, Jr., *‘More Speech, Not Enforced Silence’*, FREEDOM F. INST. (Feb. 7, 2020), <https://www.freedomforuminstitute.org/2020/02/07/more-speech-not-enforced-silence/> [https://perma.cc/VV2Q-K4WK].
83. *Whitney v. California*, 274 U.S. 357, 377 (1927) (Brandeis, J., concurring), *overruled in part by* *Brandenburg v. Ohio*, 395 U.S. 444 (1969).
84. *United States v. Alvarez*, 567 U.S. 709, 727 (2012); Vraga & Bode, *supra* note 13, at 396.

COVID-19 – that isn’t even tethered to political passion, like mask-wearing or hydroxyquinone.

Some authorities claim that merely repeating the false statement in order to detoxify or defuse it is counterproductive and causes a “backfire effect.”⁸⁵ Here, the touted cure (counter-speech) is worse than the disease (anti-vax speech). In fact, “research suggests that corrections fade over time, and the myth could actually be reinforced through an illusory effect of seeing misinformation repeated,”⁸⁶ and thus, attempts at anti-vax counter-speech could be the worst thing that could be done. Indeed, evidence demonstrating the backfire effect occurred with Zika virus and flu.⁸⁷

The multitude of attempts at counter-speech – websites and literature, some discussed below – and the multiplication of adherents to anti-vax social network sites over the last few years⁸⁸ provides additional evidence of the futility of the process. Some experts enmeshed in these efforts caution that anti-vaxxers are steeped in conspiracy culture,⁸⁹ which obviously cannot be defused by simple fact-based counter-speech. Others are “economically-motivated hucksters,”⁹⁰ who surely will not be dissuaded by counter-speech. Indeed, one center devoted to defusing the anti-vax message counsels not to “engage with anti-vaxx [sic] misinformation on-line. This spreads it further.”⁹¹

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85. Thomas Wood & Ethan Porter, *The Elusive Backfire Effect: Mass Attitudes’ Steadfast Factual Adherence*, 41 POL. BEHAV. 135, 136 (2019). *See also* Vraga & Bode, *supra* note 13, at 402.
86. Vraga & Bode, *supra* note 13, at 398. *See also* Wood & Porter, *supra* note 85, at 136 (noting that “simply presenting respondents with facts can compound their ignorance.”).
87. Vraga & Bode, *supra* note 13, at 396.
88. The total English-language audience for anti-vaxxers online has grown significantly since 2019, and as of 2020, stood at 59 million followers. *See* CTR. FOR COUNTERING DIGITAL HATE, THE ANTI-VAXX PLAYBOOK (2020) [hereinafter CCDH PLAYBOOK].
89. *See, e.g.*, David Gorski a.k.a. Orac, *Antivaccine Nonsense*, RESPECTFUL INSOLENT, https://respectfulinsolence.com/category/antivaccination_lunacy/ [https://perma.cc/J3X6-RL2K] (last visited Nov. 6, 2021).
90. CCDH PLAYBOOK, *supra* note 88, at 26.
91. *Id.* at 6.

Instead, they counsel a parallel pro-vaccine message approach.⁹² While perhaps this approach may help promote vaccine proponents, it seems clear that direct counter-speech, the supreme antidote touted by Brandeis and his adherents – is plainly not-efficacious in detoxifying anti-vaxxisms. It’s time we recognized this.

D. The Methods of Anti-Vax Madness: Targeting the Black Community

Recent news reports indicate that anti-vax activists are stoking this resistance to vaccination by targeting Black leaders.⁹³ Just as they have done with vulnerable communities in the measles epidemics discussed here, these anti-vax activists play into unique, idiosyncratic fears of the targeted community;⁹⁴ in this case, the abuses perpetrated in the Tuskegee experiments.⁹⁵ One prolific and proficient anti-vax activist, Del Bigtree, of the anti-vax group ICAN (Informed Consent Action Network)⁹⁶ has resurfaced in the COVID-19 anti-vax efforts.⁹⁷ Bigtree claimed scientists were pursuing one of “the most dangerous vaccines ever attempted,” for a virus that poses little risk to most people.⁹⁸

92. *Id.* at 45.

93. *Id.* at 32.

94. Peter Jamison, *Anti-vaccination Leaders Fuel Black Mistrust of Medical Establishment as COVID-19 Kills People of Color*, WASH. POST (July 18, 2020), <https://www.washingtonpost.com/dc-md-va/2020/07/17/black-anti-vaccine-coronavirus-tuskegee-syphilis/> [https://perma.cc/4E5A-QCN9] (noting “a remarkable new alliance between the anti-vaccine movement and black leaders in Colorado,” who felt aligned with their themes: “a predatory pharmaceutical industry profiting from the ignorance of vulnerable people.”).

95. Wendy Wilson, *COVID-19 Vaccine: Dr. Anthony Fauci Gets Why Black People Are Weary After Tuskegee Experiment*, B.E.T. NEWS (July 29, 2020), <https://www.bet.com/news/national/2020/07/29/covid> [https://perma.cc/9HEH-PEP4].

96. *See generally* Barbara Pfeffer Billauer, *Muzzling Anti-Vaxxer FEAR Speech: Overcoming Free Speech Obstacles with Compelled Speech*, 76 U. MIAMI L. REV. 1 (2021).

97. *See* Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3, at 18.

98. Cornwall, *supra* note 2.

Bigtree also appeared to already be courting his next audience, the African-American community, early on, claiming:

[T]he true rationale for a phased release of a vaccine could be to observe its effects in black and brown people, turning them into unwitting test subjects . . . The United States of America has a history of testing on African American people . . . To all of my African American brothers and sisters, I want them to know, look — it looks like they might try to create a fear base in you to make you part of a safety trial.⁹⁹

As early as October of 2019, Rev. Al Sharpton planned on organizing a forum on vaccination featuring anti-vaccination activists.¹⁰⁰ In November 2019, Kennedy [Jr.] reportedly tried to “enlist” the Black writer Harriet Washington to speak out against vaccines and ‘all signs point to an effort to undermine the Black communities’ fragile response with doctors.’¹⁰¹

The anti-vax message seems to have taken root. Before vaccinations became widely available, the presidents of two historically Black colleges and universities urged their communities to consider participating in vaccine trials and said they were doing the same.¹⁰² The pushback from parents and students – some six weeks after Del Bigtree’s pronouncement –

99. Jamison, *supra* note 94.

100. Rae E. Bichell, *Anti-Vaccine Movement, Racism and Covid-19 Collide in Colorado*, KUNC (June 11, 2020), <https://www.kunc.org/politics/2020-06-11/anti-vaccine-movement-racism-and-covid-19-collide-in-colorado> [https://perma.cc/LQ25-K2PW]. See also Nicholas Gerbis, *The Path to Boosting COVID-19 Vaccination Rates Is Riddled With Pitfalls. Here’s Why*, KJZZ (Mar. 18, 2021), <https://kjzz.org/content/1664766/path-boosting-covid-19-vaccination-rates-riddled-pitfalls-heres-why> [https://perma.cc/KVT8-A3S2]; Barbara Pfeffer Billauer, *Sisyphus, A Safer COVID-19 Vaccine, And Susceptible Populations*, *supra* note 21; Jamison, *supra* note 94.

101. Bichell, *supra* note 100 (quoting anthropologist Amelia Jamison, who states that she knows that “there is a specific online profile targeting African Americans.”).

102. Reuben C. Warren et al., *Trustworthiness before Trust — COVID-19 Vaccine Trials and the Black Community*, 383 NEW ENG. J. MED.: PERSP. E121 (2020).

was enormous and extreme. One wrote on the college's Facebook page,

Our children are not lab rats for drug companies. I cannot believe that Xavier is participating in this. This is very disturbing given the history of drug trials in the black and brown communities.¹⁰³

Interestingly, while the publicized FEAR-speech dissemination targeted to the Black community relates to social media, Rev. Sharpton's approach was to try and organize a forum – the same technique used in the communities discussed below.

It is now recognized that the Black community is receiving less than its proportional share of vaccines.¹⁰⁴ This is especially troubling, since Black Americans have far higher death rates than White. According to the Centers for Disease Control and Prevention (“CDC”), Black, Hispanic and Native Americans died from COVID-19 at nearly three times the rate of white Americans.¹⁰⁵ It is thus imperative to consider whether the lower vaccination rate is, at least in part, due to vaccine resistance – and if so, how much of that is artificially stoked by the anti-vax movement.

E. Methodology: An Ecological Case-Control Study

To objectively demonstrate the nature and extent of harm associated with organized anti-vax groups, I investigate five localities that hosted measles epidemics in recent years, comparing each with prior outbreaks in the same locality: Section

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103. *Id.*; Will Moss, *Parents Concerned About Vaccine Study Taking Place at Some HBCUs Remembering The Tuskegee Experiment*, HBCU CONNECT (Sept. 3, 2020), <https://hbcuconnect.com/content/359255/parents-concerned-about-vaccine-study-taking-place-%20at-some-hbcus-remembering-the-tuskegee-experiment> [https://perma.cc/Y4QR-36T4].
104. Hannah Recht & Lauren Weber, *Black Americans Are Getting COVID Vaccines at Lower Rates Than White Americans*, SCI. AM. (Jan. 20, 2021), <https://www.scientificamerican.com/article/black-americans-are-getting-covid-vaccines-at-lower-rates-than-white-americans/> [https://perma.cc/5URJ-4Z78]; Tiffany Ford et. al, *Race Gaps in COVID Deaths are Even Bigger Than They Appear*, BROOKINGS (June 16, 2020), <https://www.brookings.edu/blog/up-front/2020/06/16/race-gaps-in-covid-19-deaths-are-even-bigger-than-they-appear/> [https://perma.cc/4BED-S5VG].
105. *See id.* *See also* Part V, *infra*.

A investigates the Somali experience in Minnesota, Section B discusses the American epicenter in Brooklyn,¹⁰⁶ and Section C discusses the 2013 and 2019 London epidemics. Section D focuses on the 2018-19 Israeli outbreaks, breaking out Jerusalem as a nested cohort.

It is said that epidemiology capitalizes on “unplanned” or “natural” experiments.¹⁰⁷ Assuming exposure to anti-vax rhetoric can be considered an unplanned experiment of exposure to a noxious substance, measuring individual “exposures” to these messages would provide the best measure of anti-vax effectiveness. While this might be accomplished in a case-control study, the controls would have to be matched for characteristics which could impact on outcome, such as socioeconomic status, number of children, education status, and rule out other exposures to the same message, whether via internet or social media. This becomes a difficult, if not also expensive, task.

An alternative method is the ecologic study, which measures exposure on a population basis. Generally, these studies are not considered as authoritative because we use average group measurements; additionally, individual exposures might differ, a situation known as the *ecologic fallacy*.¹⁰⁸ However, here, where the exposures are often offered in a group format, e.g., symposia attended by hundreds of people of the same community, individual exposures are unlikely to differ much, if at all.

Where individual exposures are more uniform, the ecologic study gains more respectability. Thus, using macro-environmental exposures, for example, is an accepted practice.¹⁰⁹

106. Elizabeth Cohen et al., *As New York Struggles to Undo the Lies of Anti-Vaxers, Moms Step in to Help*, CNN (June 10, 2019), <https://edition.cnn.com/2019/06/10/health/ny-measles-response/index.html> [<https://perma.cc/8CM2-RRFV>].

107. Jacob Bor, *Capitalizing on Natural Experiments to Improve Our Understanding of Population Health*, 106 AM. J. PUBLIC HEALTH 1388, 1388 (2016) (“Natural (or quasi-) experimental studies exploit quasi-random variation in the exposure of interest to identify causal effects. Rather than controlling for observed confounders and hoping that there are no unobserved confounders . . . natural experiments identify variation in the exposure that is known to be . . . independent of other confounders.”).

108. See LEON GORDIS, EPIDEMIOLOGY 169 (1996); see also ABRAHAM LILIENTHAL, FOUNDATIONS OF EPIDEMIOLOGY 13-14, 249 (1976).

109. *Id.*

Nevertheless, to assure greater reliability, we should determine that the characteristics of the two populations under investigation are comparable, medically, demographically, and in terms of outcome.¹¹⁰ Since the outcome is the same - a measles diagnosis - that variable is not an issue.¹¹¹ Moreover, our observations involve cohesive, insular groups whose mores are designed to foster homogeneity, hence there is a lesser likelihood of differences in individual exposures.¹¹² Further, since these are all insular, technology-averse communities, there is less likelihood they are impacted by outside influences.

Finally, to the extent that this study design compared the *same* population with itself over a short time frame, we can be reasonably certain that the demographics and lifestyles are virtually identical. Three of these groups were evaluated over a time-period of less than six years, further reducing the likelihood that the demographics changed measurably. For the Israeli outbreaks, which were separated by an eleven-year time frame, we have demographic studies available detailing the differences in the variables of interest: economics, population density, education, and number of children in both the Haredi (ultra-Orthodox) and non-Haredi populations.

With five samples and multiple observations, we can reach some degree of statistical confidence.¹¹³ However, like all ecologic studies, the conclusions generated herein would be best-served if this research is viewed as a hypothesis-generating study, suggesting further research be undertaken.

With one exception (the Disney outbreak of 2015), six of the seven major American epidemics in the last decade targeted isolated communities with little contact with the modern world:

110. *See id.* at 170.

111. Generally, the diagnoses were confirmed by laboratory analysis. Where not, the case definition (clinical diagnosis) was the same. *See id.*

112. *See, e.g.,* Boyeong Hong et al., *Exposure Density and Neighborhood Disparities in COVID-19 Infection Risk*, 118(13) PROC. NAT'L ACAD. SCI. 1 (2021) (discussing differential behavioral responses to social distancing policies in defined neighborhoods based on local risk factors, built-in environment characteristics, and socioeconomic inequality).

113. EVAN BERMAN & XIAOHU WANG, *ESSENTIAL STATISTICS FOR PUBLIC MANAGERS AND POLICY ANALYSTS* 177-201 (4th ed. 2018).

¹¹⁴ the Somali in Minnesota, both in 2011 and six years later in 2017; the Amish in Ohio in 2014;¹¹⁵ outbreaks in Brooklyn in 2013 and 2018-19; and the ultra- Orthodox in Rockland in 2018-2019. Outside the US, the last twelve years saw major outbreaks in other Haredi or ultra-Orthodox communities,¹¹⁶ both without¹¹⁷ and within Israel.¹¹⁸ The London outbreaks were spaced six years apart; the Israeli ones eleven years apart.

While it is tempting to ascribe the outbreaks entirely to the tight-knit closeness of these communities or unique idiosyncratic lifestyle, which surely fosters spread, these factors¹¹⁹ remained relatively constant during the pendency between the epidemics.¹²⁰ That the disease incidence so dramatically escalated in latest epidemic suggests the importance of an intervening, exogenous factor, the hypothesis under investigation.

III. THE IMPACT OF THE ANTI-VAX MOVEMENT IN FIVE LOCALITIES

A. *The Somali Experience: 2011 and 2017.*

Between 2005 and 2018, 13,582 Somali refugees settled in Minnesota, becoming the State with the largest Somali population

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114. Lisa Alferis, *Disneyland Measles Outbreak Hits 59 Cases and Counting*, NPR (Jan. 22, 2015), <https://www.npr.org/sections/health-shots/2015/01/22/379072061/disneyland-measles-outbreak-hits-59-cases-and-counting> [https://perma.cc/2SKS-X7UC].
115. Gastañaduy, *supra* note 29, at 1344.
116. Rachael Silverberg et al., *Lack of Measles Vaccination of a Few Portends Future Epidemics and Vaccination of Many*, 132 AM. J. MED., 1005, 1005 (2019).
117. Emilia Anis et al., *Measles in a Highly Vaccinated Society: The 2007-08 Outbreak in Israel*, 59 J. INFECTION 252, 252 (2009).
118. *Id.* at 252.
119. See Wilhelmina LM Ruijs et al., *Religious Subgroups Influencing Vaccination Coverage in the Dutch Bible Belt: an Ecological Study*, 11(102) BMC PUB. HEALTH 1 (2011) (discussing two new studies of a vaccine-refusal movement in a sect of Dutch orthodox Protestants, who declined vaccination, resting on passages in the Bible that call on believers to trust in divine providence).
120. See *infra* Part II(D).

in America at 69,000.¹²¹ Of those refugees, 80% were concentrated in three South Minneapolis neighborhoods: Cedar Riverside, Phillips, and Elliot Park.¹²² In large part, the successful integration of the largely Sunni Muslim community was due to the dedicated Minnesota Refugee Resettlement program, with a four million dollar budget.¹²³ As Professors Dorit Reiss and John Diamond detail in their comprehensive article, anti-vax groups focused on the Somalis¹²⁴ and their fear of autism.¹²⁵

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121. Maya Rao, *How did the Twin Cities Become a Hub for Somali Immigrants?*, STAR TRIB. (June 21, 2019), <https://www.startribune.com/curious-minnesota-episode-2-how-did-the-twin-cities-become-a-hub-for-somali-immigrants/566354611/> [https://perma.cc/9QMS-5GD3]. See also Heather Brown, *What is the History Behind Minnesota's Somali-American Community?*, CBS MINN. (July 23, 2019), <https://minnesota.cbslocal.com/2019/07/23/minnesota-somali-american-population-good-question/> [https://perma.cc/DP3F-SW22]. But see Reiss & Diamond, *supra* note 22, at 544-45 (estimating that 40% of the 106,000 Somalis who live in the United States now reside in Minnesota, amounting to roughly 42,400 people).
122. SOMALIS, INT'L INST. OF MINN., <https://iimn.org/publication/finding-common-ground/minnesotas-refugees/africa/somalis/> [https://perma.cc/6F7X-QARG] (last visited Jan. 5, 2022).
123. REFUGEE RESETTLEMENT, INT'L INST. OF MINN., <https://iimn.org/programs/refugee-services/refugee-resettlement/> [https://perma.cc/LW7K-XBCR] (last visited Jan. 5, 2022).
124. Reiss and Diamond, *supra* note 22, at 547-53.
125. See Isabelle Gerretsen, *'Abhorrent' Anti-Vaccination Movement Blamed for Worst Minnesota Measles Outbreak in Decades*, INT'L BUS. TIMES (June 3, 2017), <https://www.ibtimes.co.uk/abhorrent-anti-vaccination-movement-blamed-worst-minnesota-measles-outbreak-decades-1624620> [https://perma.cc/4MM3-NJ2H] (“Health officials blame the anti-vaccination movement for the recent outbreak.”).

In 2004, the Minnesota vaccination rate was 92 percent;¹²⁶ before 2008, the vaccination rate in two-year-olds exceeded 90%.¹²⁷ By 2010 the vaccination rate in the state had plummeted to 54%.¹²⁸ Given that vaccination rates declined suddenly and precipitously beginning in 2008,¹²⁹ one might ask whether some extrinsic factor was at play. Indeed, it was. The large Somali community had fallen prey to an insidious threat: a virulent and persistent coterie of anti-vax activists.

In 2008, a cluster of autism cases (initially reported as a surfeit of special education services for autism)¹³⁰ surfaced among Somali children in Minneapolis,¹³¹ with no ready cause. With the

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126. Faiza Mahamud & Glenn Howatt, *In Measles Outbreak, A Misconception about Vaccines still Plagues Somali Community*, STAR TRIB. (April 22, 2017), <https://wardheernews.com/in-measles-outbreak-a-misconception-about-vaccines-still-plagues-somali-community/> [<https://perma.cc/2RP6-LAHX>].
 127. *Measles Outbreak — Minnesota April–May 2017*, CDC WKLY. (July 14, 2017), <https://www.cdc.gov/mmwr/volumes/66/wr/mm6627a1.htm> [<https://perma.cc/XD2L-XT4G>].
 128. *Somali Refugee Health Profile: Vaccine Hesitancy*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/immigrantrefugeehealth/profiles/somali/index.html> [<https://perma.cc/9MUL-9XLQ>] (last visited Feb. 14, 2022) (search for “vaccine hesitancy” using the browser search function).
 129. See LYNN BAHTA & ASLI ASHKIR, *Graph indicating drop in vaccinations in Somali community between 2004-2013*, in ADDRESSING VACCINE HESITANCY IN THE SOMALI COMMUNITY, WASH. ST. REFUGEE HEALTH CONF. (2015) [hereinafter ADDRESSING HESITANCY]. See also Lynn Bahta & Asli Ashkir, *Addressing MMR Vaccine Resistance in Minnesota’s Somali Community*, 98(10) MINN. MED. 33 (2015); Timothy F. Leslie, Paul L. Delamater, & Y. Tony Yang, *It Could Have Been Much Worse: The Minnesota Measles Outbreak of 2017*, 36 VACCINE 1808, 1809 (2018).
 130. See *Autism Spectrum Disorder and the Somali Community - Report of Study*, MINN. DEP’T HEALTH, <https://www.health.state.mn.us/diseases/autism/somali.html> [<https://perma.cc/EU7Z-T9QD>] (last visited Jan. 6, 2021). But see ADDRESSING HESITANCY, *supra* note 128 (indicating an excess of autism in the Somali community).
 131. Julia Belluz, *Why Minnesota Lost a Battle Against Anti-Vaccine Campaigners*, VOX (May 16, 2017), <https://www.vox.com/science-and-health/2017/5/10/15591410/minnesota-measles-anti-vaccine-public-health-lessons> [<https://perma.cc/6CM9-VZFG>] [hereinafter Belluz I].

community seeking answers, “[t]he activists saw an opening, offering an explanation when the health department couldn’t provide one.”¹³² And so they pounced.¹³³ Taking advantage of an immigrant population deemed to be uniquely vulnerable,¹³⁴ and utilizing the debunked theory attributing autism to the measles vaccine propounded by the discredited British researcher Andrew Wakefield¹³⁵ in a since-retracted article in *Lancet*,¹³⁶ the anti-vax proponents claimed the vaccine was responsible.¹³⁷

The same year an anti-vax group called the Organic Consumers Association began targeting worried Somali-Americans and recruited Wakefield.¹³⁸ Even after being stripped of medical privileges in 2010, “Andrew Wakefield has actually been brought in several times to the Somali community . . . [t]o give

132. *Id.*

133. Gerretsen, *supra* note 125 (“There are now more measles cases in the state than across the entire United States in 2016 (70). Health Officials accuse activists of spreading the widely discredited theory among the immigrant community that the measles, mumps, rubella (MMR) vaccination leads to autism Anti-vaccination groups regularly invited Wakefield to speak to worried parents in Minnesota Immunisation rates in the Somali community plummeted by almost 45% between 2004 and 2014.”).

134. Belluz I, *supra* note 131 (noting that “[a] new study found Minnesota children with foreign-born parent were 25 percent less likely to have their vaccines.”). *See also* Maureen Leeds & Miriam Halstead Muscoplat, *Timeliness of Receipt of Early Childhood Vaccinations Among Children of Immigrants – Minnesota, 2016*, 66 CDC MORBIDITY & MORTALITY WKLY. REP. 1125, 1125 (Oct. 27, 2017).

135. Belluz I, *supra* note 131. For a discussion on Andrew Wakefield’s misrepresentations about MMR, *see* Brian Deer, *How the Case Against the MMR Vaccine Was Fixed*, 342 *BMJ* 77, 77 (2011).

136. AJ Wakefield et al., *Ileal-lymphoid-nodular Hyperplasia, Non-specific Colitis, and Pervasive Developmental Disorder in Children*, 351 *LANCET* 637 (1998) (This source has since been retracted).

137. *See* Reiss & Diamond, *supra* note 22, at 548-49.

138. Helen Branswell, *Measles Sweeps an Immigrant Community Targeted by Anti-Vaccine Activists*, STAT+ (May 18, 2017), <https://www.statnews.com/2017/05/08/measles-vaccines-somali/> (stating that, one community outreach worker and mother said, regarding the anti-vaccination lobby: “They are everywhere. Like, every event, every forum,” . . . “They continue to push the community. I feel offended by this group.”).

presentations supporting . . . [the autism-vaccine link].”¹³⁹ He had three meetings with the Somali community in 2011 alone.¹⁴⁰ Two other groups contributed to the anti-vax fervor. In November of 2008, Mr. J.B. Hadley, founder of the anti-vax group Generation Rescue, wrote an open letter to the Somali parents of Minnesota warning them of the dangers of vaccines. “In 2009, Mr. Handley financed flights of members of the Somali community to attend Autism One, a conference devoted to promoting alternative, untested treatments for autism.”¹⁴¹ Not surprisingly, by 2011, less than half the Somali children of Minnesota had been vaccinated.¹⁴²

In the five years prior to 2011, Minnesota reported a total of six measles cases, with the last intra-state transmission occurring between 1991-1992.¹⁴³ But on March 2, 2011, the first Minnesota Somali outbreak began.¹⁴⁴ While the outbreak was comparatively small, it was the largest outbreak in Minnesota in 20 years, and the largest outbreak in the United States since 2008.¹⁴⁵ By the time it was over, 21 cases would be reported,¹⁴⁶ yet only eight

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139. Jacqueline Howard, *Anti-Vaccine Groups Blamed in Minnesota Measles Outbreak*, CNN HEALTH (May 8, 2017), <https://www.cnn.com/2017/05/08/health/measles-minnesota-somali-anti-vaccine-bn/index.html> [https://perma.cc/CVG9-A26T].
140. Reiss & Diamond, *supra* note 22, at 551-52, 564 n.204; Pamala Gahr et al., *An Outbreak of Measles in an Undervaccinated Community*, 134 PEDIATRICS 220 (2014).
141. *See* Reiss and Diamond, *supra* note 22, at 549.
142. Victoria Hall et al., *Measles Outbreak — Minnesota April-May 2017*, 66 MORBIDITY & MORTALITY WKLY. REP. (MMWR) 713, 715-17 (2017).
143. *Measles, 2011*, MINNESOTA DEP’T OF HEALTH, <https://www.health.state.mn.us/diseases/reportable/dcn/sum11/measles.html> (last updated Jan. 24, 2019).
144. *Notes from the Field: Measles Outbreak --- Hennepin County, Minnesota, February--March 2011*, CTRS. FOR DISEASE CONTROL & PREVENTION (Apr. 8, 2011), <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6013a6.htm> [https://perma.cc/B4RH-SGV2].
145. Pamala Gahr et al., *An Outbreak of Measles in an Undervaccinated Community*, 134 PEDIATRICS 220, 221 (2014).
146. *See* Reiss & Diamond, *supra* note 22, at 541. *But see* Hall, *supra* note 142; *Measles Disease Statistics: Annual Incidence of Measles Disease in Minnesota*, MINN. DEP’T OF HEALTH, <https://>

(38%) from the Somali community.¹⁴⁷ Clearly, the anti-vax groups had not achieved serious infiltration into the community at this time. But the anti-vax groups persisted, continuing their efforts and over the next few years-- vaccination rates in the Somali community continued plunging.¹⁴⁸ By 2014, the vaccine coverage rate in the Black and Somali community was 42 percent.¹⁴⁹

By 2017, anti-vax efforts had burgeoned, rising to five organized non-profit anti-vaccine groups.¹⁵⁰ These included the Canary Party¹⁵¹ and the Health Choice Advocacy Group.¹⁵² The euphemistically named Vaccine Safety Council of Minnesota openly acknowledged that it had a role in influencing the Somali community in a statement dated May 9, 2017.¹⁵³ Local Minnesota

www.health.state.mn.us/diseases/measles/stats.html (last updated Aug. 19, 2021) [<https://perma.cc/P8RU-YJ7R>] (noting 26 cases).

147. Hall, *supra* note 142; *Notes from the Field: Measles Outbreak --- Hennepin County, Minnesota, February--March 2011*, *supra* note 144; Gahr et al., *supra* note 145.
148. Emily Sohn, *Understanding The History Behind Communities' Vaccine Fears*, NPR (May 3, 2017), <https://www.npr.org/sections/health-shots/2017/05/03/526595475/understanding-the-history-behind-communities-vaccine-fears> [<https://perma.cc/8N4B-DH48>].
149. Owen Dyer, *Measles Outbreak in Somali American Community Follows Anti-Vaccine Talks*, 357 *BMJ* 2378, 2378 (2017), <https://www.bmj.com/content/357/bmj.j2378> [<https://perma.cc/D7QY-6RZU>].
150. Matt Sepic, *Public Health Workers Push Back Against Anti-Vaccine Claims at Somali Community Meeting*, MPR NEWS (May 1, 2017), <https://www.mprnews.org/story/2017/05/01/public-health-workers-push-back-against-anti-vaccine-claims-somali-community-meeting> [<https://perma.cc/U399-ZDTP>].
151. *See What is the Canary Party?*, THE CANARY PARTY, <https://canaryparty.org> [<https://perma.cc/32T5-K5MC>] (last visited Oct. 17, 2021) (stating that the Canary Party was founded by Mark Blaxhill and is “a movement created to stand up for the victims of medical injury, environmental toxins and industrial foods by restoring balance to our free and civil society and empowering consumers to make health and nutrition decisions that promote wellness.”).
152. *See Our Guiding Principles*, HEALTH CHOICE, <https://healthchoice.org/principles/> [<https://perma.cc/K3G9-CUXJ>] (last visited Oct. 17, 2021).
153. *Statement from the Vaccine Safety Council of Minnesota*, AGE OF AUTISM (May 9, 2017), <https://www.ageofautism.com/>

anti-vaccine activist, Nancy Hokkanen, published an article emphasizing the autism link to MMR; Mark Blaxill, editor of *Age of Autism*, came to Minnesota to talk to Somali parents, suggesting that MMR caused autism and drawing on an apparently prevalent conspiracy theory,¹⁵⁴ and Wakefield continued proselytizing.¹⁵⁵

The major means of dissemination in Minnesota were via blog, direct contact by phone, email,¹⁵⁶ conferences, and television.¹⁵⁷ As in other outbreaks, discussed below, social media did not play a prime role.¹⁵⁸ What appears to have had a key impact was the direct involvement of an anti-vax “celebrity star.” In Minnesota, it was the medically discredited Wakefield. The Somalis’ feeling about him is intense: “To our community, Andrew Wakefield is Nelson Mandela and Jesus Christ rolled up into one . . . He’s a symbol of how all of us feel.”¹⁵⁹ The efforts worked. With less than half the community vaccinated, and concentrated in a condensed locality, the community provided a perfect breeding ground for a larger outbreak.

As vaccination in the Somali community tanked to 36% in 2017,¹⁶⁰ Minnesota hosted its second epidemic, again the highest the United States had seen since 1992. Thistime the epidemic yielded four times as many cases as the 2011 outbreak – 79

2017/05/urgent-statement-from-the-vaccine-safety-council-of-minnesota.html [https://perma.cc/9AMG-9YC5] [hereinafter *Statement from the Council*].

154. Reiss & Diamond, *supra* note 22, at 555. *See also* Mark Blaxill, *My Hanging Offense*, AGE OF AUTISM (Sept. 5, 2017), <https://www.ageofautism.com/2017/09/mark-blaxill-my-hanging-offense.html> [https://perma.cc/DS2K-F7NN].
155. Dyer, *supra* note 149 (noting Blaxill’s talk before 90 parents).
156. Reiss & Diamond, *supra* note 22, at 557.
157. Reiss & Diamond, *supra* note 22, at 549, 563.
158. *See* discussion *infra* Part II.F.
159. Susan Dominus, *The Crash and Burn of an Autism Guru*, N.Y. TIMES (Apr. 20, 2011), <https://www.nytimes.com/2011/04/24/magazine/mag-24Autism-t.html> [https://perma.cc/PEH3-7TKN]. *See also* Reiss & Diamond, *supra* note 21, at 564.
160. *Measles, 2017*, MINN. DEP’T HEALTH, <https://www.health.state.mn.us/diseases/reportable/dcn/sum17/measles.html> (last updated Jan. 24, 2019) [https://perma.cc/52KM-GYGS].

cases,¹⁶¹ - higher than all the cases in the U.S. for 2016 combined.¹⁶² The Somali community made up 85% of them,¹⁶³ and cost 2.3 million dollars to contain.¹⁶⁴ The epidemic began on April 10¹⁶⁵ and was not declared “over” until August 25, four and a half months after it began. Of the 79 cases, 64 were Somali.¹⁶⁶

B. The Brooklyn Experiences: 2013 and 2018-19

The Somali pattern re-emerged in Brooklyn.¹⁶⁷ There, ultra-Orthodox communities experienced an initial measles outbreak in 2013,¹⁶⁸ and again five years later in 2018-19. Like the Somali

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161. Julia Belluz, *Minnesota’s Measles Outbreak is What Happens When Anti-Vaxxers Target Immigrants*, VOX (Oct. 26, 2017), <https://www.vox.com/science-and-health/2017/10/26/16552864/minnesotas-measles-outbreak-immigrants-anti-vaxxers> [https://perma.cc/245G-V4ZP] [hereinafter Belluz II]. See also Meredith Gingold, *The Path is Cleared: A Growing Body of Case Law Upholds States’ Removal of Non-Medical Vaccination Exemptions; Minnesota Should Be Next*, MINN. L. REV.: DE NOVO ARCHIVE BLOG (Dec. 4, 2019), <https://minnesotalawreview.org/2019/12/04/the-path-is-cleared-a-growing-body-of-case-law-upholds-states-removal-of-non-medical-vaccination-exemptions-minnesota-should-be-next/> [https://perma.cc/N98J-Z7VE].
162. Howard, *supra* note 139.
163. Hall et al., *supra* note 142, at 714.
164. Reiss & Diamond, *supra* note 22, at 553 (underscoring similarities between the Somali and ultra-Orthodox communities as a vulnerable population, susceptible to outlier influence, and serving as a breeding ground for infectious disease).
165. Hall et al., *supra* note 142, at 713.
166. *Health Officials Declare End of Measles Outbreak*, MINN. DEP’T OF HEALTH (Aug. 25, 2017), <https://www.health.state.mn.us/news/pressrel/2017/measles082517.html> [https://perma.cc/V6FA-A2J8] (stating that 42 days after the last reported case was when the declaration occurred).
167. See Betsy McKay, *Brooklyn Measles Outbreak Shows Risks*, WALL ST. J. (July 19, 2019), <https://www.wsj.com/articles/SB10001424127887324251504578578054234429308> [https://perma.cc/C82F-QM3M] (noting that 50 people in the Orthodox community in Brooklyn sustained the disease in 2013).
168. Jennifer B. Rosen et al., *Public Health Consequences of a 2013 Measles Outbreak in New York City*, 172 JAMA PEDIATRICS 811, 813 (2018) (noting, “[t]otal direct costs to the New York City DOHMH were \$394,448, and 10,054 hours were consumed responding to and controlling the outbreak”).

experience, the 2013 Brooklyn outbreak was - at the time – the worst the United States had experienced since 1992, even eclipsing the 2011 Minnesota outbreak. The Brooklyn outbreak was localized in areas where Hassidic Jews lived: Borough Park¹⁶⁹ and Williamsburg.¹⁷⁰ Again, like the Somali epidemic, the prodromal 2013 event affected a far smaller number of persons¹⁷¹ than the one that followed in 2018-19.¹⁷² In 2013, the index case was a teenager who imported the disease from an Orthodox enclave¹⁷³ in London; in 2018, the index cases arrived from Israel.¹⁷⁴ The 2013 Brooklyn epidemic was controlled in three months and infected 58 people;¹⁷⁵ the 2018 - 2019 Brooklyn epidemic took ten months and a court order requiring vaccination or financial penalty before the epidemic subsided, having sickened 654.

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169. Robert J. Arciulo et al., *Notes from the Field: Measles Outbreak Among Members of a Religious Community – Brooklyn, New York, March – June 2013*, 62 MORBIDITY & MORTALITY WKLY. REP. 752-753 (2013); *Morbidity and Mortality Weekly Report Errata: Vol. 62, No. 36*, CTRS. FOR DISEASE CONTROL & PREVENTION (Nov. 15, 2013), <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6245a11.htm> [https://perma.cc/FW8F-4VQH].
170. Amber Cox, *2013 New York Measles Outbreak Reached 58 Cases*, HEALIO (May 12, 2014), <https://www.healio.com/news/pediatrics/20140512/2013-new-york-measles-outbreak-reached-58-cases> [https://perma.cc/AH8R-GPJ3].
171. *See id.* (noting that 28 of the cases came from Williamsburg).
172. *See* Stephanie Soucheray, *US Measles Cases Hit 1,234 as Brooklyn Outbreak Called Over Measles*, U. OF MINN.: CTR. FOR INFECTIOUS DISEASE RES. & POL’Y NEWS (Sept. 3, 2019), <https://www.cidrap.umn.edu/news-perspective/2019/09/us-measles-cases-hit-1234-brooklyn-outbreak-called-over> [https://perma.cc/ZU52-NDB4].
173. Dennis Thompson, *Here’s What Happened When 1 Unvaccinated NYC Kid Got Measles*, MEDICINET (July 30, 2018), <https://www.medicinenet.com/script/main/art.asp?articlekey=213861> [https://perma.cc/P7E2-XAJS].
174. Pfeffer Billauer, *Fundamentalism in Roman Catholic Diocese v. Cuomo*, *supra* note 56.
175. Jennifer B. Rosen et al., *Public Health Consequences of a 2013 Measles Outbreak in New York City*, JAMA PEDIATRICS, 811, 813 (2018).

Very much like the Somali community, the ultra-Orthodox groups live by themselves in concentrated areas.¹⁷⁶ Similarly, most are not tethered to the internet.¹⁷⁷ Several features differ, however. For starters, in 2013, the Brooklyn population was better vaccinated than the Somalis, at 78%.¹⁷⁸ Outside the community, 95% of the New York City population had been vaccinated, which contained the outbreak and limited its spread.¹⁷⁹ Of those infected, 71% were from eight extended families.¹⁸⁰ Even an easily controlled outbreak, however, wreaks havoc on public health staffing and its ability to carry out quotidian,¹⁸¹ but necessary, tasks: the 2013 outbreak cost the city \$394, 448 and 10, 054 person-hours to contain.¹⁸²

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176. *See Insular Jewish Orthodox Communities Were Hit Hard by Covid-19, But Some Say Misinformation About the Virus is Still Widespread*, CNN, <https://edition.cnn.com/videos/us/2021/01/30/insular-jewish-orthodox-communities-were-hit-hard-by-covid-19-go-there.cnn> [<https://perma.cc/7FVN-ZTW4>] (last visited Nov. 5, 2021).
177. *See* Josh Hack, *Taming Technology: Ultra-Orthodox Jewish Families and their Domestication of the Internet*, MEDIA@LSE ELECTRONIC MSC DISSERTATION SERIES 24 (2007).
178. Rosen et al., *supra* note 168, at 813. *See* Dennis Thompson, *How I Unvaccinated Kid Brought Measles to NYC*, WEBMD (July 30, 2018), <https://www.webmd.com/children/news/20180730/how-1-unvaccinated-kid-brought-measles-to-nyc#1> [<https://perma.cc/8MFE-E2ZT>] (stating that “New York City has a measles/mumps/rubella (MMR) vaccination rate near 97 percent” and that “the index case who was intentionally unvaccinated imported the disease from England, where the disease is endemic with a vaccination rate of 80%”).
179. Arciulo et al., *supra* note 169 (finding New York City has a measles/mumps/rubella (MMR) vaccination rate near 97 percent which further limited spread). *See* Thompson, *supra* note 178 (noting that the index case who was intentionally unvaccinated imported the disease from England, where the disease is endemic with a vaccination rate of 80%).
180. Rosen et al., *supra* note 167, at 814.
181. *Id.* at 815 (noting eighty-seven staff members from 12 bureaus of the DOHMH participated in the outbreak compared to 500 in the more recent one, but almost half worked for a bureau other than the Bureau of Immunization).
182. *Id.*

As expected, the 2013 cases developed in groups which had previously declined vaccination.¹⁸³ However, once notified, the City faced no resistance and was able to vaccinate exposed individuals in a short time.¹⁸⁴ Within three days, 114 key contacts were located and vaccinated. The remaining contacts were quickly vaccinated,¹⁸⁵ although the outbreak was prolonged due to the spread of measles in those too young to have been vaccinated.¹⁸⁶

Following the 2013 epidemic, three anti-vax organizations emerged. “ICAN,” the Informed Consent Action Network, was incorporated in 2016.¹⁸⁷ An anonymously master-minded group called “PEACH,” Parents Educating and Advocating for Children’s Health, seemingly was re-activated in 2017 after having taken its first breath sometime around 2011.¹⁸⁸ The third significant group, Robert Kennedy Jr.’s Children’s Defense Fund, was incorporated in 2016 as the World Mercury Project,¹⁸⁹ although Kennedy focused his efforts on the non-Jewish contingent of Rockland.¹⁹⁰

183. Cox, *supra* note 170.

184. See Arciulo et al., *supra* note 169, at 753.

185. Rosen et al., *supra* note 168, at 814.

186. *Id.* at 815.

187. Tom Porter, *How a New York Billionaire-Funded Anti-Vax Group is Contributing to the Vaccine Hesitancy that’s Crippling the US Recovery*, INSIDER (Aug. 24, 2021), <https://www.businessinsider.com/ican-billionaire-funded-antivax-group-trump-fans-ties-2021-8> [<https://perma.cc/6E5E-9B7G>].

188. See Brandy Zadrozny, *The Brooklyn Measles Outbreak: How a Glossy Booklet Spread Anti-Vaccine Messages in Orthodox Jewish Communities*, NBC (Apr. 12, 2019), <https://www.nbcnews.com/news/us-news/brooklyn-measles-outbreak-how-glossy-booklet-spread-anti-vaccine-messages-n993596> [<https://perma.cc/CHM8-USZM>] (noting PEACH was initially formed around 2009).

189. World Mercury Project, *Robert F. Kennedy, Jr. Launches The World Mercury Project*, CISION (Nov. 16, 2016), <https://www.prnewswire.com/news-releases/robert-f-kennedy-jr-launches-the-world-mercury-project-300364404.html> [<https://perma.cc/SBQ8-ZFBM>].

190. Pfeffer Billauer, *Fundamentalism in Roman Catholic Diocese v. Cuomo*, *supra* note 56.

The major offensive of PEACH (detailed in the following part) is a publication entitled *The Vaccine Safety Handbook*.¹⁹¹ “Inside its 40 pages, between cartoons mocking the medical establishment, PEACH’s magazine inaccurately suggests vaccines are made up of ‘toxins.’ Without evidence, it claims that vaccines are the nation’s greatest threat to public health, linked to autism, ADHD, Sudden Infant Death Syndrome, miscarriage and other maladies.”¹⁹²

Joining PEACH in Brooklyn anti-vax outreach was Del Bigtree, President of ICAN, who also appeared under the banner of a previously unknown group called the United Jewish Community Council (UJCC). Bigtree’s favored dissemination method is oral: conferences, symposia, and community rallies broadcast on YouTube.¹⁹³ During the pendency of the epidemic, Bigtree hosted or appeared in at least three symposia and rallies.¹⁹⁴ Raising tropes targeted to this group, at an event in Brooklyn in June, 2019, Bigtree was quoted as saying “ ‘I’m sure Moses wasn’t vaccinated’ [before] . . . comparing recent quarantines of children with measles to Nazi Germany.”¹⁹⁵

191. P.E.A.C.H. Handbook, *supra* note 71.

192. Zadronzy, *supra* note 188.

193. Timothy Johnson, *YouTube Terminates Anti-Vaccine Figure Del Bigtree’s Account After He Pushed Dangerous Coronavirus and Vaccine Misinformation*, MEDIAMATTERS FOR AMERICA (July 30, 2020), <https://www.mediamatters.org/coronavirus-covid-19/youtube-terminates-anti-vaccine-figure-del-bigtrees-account-after-he-pushed> [<https://perma.cc/LWY6-PQKE>]; Nicholas Pimlott, *Vaccine Hesitancy and the Art of Family Medicine*, 65 CANADIAN FAM. PHYSICIAN 159 (2019); Complaint & Demand for Jury Trial at 3-4, Informed Consent Action Network & Del Bigtree v. Youtube LLC & Facebook, Inc., No. 5:20-cv-09456 (N.D. Cal. Dec. 30, 2020); Gwynne Hogan and WNYC Staff, *Controversial Anti-Vax YouTube Host Accused of Preying On Ultra-Orthodox Community*, GOTHAMIST (Apr. 15, 2019), <https://gothamist.com/news/controversial-anti-vax-youtube-host-accused-of-preying-on-ultra-orthodox-community> [<https://perma.cc/5WUG-QDDX>].

194. Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3; Chad Arnold, *Measles: Albany Anti-Vaccine Rally Held Amid Talks to End Religious Exemptions*, LOHUD. (May 14, 2019), <https://www.lohud.com/story/news/local/new-york/2019/05/14/measles-anti-vaccine-rally-albany/3670312002/> [<https://perma.cc/W9A5-HASB>].

195. Sally Goldenberg & Amanda Eisenberg, *Amid Measles Outbreak, Debate Over Vaccines Rages in Orthodox Brooklyn Neighborhood*,

Another group hosting anti-vax events, one loosely aligned with PEACH, called PACT, hosted a Brooklyn conference-event on March 31.¹⁹⁶

It appears PEACH's pamphlet initiative had been initially targeted to the Pittsburgh Orthodox community, which largely embraces vaccination and vigorously objected to the attempted infiltration.¹⁹⁷ PEACH quietly retreated to Brooklyn. There, it continued to circulate its handbook – and, together with ICAN, appeared to be waiting for an opportunity.¹⁹⁸

That opportunity came on October 1, 2018. And when it came, this too became the largest outbreak America had seen since 1992.¹⁹⁹ The day after the Succot holiday, Health Departments in Rockland County and New York City (with jurisdiction over Brooklyn) registered the index cases of measles, all imported from Israel.²⁰⁰ The 2018-19 New York City outbreak affected the same communities as did the 2013 epidemic,

POLITICO (June 5, 2019), <https://www.politico.com/states/new-york/albany/story/2019/06/05/amid-measles-outbreak-debate-over-vaccines-rages-in-orthodox-brooklyn-neighborhood-1042065> [https://perma.cc/T4Y3-43PG].

196. Amanda Schaffer, *Fear, Misinformation, and Measles Spread in Brooklyn*, WIRED (June 24, 2019), <https://www.wired.com/story/fear-misinformation-measles-spread-in-brooklyn/> [https://perma.cc/D9PP-CF4V].

197. Zadrozny, *supra* note 188 (Pittsburghers complained on Facebook that PEACH was targeting their neighborhoods by mailing out unsolicited copies of the handbook in 2017). See Toby Tabachnick, *Anonymous Anti-Vaxxers Push Propaganda on Local Orthodox Community*, PITTSBURGH JEWISH CHRON. (Jan. 31, 2018), <https://jewishchronicle.timesofisrael.com/anonymous-anti-vaxxers-push-propaganda-on-local-orthodox-community/> [https://perma.cc/JKM2-GPU7] (querying how PEACH obtained a mailing list that included a comprehensive directory of Pittsburgh families . . . noting a measles outbreak in Los Angeles in 2017 centered on the Orthodox Jewish community, and a 2015 wave of pertussis, or whooping cough, appeared in the Brooklyn . . . communities of Williamsburg and Borough Park.).

198. Zadrozny, *supra* note 188.

199. *Measle Cases and Outbreaks*, CTRS. FOR DISEASE CONTROL & PREVENTION (Sept. 31, 2021), <https://www.cdc.gov/measles/cases-outbreaks.html> [https://perma.cc/R4L4-BW3S].

200. Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3.

primarily Borough Park and Williamsburg.²⁰¹ This time the index cases were tied to a Hassidic Yeshivain Williamsburg.²⁰² A day earlier, the index case in Rockland potentially exposed 7,000 parishioners in a Skverer synagogue in New Square, a village near Monsey, New York.²⁰³

The two counties, Kings (Brooklyn) and Rockland, are close in more ways than distance (about an hour by car).²⁰⁴ A Skverer synagogue and offshoot of the sect are located in Borough Park; a Skverer school is located in Williamsburg,²⁰⁵ with family members in both counties likely travelling back and forth,²⁰⁶ spreading disease, home cures, and anti-vax information. Before the epidemic would be declared over (in late September in Rockland and some weeks earlier in Brooklyn),²⁰⁷ almost 1000

201. *Id.*

202. *Id.*

203. *Id.* Nick Paumgarten, *The Message of Measles*, THE NEW YORKER (Aug. 26, 2019), <https://www.newyorker.com/magazine/2019/09/02/the-message-of-measles> [<https://perma.cc/Y42A-ADFS>].

204. Cathryn J. Prince, *In The Eye of NY's Coronavirus Storm, Ultra-Orthodox Face Rising Anti-Semitism*, TIMES OF ISRAEL (Mar. 31, 2020), <https://www.timesofisrael.com/in-the-eye-of-nys-coronavirus-storm-ultra-orthodox-face-rising-anti-semitism/> [<https://perma.cc/7SKM-K6VR>] (noting that “Rockland County is home to about 90,000 Haredi — or ultra- Orthodox — Jews . . . the largest Jewish population per capita of any US county, with 31.4% . . . being Jewish,” and is “[l]ocated about an hour’s drive from New York City”).

205. SHULEM DEEN, *ALL WHO GO DO NOT RETURN 25* (Graywolf Press, 2015).

206. See Albert Samaha, *All the Young Jews: In the Village of Kiryas Joel, New York, the Median Age Is 13*, THE VILLAGE VOICE (Nov. 12, 2014), <https://www.villagevoice.com/2014/11/12/all-the-young-jews-in-the-village-of-kiryas-joel-new-york-the-median-age-is-13/> [<https://perma.cc/V4CA-S3PK>].

207. The outbreak was declared over in New York City on September 3, 2019. See Wan Yang et al., *Transmission Dynamics Of And Insights From The 2018-2019 Measles Outbreak In New York City: A Modeling Study*, SCI.: ADVANCES (May 27, 2020), <https://www.science.org/doi/10.1126/sciadv.aaz4037> [<https://perma.cc/75BK-MMG7>]; The outbreak was declared over in Rockland County on September 25, 2019. See Press Release, Rockland County, Measles Outbreak Declared Over in Rockland (Sept. 25, 2019), <http://rocklandgov.com/departments/>

persons would sicken in both locales. In total, Rockland County contributed some 312 cases²⁰⁸ to the American experience²⁰⁹ and seeded 39 more in Michigan.²¹⁰ Further, “[t]he conjoint epidemics in Williamsburg and neighboring Borough Park contributed most of the 654 Brooklyn cases.”²¹¹ And “[a] smaller outbreak in the ultra-Orthodox Lakewood, New Jersey added 33 cases, totaling 85% of the American caseload of 1247 cases.”²¹²

Factors attributed to base-rate vaccine resistance and disease parallel social factors appearing in the Israeli ultra-Orthodox community. These include: “[p]overty,²¹³ limited secular

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- health/press-releases/2019-press-releases/measles-outbreak-declared-over-in-rockland/ [https://perma.cc/N9EQ-LZPT].
208. *2018-2019 Measles Outbreak in Rockland County*, ROCKLAND CNTY., <http://rocklandgov.com/departments/health/measles-information/> [https://perma.cc/VC6C-XAAT] (last visited Sept. 19, 2021) (The Rockland Health Department website states that an additional sixteen cases discovered in August 2019 brought the total number of cases to 312 by September 2019 when the outbreak was declared over. Most of the exposed were in Eastern Ramapo). Ramapo has a population size of 126,595 according to the 2010 census. *About Us*, TOWN OF RAMAPO N.Y., <http://www.ramapo.org/page/about-1.html> [https://perma.cc/365U-2GBA] (last visited Nov. 8, 2021).
209. Stephanie Soucheray, *US Measles Cases Hit 1,234 As Brooklyn Outbreak Called Over*, CTR. FOR INFECTIOUS DISEASE RES. & POL’Y (Sept. 3, 2019), <https://www.cidrap.umn.edu/news-perspective/2019/09/us-measles-cases-hit-1234-brooklyn-outbreak-called-over> [https://perma.cc/CM6Z-KHUB] (“The number of measles cases reported this year is the highest since 1992.” The outbreak “cost the city more than \$6 million, and response efforts employed more than 500 staff to disseminate pro-vaccine booklets, publish ads, and host community events . . . [In Brooklyn], 73% of cases occurred in people who had never been vaccinated against the virus”).
210. Lena H. Sun, *Unaware he had measles, a man traveled from N.Y. to Michigan, infecting 39 people*, WASH. POST (Aug. 16, 2019), <https://www.washingtonpost.com/health/2019/04/16/how-patient-zero-spread-measles-across-state-lines-infected-people/> [https://perma.cc/V2YA-TGBS]; *C.F. v. NYC Dep’t of Health & Mental Hygiene*, 139 N.Y.S3d 273, 277 (N.Y. App. Div. 2020).
211. Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3.
212. *Id.*
213. Silverberg et al., *supra* note 116, at 1006 (“In Orthodox Jewish households, constituting 16% of the total New York City Jewish

education,²¹⁴ large family size, and domestic overcrowding [which] increase the vulnerability of ultra-Orthodox Jewish children to communicable disease outbreaks.”²¹⁵ Poverty in Brooklyn, like elsewhere in the United States,²¹⁶ plays a large role. Family size may increase risk of transmission,²¹⁷ but seems to have less of an influence on vaccine uptake. Nevertheless, these population demographics remained relatively constant between 2013-2019.

The new and different factors in the second outbreak were exposure to the organized anti-vax groups, their “campaigns in response to previous outbreaks” and a consequent decline in vaccination rates.²¹⁸ In the 2018-19 outbreak, 94% of younger children were unvaccinated.²¹⁹ Older children would have been vaccinated prior to 2013, and vaccination rates were similar to New York City overall.²²⁰ “At one yeshiva in the Borough Park

population, more than 45% of families live below 150% of the federal poverty line.”).

214. “[I]n 62% [of American Haredi] households neither parent has more than a high school diploma.” *Id.*; *But see* Gilad Malach & Lee Cahaner, *2019 Statistical Report on Ultra-Orthodox Society in Israel*, THE ISRAEL DEMOCRACY INST. (Jan 1, 2020), <https://en.idi.org.il/haredi/2019/?chapter=29391>, [https://perma.cc/CGS4-MFGX] (noting 51% of Israeli women had taken matriculation exams in 2016/2017).
215. Silverberg et al., *supra* note 116, at 1006.
216. Press Release, The Nat’l Acad. of Sci., Engineering, & Med., Nation’s Immunization Program Must Be Revitalized To Maintain Strength and Prevent Future Disease Outbreaks (June 15, 2000), <https://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=9836> [https://perma.cc/236C-TEXL].
217. Elisheva Blas, *One Measly Change: An Unorthodox Approach to Addressing Ultra-Orthodox Measles Outbreak*, UNIV. OF PA., Aug. 9, 2019, at 30, <https://repository.upenn.edu/cgi/viewcontent.cgi?article=1003&context=mbds> [https://perma.cc/275D-VLJF].
218. Wan Yang, *Transmission Dynamics of and Insights from the 2018-2019 Measles Outbreak in New York City: A Modeling Study*, SCI. ADVANCES (May 27, 2020), <https://www.science.org/doi/10.1126/sciadv.aaz4037> [https://perma.cc/75BK-MMG7].
219. *Id.*
220. *Alert #2: Update on Measles Outbreak in New York City in the Orthodox Jewish Community*, N.Y.C. DEP’T HEALTH & MENTAL HYGIENE (Feb. 28, 2019), <https://www1.nyc.gov/assets/doh/downloads/pdf/han/alert/2019/update-on-measles->

neighborhood, almost 97 percent of students were immunized against measles in 2012; [by 2019], the rate at that same school has fallen to 72.7 percent.”²²¹

The starkness of the decline evidences the extent of the anti-vax threat, echoing the Somali experience. Nevertheless, the comparative delay in containing the epidemics –almost a year in Rockland and Brooklyn, compared to three months in Minnesota – alerts us to seek an additional explanation. One theory is measles parties, where children are intentionally exposed to the virus.²²² The “pox party” idea was, in fact, advocated by participants at the June consortium addressed by Bigtree in Brooklyn.²²³ Whether or not Bigtree himself advocated these is unknown, as reporters are banned from attending his symposia.²²⁴

C. The London Experiences: 2007, 2013, 2019

The United Kingdom had faced the ramifications of Wakefield’s bogus autism-vaccine connection more than a decade earlier, with immunization rates plummeting after publication of

outbreak-in-nyc-in-the-orthodox-jewish-community.pdf
[<https://perma.cc/UHK9-83PF>].

221. Schaffer, *supra* note 196.

222. Yang, *supra* note 218. *See also* Hanna Kozłowska, *Anti-Vaxxer Parents are Organizing “Pox Parties” on Facebook*, QUARTZ (Nov. 20, 2018), <https://qz.com/1468982/anti-vaxxer-parents-are-organizing-pox-parties-on-facebook/> [https://perma.cc/M7SN-9NT6] (reporting on a North Carolina epidemic of 36 cases and noting that “[a] new working paper published by the National Bureau of Economic Research (NBER) argues that Facebook groups function as anti-vaccination echo-chambers, reinforcing misleading information.”).

223. Goldenberg & Eisenberg, *supra* note 195.

224. Anna Merlan, *Everything I Learned While Getting Kicked out of America’s Biggest Anti-Vaccine Conference*, JEZEBEL (June 20, 2019), <https://jezebel.com/everything-i-learned-while-getting-kicked-out-of-america-1834992879> [https://perma.cc/9MLM-KESM]. *See also* Robert F. Kennedy, Jr. vs Alan Dershowitz: *The Great Vaccine Debate!*, CHILD’S HEALTH DEF., <https://childrenshealthdefense.org/transcripts/robert-f-kennedy-jr-vs-alan-dershowitz-the-great-vaccine-debate/> [https://perma.cc/AGF7-JGSZ] (last visited Nov. 7, 2021) (in which Kennedy falsely claimed that Vioxx was marketed to “cure headaches”). Kennedy’s Children’s Defense Fund website provides a good guide to the propaganda.

Wakefield's paper.²²⁵ “As the number of unprotected children increased, so did the number of cases[.]”²²⁶ until Wakefield was removed from the British Medical register in 2010.²²⁷

By 2006, approximately 700 measles cases had been reported in the UK.²²⁸ “Between 1996 and 2005, cases ranged from 56 to 440.”²²⁹ By 2007, the number of measles cases jumped to 990.²³⁰ The following year saw 1348 confirmed cases of measles, with London reporting the largest number (662).²³¹

Wakefield's message infected the general population, as well as ultra-Orthodox communities.²³² While the message's import

225. *Measles Outbreak in Maps and Graphics*, BBC NEWS (May 2, 2013), <https://www.bbc.com/news/health-22277186> [<https://perma.cc/AR7M-ZX9B>].

226. *Id.*

227. Tim Baker, *Measles outbreak hits south London with almost 90 cases across number of schools*, THE EVENING STANDARD (Dec. 18, 2019), <https://www.standard.co.uk/news/london/london-measles-outbreak-school-vaccine-a4316831.html> [<https://perma.cc/7FCE-AUJY>]. See also James Meikle & Sarah Boseley, *MME Row Doctor Andrew Wakefield Struck Off Register*, THE GUARDIAN (May 24, 2010) <https://www.theguardian.com/society/2010/may/24/mmr-doctor-andrew-wakefield-struck-off> [<https://perma.cc/G94E-JQGN>].

228. *Confirmed Cases of Measles, Mumps and Rubella in England and Wales: 1996 to 2020*, GOV.UK, <https://www.gov.uk/government/publications/measles-confirmed-cases/confirmed-cases-of-measles-mumps-and-rubella-in-england-and-wales-2012-to-2013> [<https://perma.cc/8QKK-JUC9>] (last visited Nov. 7, 2021).

229. *Id.*

230. Lynn Eaton, *Measles Cases in England and Wales Rise Sharply in 2008*, BMJ (Feb. 10, 2009), <https://www.bmj.com/content/338/bmj.b533?hwshib2=authn%3A1636419816%3A20211107%253A0694acdc-78f4-4b5b-a62b-d84fe8c592de%3A0%3A0%3A0%3AE3Q2HDFiS5L0zs6iIn2ZJw%3D%3D> [<https://perma.cc/5RCP-VQHY>].

231. *Id.*

232. Marcy Oster, *Hundreds of Haredi Orthodox Attend Symposium With Leaders Of Anti-Vaccine Movement*, S. FLA. SUNSENTINEL (May 15, 2019), <https://www.sun-sentinel.com/florida-jewish-journal/fl-jj-haredi-orthodox-symposium-anti-vaccine-20190522-20190515-xggn3ogm2rcalfgbknpj47d3ia-story.html> [<https://perma.cc/KJ35-CGXF>]. See also T. Lernout et al., *An outbreak of measles in Orthodox Jewish communities in Antwerp, Belgium, 2007–2008: Different Reasons for Accumulation of Susceptibles*,

was attenuated in the general population after 2010, once it infected the insular ultra-Orthodox, it rooted, perhaps due to lack of access to the internet or lack of confidence in the medical establishment. Vaccination declined to 46% compared to 85% for the general population,²³³ perpetuated primarily by social contacts and word of mouth.²³⁴ Contrary to reports blaming lifestyle and large families for increased vaccine resistance,²³⁵ at least one study found otherwise:

Low rates of immunization in the orthodox Jewish community . . . were not perceived to be due to practical difficulties associated with large families, or to insensitive cultural practices of health care providers. In a community relatively insulated from direct media influence, word of mouth is nevertheless a potent source of rumours [sic] about vaccination dangers, whose origin may lie in mediascares.²³⁶

Five years later in 2012-2013, another measles epidemic ravaged the UK.²³⁷ This one began in October 2012 and ended in September 2013, some eleven months later.²³⁸ In England, over

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- EUROSURVEILLANCE (Jan. 15, 2009), https://www.eurosurveillance.org/content/10.2807/ese.14.02.19087-en#html_fulltext [<https://perma.cc/2S9Q-LJKL>].
233. Lesley Henderson et al., *Perceptions of Childhood Immunization in a Minority Community: Qualitative Study*, 101 J. ROYAL SOC'Y MED. 244, 245 (2008). *See also Measles Outbreak among Members of the Orthodox Jewish Community — Brooklyn, New York, March-June 2013*, ID WEEK (Oct. 5, 2013), <https://idsa.confex.com/idsa/2013/webprogram/Paper43088.html#> [<https://perma.cc/8SUY-3L42>].
234. Henderson et al., *supra* note 233, at 250.
235. Silverberg et al., *supra* note 116, at 1006.
236. Henderson et al., *supra* note 233, at 250.
237. Alex Keenan et al., *Measles Outbreaks in the UK, Is It When and Where, Rather Than If? A Database Cohort Study of Childhood Population Susceptibility in Liverpool, UK*, BMJ OPEN, (Jan. 26, 2017), <https://bmjopen.bmj.com/content/7/3/e014106.long> [<https://perma.cc/D9SW-GX5D>].
238. Matthieu Pegorie et al., *Measles Outbreak in Greater Manchester, England, October 2012 to September 2013: Epidemiology and Control*, Eurosurveillance (Dec. 11, 2014), <https://www.eurosurveillance.org/docserver/fulltext/eurosurveillance/19/49/art20982-en.pdf?expires=1636340337&id=id&accname=guest&>

1920 cases were reported for 2012 and over 1400 cases for 2013.²³⁹ On December 20, 2012, an outbreak was reported in the largest ultra-Orthodox Jewish community in Europe, in Hackney, London, which included a large Haredi population of 17,587.²⁴⁰ The report about Hackney included the following:

Vaccination coverage within this community is lower than in the general population of London . . . Hackney[,] known to have high proportions of Orthodox Jewish patients[,] have considerably lower vaccination coverage (55%–75% of patients 24 months of age had received measles, mumps, rubella [MMR] vaccine in the 3rd quarter of 2012) compared with the London average (87.3%).²⁴¹

By the time the epidemic was declared over on March 19, 2013, 62 cases of measles were reported in Hackney.²⁴² Vaccine resistance in the UK seems to have been brought under control by 2014, when British cases again reverted to less than 100, before abruptly skyrocketing again in 2016.²⁴³ By 2018 the country registered a national vaccine uptake of, of 87.2%.²⁴⁴ In Hackney and neighboring Haringey, however, the levels were significantly lower, 70.2 per cent and 69.7 percent, respectively.²⁴⁵

checksum=9DE9EEA07A29CF5757EFAA6153B5E1DD
[<https://perma.cc/JU9U-64F2>].

239. GOV.UK, *supra* note 228.

240. Vanessa Baugh et al., *Ongoing Measles Outbreak in Orthodox Jewish Community, London, UK*, 19 J. EMERGING INFECTIOUS DISEASE 1707, 1708 (2013). “Health beliefs, family size (the average Charedi household size is 6.3 persons), and underutilization of immunization services contribute to low coverage.” *Id.* at 1707. *C.f.* Gilad Malach & Lee Cahaner, *2018 Statistical Report on Ultra-Orthodox Society in Israel*, ISRAEL DEMOCRACY INST. (Dec. 19, 2018), <https://en.idi.org.il/articles/25385> [<https://perma.cc/PL3T-QBG9>] (finding that the average number of children born to an ultra-Orthodox woman in Israel is 7.1).

241. Baugh et al., *supra* note 240, at 1707.

242. *Id.* at 1708.

243. GOV.UK, *supra* note 228.

244. *Past Six Months*, INEWS (Apr. 8, 2019), <https://inews.co.uk/news/measles-outbreak-london-hackney-haringey-cases-council-vaccination-276615> [<https://perma.cc/KH6E-AXR5>].

245. *Id.*

Not surprisingly, when the next epidemic hit, it hit the ultra-Orthodox hard. That hit came in 2018- 2019, with 968 and 797 cases in each year respectively²⁴⁶ for all of London – concentrated primarily in the ultra-Orthodox enclaves.²⁴⁷ Putting “that figure into perspective, there has been a full-year average of just 174 cases across all London boroughs between 2012 and 2018.”²⁴⁸ The rates for Hackney and Haringey, however, were disproportionately higher: between January 1 and May 31, 2019, 322 cases of measles were detected in the Hackney and Haringey Orthodox Jewish community.²⁴⁹ The 2019 outbreak affected the Hackney community at ten times the national rate, “and the data suggests it has now reached between 1 and 2 per cent of the approximately 20,000 strong community.”²⁵⁰ This means that the ultra-Orthodox community sustained an attack rate 72% higher than the national average and accounted for almost half of the British cases.²⁵¹

The five-fold increase in measles incidence between 2012/3 and 2019 in the ultra- Orthodox community begs for an explanation. Rabbi Avrohom Pinter of the Orthodox Jewish Health Forum provided one. He explained that within the community were groups of people specifically campaigning against vaccination,²⁵² and that “[t]here were a number of reasons for the outbreak, including misinformation relating to autism and Wakefield.”²⁵³ Other “Orthodox leaders . . . [said] that ‘misinformation, particularly from America, had been feeding a

246. Gov.UK, *supra* note 228.

247. Ruchira Sharma, *A Measles Outbreak in London has Reached More than 300 People in the Past Six Months*, iNEWS (Apr. 8, 2019), <https://inews.co.uk/news/measles-outbreak-london-hackney-haringey-cases-council-vaccination-276615> [https://perma.cc/KL5D-G8M9].

248. Stephen Oryszczuk, *Measles Surge Among London’s Charedi Children – 72% HIGHER Than Average*, JEWISH NEWS (Sept. 12, 2019), <https://jewishnews.timesofisrael.com/measles-surge-among-londons-charedi-children/> [https://perma.cc/KEX3-M2UT].

249. *Id.*

250. Sharma, *supra* note 247.

251. Oryszczuk, *supra* note 248.

252. Sharma, *supra* note 247.

253. Oryszczuk, *supra* note 248.

communal reluctance to vaccinate”²⁵⁴ Rabbi Pinter confirmed this, voicing his concerns about what he called “US-based lobbying against immunization.”²⁵⁵ Astonishingly, he pinpointed the work of PEACH, (the same group who stoked the Brooklyn epidemic), reporting on dissemination of its anti-vaccination leaflets as responsible, and noting that “in their ‘Vaccine Safety Handbook,’ it lists the “Halachic reasons” to question the safety of vaccines which Pinter calls “scaremongering.”²⁵⁶ Interestingly, among the PEACH contributors was London-born co-founder Moishe Kahan,²⁵⁷ who according to LinkedIn, is director of The Local News, based in London and affiliated with several other London-based organizations.²⁵⁸

D. The Israeli Experiences: 2007-8, 2018-19.

During 2018-19, Israel sustained the sixth largest outbreak in the world, the only developed country to have been this significantly affected.²⁵⁹ More than 4300 people sickened and at least three died.²⁶⁰ The outbreak primarily targeted ultra-Orthodox pockets of Israeli society.²⁶¹ Repeating the Somali,

254. *Id.*

255. *Id.*

256. *Id.*

257. Schaffer, *supra* note 196.

258. Moishe Kahan, LINKEDIN, <https://www.linkedin.com/in/moishekahan-b374a24a/?originalSubdomain=uk> [https://perma.cc/7GYR-7BRP] (last visited Nov. 7, 2021).

259. *Measles and Rubella Monthly Update for the WHO European Region*, WORLD HEALTH ORG. DIV. OF HEALTH EMERGENCIES & COMMUNICABLE DISEASES, <https://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/publications/surveillance-and-data/who-epidata/2019/who-epidata,-no.-42019> [https://perma.cc/L2AD-DEQS] (last updated May 6, 2019). *C.f.* Tani Goldstein, *Ill -Prepared Israeli Health System Struggles to Keep Measles at Bay*, TIMES OF ISRAEL (Nov. 11, 2019), <https://www.timesofisrael.com/ill-prepared-israeli-health-system-struggles-to-keep-measles-at-bay/> [https://perma.cc/6JKP-J4W4].

260. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25.

261. Chen Stein-Zamir, Nitza Abramson, & Hanna Snoob, *Notes from the Field: Large Measles Outbreak in Orthodox Jewish*

Brooklyn, and London experiences, Israel, too, had sustained an earlier prodromal attack. This one occurred about a decade earlier, in 2007-8.²⁶² Again, like the Minnesota and Brooklyn outbreaks, both epidemics were the worst since the early 1990s.²⁶³ And like the Brooklyn epidemic of 2013, the index case in the prodromal Israeli outbreak was imported from the London 2007-08 epidemic.²⁶⁴

By comparison to the United Kingdom, however, Israel is considered a highly vaccinated country.²⁶⁵ In 2000, 97% of Israeli children in the relevant age groups were immunized; in 2013, 96% of children were vaccinated, and a similar number were vaccinated in 2017.²⁶⁶ The overall 2018 Israeli vaccination rate is given at 94%.²⁶⁷ This means that although the rates were slowly falling, there were still more vaccinated children in Israel than, for example, France, the UK, Germany, and Italy.²⁶⁸ By 2019,

Communities-Jerusalem District, Israel, 2018-2019, 69 U.S. DEP'T. OF HEALTH & HUMAN SERV./CTRS. FOR DISEASE CONTROL & PREVENTION MORBIDITY AND MORTALITY WEEKLY REPORT 562, 562 (2020) [hereinafter *Notes*].

262. C. Stein-Zamir et al., *Surveillance and Outbreak Reports: An Outbreak of Measles in an Ultra-Orthodox Jewish Community in Jerusalem, Israel, 2007-an In-Depth Report*, 13 EURO SURVEILLANCE 1, 1 (2008) [hereinafter *Surveillance*].
263. Anis et al., *supra* note 117, at 253.
264. *Surveillance*, *supra* note 262, at 1.
265. Tani Goldstein, *Ill-Prepared Israeli Health System Struggles to Keep Measles at Bay*, TIMES OF ISRAEL, (Nov. 11, 2019), <https://www.timesofisrael.com/ill-prepared-israeli-health-system-struggles-to-keep-measles-at-bay/> [<https://perma.cc/6JKP-J4W4>]; Anis et al., *supra* note 117 (noting that measles was effectively contained in Israel following implementation of the two-dose MMR program during the 1994-95 school year. From 1996 through 2006 mean annual incidence was less than 1/100,000 (an average of 63 cases yearly). For the next five years, it crept up to 1776 cases, with 1018 localized in Jerusalem; the largest single epidemic prior to 2018 was 2007-08).
266. Goldstein, *supra* note 259. *But see Notes*, *supra* note 261 (claiming only 90% of children are vaccinated currently, and only 78% of ultra-Orthodox children).
267. Malach & Cahaner, *2018 Statistical Report*, *supra* note 240.
268. Goldstein, *supra* note 259.

however, the national vaccination rate tanked to 90%.²⁶⁹ Within the Haredi, or ultra-Orthodox community, the rates plummeted to 78%.²⁷⁰

As in all epidemics discussed thus far, the prodromal Israeli epidemic targeted an insular community, here the ultra-Orthodox. In 2007-08, 1467 cases were reported for the country;²⁷¹ the 992 cases reported in Jerusalem accounted for two thirds.²⁷² By comparison, the 2018-19 epidemic resulted in 4,115 cases, almost three times the earlier number.²⁷³ Of the Israeli cases, about half were reported for Jerusalem and its suburbs (more than double the 2007-8 number).²⁷⁴

These figures suggest that not only has the ultra-Orthodox community been infected by the anti-vax groups, but they also seem to have infiltrated the general society, a hypothesis sustained by viewing the anti-vax *Hisunim: Informed Choice* website²⁷⁵ and their Facebook page, once boasting thousands of subscribers before that page was removed.²⁷⁶ The increase in the

269. *Notes, supra* note 261.

270. *Id.*

271. Anis et al., *supra* note 117, at 254.

272. See Chen Stein-Zamir et al., *Who are the Children at Risk? Lessons learned from Measles Outbreaks*, 140 EPIDEMIOLOGY & INFECTION 1578, 1580 (2011) [hereinafter *Children at Risk*]. Israeli numbers are not consistent between sources and is difficult to compare precisely between the epidemics as the means of reporting changed. However, since the numbers are so drastically different precise integer differentials are not significant.

273. *Notes, supra* note 261; Anis et al., *supra* note 117, at 254.

274. *Notes, supra* note 261.

275. Tobias Siegal, *Anti-vax Facebook group attracts thousands, shut down twice*, THE JERUSALEM POST (Feb. 16, 2021), <https://www.jpost.com/israel-news/anti-vax-facebook-group-shut-down-for-second-time-in-two-weeks-659123> [https://perma.cc/XS8M-WVGR]. See generally VACCINES ASSOCIATION-AN INFORMED CHOICE, <https://www.educated-choice.co.il/order/>; מתחילים עכשיו: סודיות רפואית וכפיית היסונים במקום העבוד [Now Playing: Medical Secrecy and Forcing Vaccines Instead of Work] (last visited Sept. 24, 2021) (showing that the anti-vaccine movement has gained legitimacy in Israel).

276. Siegal, *supra* note 275. See also *Educated Choice*, FACEBOOK, <https://www.facebook.com/hisunimeducatedchoice/> [https://perma.cc/MP3X-NXU9] (last visited Feb. 14, 2022). As of July 8,

anti-vax stance in the non-ultra-Orthodox community, then, bears further inquiry, which is outside the scope of this Article.

As for reasons explaining the increase in cases in the Haredi communities, little weight can be attributed to demographics or lifestyle, which changed little over the years between the two epidemics. Information about vaccines from local health care providers did influence a change in attitude about vaccines and led to some immunization.²⁷⁷ Access to the internet also expanded, although this was circumscribed.²⁷⁸ We can, therefore, assume that the already lower levels of vaccination rates grossly deteriorated for reasons mainly unrelated to lifestyle, and was occasioned by some extrinsic factor and/or the role of women. The question is: what was that factor?

We start with an initial inquiry into factors responsible for the baseline resistance level evidenced by the 2007-08 epidemic. Reasons track those given in outbreaks discussed above, including “apathy toward preventive healthcare measures in general and hostility toward services provided by the public health system.”²⁷⁹ Described as two mutually reinforcing attitudes, Israeli researchers believed this created local pockets of susceptibility to measles infection.²⁸⁰ Another feature that might account for low baseline vaccine uptake is governmental policy eschewing a pre-school vaccination requirement.²⁸¹ Yet another proffered rationale was that “some rabbis oppose vaccination because of the authority they wield, people refuse [to immunize their children].”²⁸² This is demonstrably inapplicable to the 2018-19 epidemic, as the vast majority of Orthodox Rabbis and *poskim* (Halachic Arbiters) publicly insisted that vaccination is a Halachic imperative.²⁸³ Further, the then-Minister of Health,

2021, the Facebook page listed only 7050 followers. It is not known what caused the discrepancy.

277. See Lesley Henderson et al., *supra* note 233.

278. See Malach & Cahaner, *2018 Statistical Report*, *supra* note 240.

279. Anis et al., *supra* note 117, at 256.

280. *Id.*

281. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25.

282. Goldstein, *supra* note 259.

283. Nancy Cutler and Deena Yellin, *As Passover Approaches, Jewish Leaders Warn that Measles Outbreak Feeds Anti-Semitism*, LOHUD (April 15, 2019), <https://www.lohud.com/story/news/>

Yaakov Litzman, is Haredi himself and publicly advocated for vaccination.²⁸⁴ Finally, we get the oft-touted theory attributing vaccine resistance to difficulties involved with parenting large families.²⁸⁵

Further research demonstrates this does not wholly account for the surfeit of vaccine resistance and cannot account for the statistics presented in the 2018-2019 epidemic.²⁴¹ First, studies investigating the Haredi community²⁸⁶ confirmed demographic changes noting *lower* fecundity since 2007.²⁸⁷ In recent years “there has been a decline in the fertility rate among ultra-Orthodox women,”²⁸⁸ corroborating the construct that increased

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- local/rockland/2019/04/12/measles-outbreak-backlash-passover/3435172002 [https://perma.cc/Q7DD-PET2] (“A headline in Der Yid, published by the Satmar Hasidic community, called the anti-vaccination movement: ‘Senseless! Heartless! Torah-less and Reckless.’”). *But See* Dov S. Zahkheim, *Da’as Torah and Anti-Vaxxers*, JEWISH J. (May 1, 2019), https://jewishjournal.com/commentary/columnist/297876/daas-torah-and-anti-vaxxers/ [https://perma.cc/KYT8-ZRKP] (explaining that some of the most influential rabbis in the anti-vaxxer movement are in the Lakewood, N.J. area, which is the model for yeshivas all over the world. Following the direction of other influential rabbis, schools are refusing to turn away unvaccinated children).
284. Ido Efrati, *Israeli Minister Mulls Mandatory Inoculations in School System*, ISRAEL NEWS (Aug. 19, 2018), https://www.haaretz.com/israel-news/.premium-israeli-minister-mulls-mandatory-inoculations-in-school-system-1.6389206?v=1632014183216 [https://perma.cc/WQ7E-834B] (“Inoculations are the cornerstone of prevention of dangerous infectious diseases and they have decisive importance in the health of children and the public in general.”).
285. *See* Goldstein, *supra* note 259.
286. Henderson et al., *supra* note 233 (reporting on a qualitative study of an Ultra-Orthodox community in London finding that difficulties incident to raising large families were not uppermost in the minds of mothers surveyed in making vaccine choices).
287. Lee Cahaner, Gilad Malach, & Maya Choshen, *2017 Statistical Report on Ultra-Orthodox Society in Israel*, ISRAEL DEMOCRACY INST. (Dec. 31, 2017), https://en.idi.org.il/articles/20439 [https://perma.cc/HH39-YCCB] (noting family size decreased over the decade, which suggests family size is not the driving force of increased vaccine resistance).
288. *Id. See also* Malach & Cahaner, *2018 Statistical Report*, *supra* note 240 (listing fertility at 7.1 children per family); UZI REBUN & GILAD

vaccine resistance in 2018-19 is not due to larger families. Indeed, facile excuses to that effect might be covers for other insidious fears, including fear of social rejection by their peer group. It does bear to note, however, that ultra-Orthodox families' where seven or more children are common²⁸⁹ may foster transmission at home or synagogue; a lifestyle rendering vaccination prior to school attendance (rather than at a year or six months of age) ineffective.

Second, evidence indicates a lack of attention to health matters in parents of unvaccinated children, regardless of the number of children in the family. Only 82% of first-born children who had measles (and were unvaccinated) were registered in well-baby clinics (a surrogate for vaccination), compared to 100% of first-born children who didn't have measles (and hence were vaccinated).²⁹⁰ This means that 18% of mothers of unvaccinated children didn't vaccinate their first child either – when family size would not have been an issue.

One hypothesis for decreased vaccine receptivity is that mobilization of the “Vaccines Informed Consent Israel” movement occurred sometime between the two outbreaks. During the interim between these two epidemics, the organized anti-vax community took root in Israel.²⁹¹ The Facebook page was created on Nov. 1, 2013.²⁹² On November 21, 2020, the group held its first international symposium hosted at the Tel Aviv Convention Center,²⁹³ entitled “The First International Conference on

MALACH, THE METZILAH CTR. FOR ZIONIST, JEWISH, LIBERAL & HUMANIST THOUGHT, DEMOCRATIC TRENDS IN ISRAEL 34 (Ruth Gavison ed., 2009) (noting the rate fell overall from 9 to 8 children).

289. Malach & Cahaner, *2018 Statistical Report*, *supra* note 240.

290. *Children at Risk*, *supra* note 272, at 1584.

291. Barbara Pfeffer Billauer, *So, If the Torah Says “Choose Life” – Why Are the Haredim Courting Death?*, TIMES OF ISRAEL: THE BLOGS (Feb. 14, 2021), <https://blogs.timesofisrael.com/so-if-the-torah-says-choose-life-why-are-the-haredim-courting-death/> [https://perma.cc/NT6H-GF6Y].

292. חיסונים-בהירה מושכלת [*Vaccines – An Informed Choice*], *About This Group*, FACEBOOK (Nov. 1, 2013), <https://www.facebook.com/groups/VaccineChoiceIL/about> [https://perma.cc/RKP5-MCLR] (Isr.).

293. *International Conference on Informed Consent*, EXPO TEL AVIV INT'L CONVENTION CTR., <https://expotelaviv.co.il/>

Informed Consent,²⁹⁴ a cagily termed euphemism for the first international Anti-Vax Conference. The conference²⁹⁵ targeted a diverse and extensive Israeli anti-vax-sympathetic community. Most of the presenters were American or British, and the talks were in English – with simultaneous Hebrew translation (some of it botched).²⁹⁶ Among the prominently featured speakers were none other than Del Bigtree of American-ICAN²⁹⁷ and Mary Holland (who has an autistic child of her own), now general counsel to Robert Kennedy’s *Children’s Health Defense*.²⁹⁸

Over one thousand persons attended,²⁹⁹ many with toddlers.³⁰⁰ The attendees were mostly secular Israelis,³⁰¹ although there was

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- en/event/international-conference-on-informed-consent/ (last visited Sept. 17, 2021) [https://perma.cc/P4ZH-ALHN].
294. *Id.* (“This conference is the [sic] produced by the Israeli NPO ‘Vaccines - Educated Choice’, which works towards information transparency regarding vaccines safety, efficacy and the Israeli law. This NPO is a sanctuary for parents of vaccine injured children, providing them with information and support.”); Barbara Pfeffer Billauer, *Anti-Vaxx Under Cover: Targeting Jewish Moms*, TIMES OF ISRAEL (Dec. 9, 2019), <https://blogs.timesofisrael.com/anti-vaxx-under-cover-targeting-jewish-moms/> [https://perma.cc/JG9L-LQ5N].
295. I attended the conference described here.
296. Smallpox was translated as chicken pox, for example. Billauer, *Anti-Vaxx Under Cover: Targeting Jewish Moms*, *supra* note 294.
297. מיכל סימפּלר, הראיון המלא מהכנס עם דל ביגטרי [Full Interview from the Conference with Del Bigtree], FACEBOOK (June 2, 2021), <https://www.facebook.com/groups/VaccineChoiceIL/posts/3002156350018383> [https://perma.cc/35B4-L36F] (Isr.).
298. עמותת חיסונים – בחירה מושכלת [Vaccines – An Informed Choice], FACEBOOK (Dec. 4, 2020), <https://www.facebook.com/groups/VaccineChoiceIL/posts/2872431162990903> [https://perma.cc/CPG5-APJ8] (Isr.); *Attorney Mary Holland Joins Children’s Health Defense*, CHILD.’S HEALTH DEF. (Sep. 16, 2019), <https://childrenshealthdefense.org/news/attorney-mary-holland-joins-childrens-health-defense/> [https://perma.cc/BP2T-RUHW] (“When my child suffered a precipitous developmental regression, ending in an autism diagnosis, my appreciation of vaccine injury risk changed fundamentally.”).
299. Pfeffer Billauer, *Anti-Vaxx Under Cover: Targeting Jewish Moms*, *supra* note 294.
300. *Id.*
301. Author’s personal observation, made while attending conference.

a small cohort of about 150 Haredi mothers who occupied a separate room where their toddlers were free to roam on the floor and the speakers appeared by telescreen.³⁰² Interestingly, the Haredi mothers had no problem transporting suckling infants - belying the notion that Haredi mothers are too overstressed with children to take them to the local *Tipat Chalav* (baby clinic) for vaccination.³⁰³ Tickets for the conference were about \$75.00 each³⁰⁴ - clearly not cheap -³⁰⁵ and certainly did not cater to an impoverished or lower-socio-economic audience, a demographic traditionally ascribed to the Haredi community.³⁰⁶ These observations suggest that lower socio-economic and educational status ascribed to ultra-Orthodox³⁰⁷ as explanatory for increased vaccine uptake, may be less relevant in Israel, or may be flawed conclusions.

We also have evidence that PEACH had invaded the Jerusalem market, at least as early as 2017.³⁰⁸ *The Vaccine Handbook* lists PEACH's lending library locations. Three are in the US: Monsey (Rockland), Boro Park [sic], and Lakewood, and

302. Pfeffer Billauer, *Anti-Vaxx Under Cover: Targeting Jewish Moms*, *supra* note 294.

303. *Id.*

304. Author attended conference and was charged 300 NIS, which is equivalent to \$75 USD. *See Israeli Shekel(ILS) To United States Dollar (USD)*, FXEXCHANGE RATE, <https://ils.fxexchangerate.com/usd/300-currency-rates.html> [<https://perma.cc/JY3U-VNBS>] (last visited Sept. 19, 2021). The event organizers aimed to raise \$90,000. *Lead the Way in Unveiling the Truth of Vaccines and Informed Consent. Stand Up for Scientific Integrity and Our Basic Human Rights*, EDUCATED-CHOICE, <https://www.educated-choice.com/fund/> [<https://perma.cc/T2LU-X8YL>] (last visited Sept. 19, 2021).

305. *See id.*

306. Danny Zaken, *The Israeli Ultra-Orthodox Paradox: Earning Little. Feeling Rich*, AL-MONITOR (Dec. 31, 2018), <https://www.al-monitor.com/originals/2018/12/israel-ultra-orthodox-poverty-research-oecd-health-secular.html> [<https://perma.cc/N7KU-MFLR>]; Silverberg et al., *supra* 116, at 1006 (noting that one hypothesis for the vulnerability of the Rockland ultra-Orthodox was lower socio-economic status and lower educational profile).

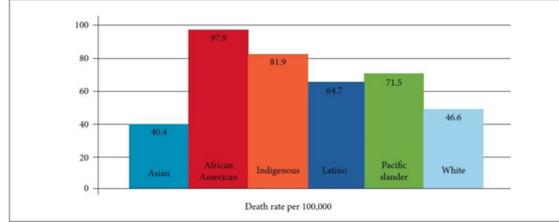
307. *Id.*

308. PARENTS EDUCATING & ADVOCATING FOR CHILDREN'S HEALTH, *THE VACCINE SAFETY HANDBOOK*, 37 (2017) (listing various "gemachts" or lending libraries).

five in the Jerusalem area.³⁰⁹ The brochure also furnishes an Israeli email.³¹⁰

The Underlying Problem: Racial Health- Baseline

FIGURE 1. COVID-19 deaths per 100,000 people by race/ethnicity, through September 10, 2020



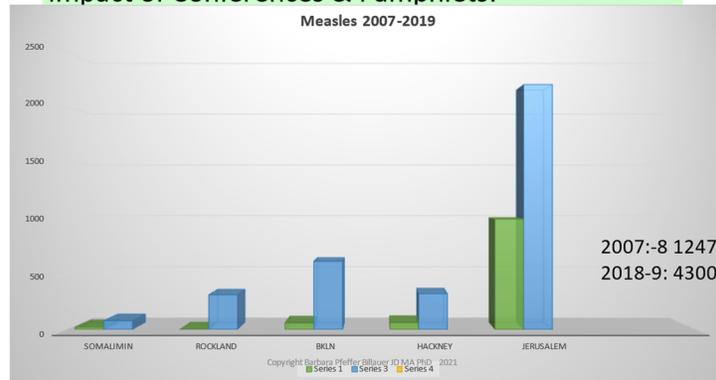
Source: APM Research Lab, September 10, 2020. Available at <https://www.apmresearchlab.org/COVID/deaths-by-race>.

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Blacks are twice as likely to die of COVID

[://www.apmresearchlab.org/COVID/deaths-by-race](https://www.apmresearchlab.org/COVID/deaths-by-race)

Impact of Conferences & Pamphlets:



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309. *Id.*

310. *Id.* at 2.

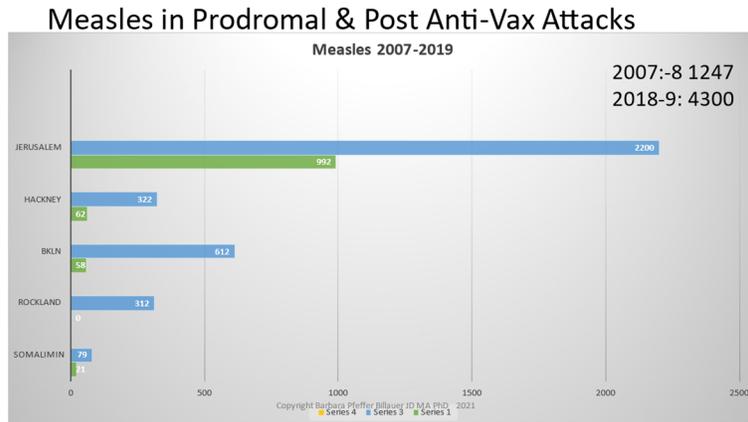


Table 1: Major Measles Case Incidence in Insular Communities (2007–19)86F³¹¹

Area and Outbreak Years	Prodromal outbreak	Recent outbreak	Percentage Increase	Anti-vax group
1. Somali in Minnesota:	21 (2013)	79 (2017)	376%	Multiple
2. Brooklyn:	58 (2011)	654 (2018–19)	1,127%	PEACH, ICAN
3. Hackney, London:	4781F ³¹² (2012–13)	32282F ³¹³ (2019)	685%	PEACH
4. Israel (Entire)	146983F ³¹⁴ (2007–08)	4292 (2019)	~292%	PEACH, Informed Consent Group

311. Barbara Pfeffer Billauer, *Muzzling Anti-Vaxxer FEAR Speech: Overcoming Free Speech Obstacles with Compelled Speech*, 76 U. MIAMI L. REV 1, 16 (2021).
312. *Id.* (citing Vanessa Baugh et al., *Ongoing Measles Outbreak in Orthodox Jewish Community, London, UK*, 19 EMERGING INFECTIOUS DISEASES 1707, 1708 (2013)).
313. *Id.* (citing Stephen Oryszczuk, *Measles Surge Among London’s Charedi Children—72% HIGHER than Average*, JEWISH NEWS (Sept. 12, 2019), <https://jewishnews.timesofisrael.com/measles-surge-among-londons-charedi-children/> [https://perma.cc/8LF7-G389]).
314. *Id.*

				*with ties to ICAN and possibly RFK's Children's Defense Fund
5. Jerusalem:	49184F ³¹⁵ (2007)	144485F ³¹⁶ + 662 (suburbs) (2018-19)		

~: Israeli Ministry of Health Statistics* + Bet Shemesh (422) & Beitar Illit (244)

The 2007-08 statistics did not break out the case numbers by cities, only by the ten Health Districts Beit Shemesh and Beitar Illit were undoubtedly counted in the Jerusalem numbers, and together registered 662 cases.

There are, however, several other differences between the 2007-08 and 2018-19 cohorts which might have contributed to the gross escalation in case count. The first is that in the earlier epidemic, adults travelling abroad were encouraged to be vaccinated.³¹⁷ Had this directive been followed in 2018-19, it is not unlikely that at least one death could have been avoided (the Israeli stewardess) and some cases prevented.³¹⁸ A second is that an extensive vaccination and risk communications outreach program was undertaken by the Ministry of Health in 2007-08, generating a temporary uptick in vaccination.³¹⁹ In the recent epidemic the Ministry was effectively silent and sluggish in

315. *Id.* (citing *Surveillance, supra* note 262, at 58).

316. *Id.* (citing NUMBER OF MEASLES CASES BY LOCALITY IN THE COUNTRY, ISR. MINISTRY OF HEALTH (July 11, 2019), https://www.health.gov.il/Subjects/disease/Pages/Measles_by_Cities.aspx). Numbers for Jerusalem and suburbs for 2007 were 930 compared to 2100+ for 2018-19. *Id.*

317. Anis et al., *supra* note 117, at 255.

318. *See El Al Flight Attendant Dies 4 Months After Contracting Measles on Plane From NY*, TIMES OF ISRAEL (Aug. 13, 2019), <https://www.timesofisrael.com/el-al-flight-attendant-dies-4-months-after-contracting-measles-on-plane-from-ny/> [<https://perma.cc/E7S2-BZ2N>] (flight attendant who died was not fully vaccinated).

319. Anis et al., *supra* note 117, at 255.

response,³²⁰ perhaps due to budgetary freezes engendered by the political stalemate. Between “August to December 2007, circa 5,000 doses of vaccine were administered in the Jerusalem district – three times the average in the same period in the 2006, a year without an outbreak.”³²¹ This can be attributed to greater receptivity to vaccination at that time. The fourth difference -- begging for explanation is a change in receptivity to vaccination.

E. The Amish Outbreak in Ohio (2014)

In the chronology of American measles epidemics following the Brooklyn 2013 outbreak, the largest outbreak America had seen since 1994 occurred in 2014 and affected the Amish in Ohio.³²² Perhaps, another window on the impact of anti-vax groups is comparing the Somali and ultra-Orthodox Jewish experiences with the Amish experience.

Similar to the Somali and the ultra-Orthodox, the Amish are an insulated and religiously directed sect, this one Christian.³²³ The group descended from the Swiss Anabaptists, practice “group solidarity” and reject “modern conveniences.”³²⁴ “Although the Amish Church does not specifically prohibit vaccination, the personal and cultural beliefs of the Amish limit participation in preventive health care, which results in low immunization rates and an increased risk of vaccine-preventable diseases.”³²⁵ Like the prodromal outbreaks in Minnesota and Brooklyn, the Amish epidemic was, at the time, “the largest such outbreak documented

320. Goldstein, *supra* note 259.

321. Stein-Zamir et al., *Surveillance and Outbreak Reports*, *supra* note 262, at 3.

322. Andrew Welsh-Huggins, *Largest U.S. Measles Outbreak in 20 Years Hits Ohio Amish Community*, J. STAR (July 1, 2014), <https://www.pjstar.com/article/20140701/NEWS/140709914> [<https://perma.cc/RVA2-DQV4>].

323. Julia Belluz, *New York’s Orthodox Jewish Community is Battling Measles Outbreaks. Vaccine Deniers Are to Blame.*, VOX (Apr. 10, 2019), <https://www.vox.com/science-and-health/2018/11/9/18068036/measles-new-york-orthodox-jewish-community-vaccines> [<https://perma.cc/KKA7-3RFA>] [hereinafter Belluz III]; Benita M. Jackson et al., *An Epidemiologic Investigation of a Rubella Outbreak Among the Amish of Northeastern Ohio*, 106 PUB. HEALTH REP. 436, 436 (1993).

324. Jackson et al., *supra* note 323.

325. Gastañaduy, *supra* note 29, at 1344.

in the United States in more than two decades, with a crude attack rate that was several orders of magnitude larger than the annual incidence of measles in the country.³²⁶ “The outbreak affected one of the largest Amish settlements in the United States” with an estimated population of 32,630 persons.³²⁷ It infected 383 people, all but three Amish. Of these, 340 (89%) were unvaccinated prior to the outbreak.³²⁸

The Amish population, however, was entirely untarnished by anti-vax infiltrators. Perhaps not surprisingly, then, they readily acceded to Health Department recommendations immediately after the outbreak was first recognized. Because the community was noted to be “less opposed to vaccination than Amish communities have been in the past,”³²⁹ the outbreak was contained in four months (March 24, 2014, through July 23, 2014), during which vaccination was administered to over 10,000 persons in nine Ohio counties.³³⁰

Efforts to counter the Amish outbreak were impeded by a delay in recognizing the outbreak, i.e., in making the first diagnosis.³³¹ Outreach efforts to deliver vaccinations and education were further “hampered by communication — few Amish have phones — [and] transportation and the strapped resources of rural counties without big health departments, said Richland County public health nurse Sue McFarren.”³³² Yet, the lack of vaccine resistance made a difference. Compared to the Somali and ultra-Orthodox, the responsiveness of the Amish to public health officials was pronounced. Public health nurse McFarren noted that “[w]hen they’re contacted, most Amish . . . cooperated, [and][t]hey have been excellent about quarantining

326. *Id.* at 1349.

327. *Id.* at 1345.

328. *Id.* at 1346.

329. *Vaccination of Amish Limited 2014 Ohio Measles Outbreak*, HEALIO (Oct. 5, 2016), <https://www.healio.com/news/infectious-disease/20161005/vaccination-of-amish-limited-2014-ohio-measles-outbreak> [<https://perma.cc/Y8W4-PCM2>].

330. Welsh-Huggins, *supra* note 322.

331. HEALIO, *supra* note 329.

332. Welsh-Huggins, *supra* note 322.

themselves. If they have a case, they stay home until it's run its course."³³³

In contrast, the 2018-19 outbreak in Rockland County sickened a similar number of persons, 312.³³⁴ Here, the residents were coopted by virulent anti-vax groups, with Robert Kennedy targeting non-Jewish parents, and Bigtree master-minding ultra-Orthodox infiltration. Yet, notwithstanding a better funded health department, an instantaneous detection of the outbreak, a more technologically advanced society (e.g., most families have phones; some have smartphones), and hence easier contact tracing, the Rockland outbreak took more than twice as long to contain.³³⁵ From the first diagnosis till the outbreak was declared over, it took a year.³³⁶

IV. THE ANTI-VAX MOVEMENT INFECTS INSULAR COMMUNITIES

Many commentators have suggested that the organized anti-vax movement has a distinct role in stoking these epidemics by encouraging vaccine resistance.³³⁷ "With regard to the Haredi population, . . . we know that there is a high ratio of anti-vaxxers

333. *Id.*

334. *Measles Information*, ROCKLAND CTY., <http://rocklandgov.com/departments/health/measles-information/> [https://perma.cc/TN9E-WC9L] (last visited Oct. 8, 2021). See Josefina Dolsten, *US Anti-vaxxers Use Holocaust-era Yellow Stars to Promote their Agenda*, TIMES OF ISRAEL (Apr. 6, 2019), <https://www.timesofisrael.com/anti-vaxxers-using-holocaust-era-yellow-stars-to-promote-their-agenda/> [https://perma.cc/SQ7K-AQUR]. See generally Kayla Epstein, *'He is wrong': Robert F. Kennedy Jr.'s Family Calls Him Out For Anti-Vaccine Conspiracy Theories*, WASH. POST (May 8, 2019), <https://www.washingtonpost.com/health/2019/05/08/he-is-wrong-robert-f-kennedy-jrs-family-calls-him-out-anti-vax-conspiracy-theories/> [https://perma.cc/G6EK-2GBC].

335. See John Lyon, *Measles Outbreak Declared Over in Rockland*, ROCKLAND CTY (Sept. 25, 2019), <http://rocklandgov.com/departments/health/press-releases/2019-press-releases/measles-outbreak-declared-over-in-rockland/> [https://perma.cc/3WAP-PSUB].

336. *Id.*

337. See Goldstein, *supra* note 259.

among them.”³³⁸ But how much of this is due to concerted efforts of organized anti-vax activists? Is it precisely because the ultra-Orthodox communities are isolated, and hence vulnerable?

In the following section, I discuss the anti-vax movements that have targeted the ultra-Orthodox communities in greater detail and note their methods of “attack.”

A. *The Anti-Vax Movement: An Introduction*

Several studies have investigated reasons for non-vaccination, concluding that information gleaned via social media³³⁹ is the most important signifier in failure to vaccinate.³⁴⁰ Others, like Dr. Gellin, of the Sabin Vaccine Institute, believes the anti-vax message is spread “more about social networks than social media.”³⁴¹ Research into the 2018-19 epidemics³⁴² attests to the importance of social networking (not social media), at least in insular communities. “The consensus in the health community is that these groups are primarily influenced by three mechanisms: hotlines (and robocalls), written material (pamphlets), and symposia, with family and friends being the most common means of dissemination.”³⁴³

338. *Id.*

339. *See e.g.*, Kozłowska, *supra* note 222.

340. *See generally* Silverberg et al., *supra* note 116. *See also* Ana Santos Rutschman, *Malicious Bots and Trolls Spread Vaccine Misinformation – Now Social Media Companies Are Fighting Back*, THE CONVERSATION (Sept. 18, 2019), <https://theconversation.com/malicious-bots-and-trolls-spread-vaccine-misinformation-now-social-media-companies-are-fighting-back-123430> [<https://perma.cc/DD7G-HEQ4>].

341. Nick Paumgarten, *The Message of Measles*, THE NEW YORKER (Sept. 2, 2019), <https://www.newyorker.com/magazine/2019/09/02/the-message-of-measles> [<https://perma.cc/FP6H-JAU7>].

342. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25.

343. *Id.* *See also* *New York City declares public health emergency over measles outbreak*, CBS (Apr. 9, 2019), <https://www.cbsnews.com/news/measles-outbreak-new-york-city-orders-measles-vaccination-exclude-unvaccinated-students-in-brooklyn/> [<https://perma.cc/JY22-X6DY>] (noting that according to Gary Schlesinger, CEO of Parcare Community Health Network, “the information was being spread through hotlines, some publications. I’ve seen some mailings.”). “The false messages that they say convinced hundreds of New Yorkers not to vaccinate their children weren’t spread in a

Pamphleteering seems to be an especially effective tool,³⁴⁴ a finding corroborated by experts in the field of persuasion. Marketing rhetoric under euphemistic titles such as “Vaccines: Education or Informed Consent” feeds the participant or readers desire to feel informed or empowered.³⁴⁵ The reasons for vaccine resistance are not new:

Trust in . . . the government that widely purchases and promotes vaccines are at all-time low levels. Fear of the “pharmaceutical industrial complex” and . . . distrust in science and the medical community . . . [have also] fueled vaccine hesitancy Many parents no longer want to be told what to do for the health of their children by their pediatrician, but rather want a shared decision-making process [Parents] find misinformation and poor science on the internet. Further, [pediatricians] are finding it increasingly more difficult to effectively communicate accurate and objective information to parents about vaccines [And in] our electronic age, vaccine safety scares rapidly cross-national borders and circle the globe.³⁴⁶

The anti-vax groups have crystallized these messages and added reasons, stoking the baseline vaccine resistance level, mostly by claiming that the vaccine itself is dangerous and the disease is not.³⁴⁷ According to New York City’s health

Facebook group or on YouTube, but through a glossy magazine written by and for Orthodox Jewish parents. Copies of the magazine were shared in a way that seems old-fashioned in the age of misinformation — through family, friends and neighbors.” Zadrozny, *supra* note 1. “‘The Vaccine Safety Handbook’ looks legitimate but is filled with wild conspiracy theories and inaccurate data.” *Id.*

344. *Schneider v. State*, 308 U.S. 147, 164 (1939) (stating “[P]amphlets have proved most effective instruments in the dissemination of opinion.”).
345. See generally Ben Kasstan, “A Free People, Controlled Only by God”: *Circulating and Converting Criticism of Vaccination in Jerusalem*, CULTURE, MEDICINE, & PSYCHIATRY (Feb. 4, 2021), <https://link.springer.com/article/10.1007/s11013-020-09705-2> [<https://perma.cc/DS48-V4TS>].
346. Mariam Siddiqui et al., *Epidemiology of Vaccine Hesitancy in the United States*, 9 LANDIS BIOSCIENCE 2643, 2643 (2013).
347. See, e.g., Jayne Donegan, *Mumps – Do We Need to Worry?*, DR. JAYNE DONEGAN (Nov. 2, 2004), <http://www.jayne->

commissioner, Dr. Oxiris Barbot, the 2018-19 Brooklyn outbreak that targeted Borough Park and Williamsburg was “fueled by a small group of anti-vaxxers in these neighborhoods . . . spreading dangerous misinformation based on fake science” and utilizing a vast array of publication media.³⁴⁸ Commissioner Barbot attributes the proliferation of these calloustactics to the fact that these anti-vax groups answer to no one, adding that these groups “are adept at using strategies—from anonymous robocalls to transmitting false information through the Web—with impunity because they have no one to hold them accountable for misinformation.”³⁴⁹ Further, she noted that holding such an event during an outbreak is “beyond irresponsible, it is downright dangerous.”³⁵⁰

B. The Anti-vax Groups in the Orthodox Communities

False information campaigns masterminded by organized anti-vax groups have brilliantly preyed on vulnerabilities and idiosyncratic fears of insular groups, such as autism in the Somali. In anti-vax rhetoric targeting the ultra-Orthodox, hysteria-mongering tactics utilized by Del Bigtree of ICAN, resplendent in yellow Star of David,³⁵¹ include referencing the Holocaust.³⁵² PEACH,³⁵³ which first surfaced in 2011, hosted call-ins³⁵⁴ and

donegan.co.uk/wp-content/uploads/2010/05/Mumps.pdf. *See also* Jayne LM Donegan, *Childhood Vaccinatable Diseases and Their Vaccines- A Review* (2009) (on file with author).

348. Claudia Koerner & Julia Reinstein, *How A Group for Jewish Moms Spread Anti-Vax Propaganda Before New York’s Measles Outbreak*, BUZZFEED NEWS (April 12, 2019), <https://www.buzzfeednews.com/article/claudiakoerner/anti-vaccine-peach-measles-new-york-propaganda-outbreak> [<https://perma.cc/3PUZ-92QK>].

349. Mole, *supra* note 80.

350. *Id.*

351. *See* Dolsten, *supra* note 334.

352. *Id.*

353. An ostensibly related group named enrichedparenting.org was registered in 2015. It rebranded and re-launched sometime in 2018. *See* Zadrozny, *supra* note 1.

354. *Health and Living*, JEWISH PRESS 36 (Nov. 2011), <https://www.jewishpress.com/wp-content/uploads/2011/11/Health-Living-November-2011.pdf>.

falsely identifies vaccine additives including forbidden pork products and fetal cells.³⁵⁵ Anti-vax efforts in Black communities have compared the experiments at Tuskegee to the Holocaust.³⁵⁶

1. P.E.A.C.H. in the U.S.

Opponents of vaccination have become increasingly influential in the Orthodox community in the last 5 to 10 years.³⁵⁷ They trace this skepticism to the P.E.A.C.H. organization,³⁵⁸ which circulates materials in print and online.³⁵⁹ This group boasts potentially the most wide-spread influence in the ultra-Orthodox community, likely because its ostensible founder, Chany Silber³⁶⁰ (who has taken pains to hide her true identity), is

355. P.E.A.C.H. Handbook, *supra* note 71.

356. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25 (citing Mole, *supra* note 80). *See generally* Barbara Pfeffer Billauer, *Sisyphus, A Safer COVID-19 Vaccine, And Susceptible Populations*, *supra* note 21. *See generally* Part III *supra*.

357. Tabachnick, *supra* note 197 (noting the spurious FEAR speech contained in the PEACH literature and stating, “[t]here is . . . a noticeable decline in vaccination rates in some religious Jewish communities in North America and a rise in religious exemptions at some Jewish day schools. A measles outbreak in Los Angeles in 2017 centered on the Orthodox Jewish community, and a 2015 wave of pertussis, or whooping cough, appeared in the Brooklyn haredi Orthodox communities of Williamsburg and Borough Park”).

358. Claudia Koerner & Julia Reinstein, *How A Group For Jewish Moms Spread Anti-Vax Propaganda before New York’s Measles Outbreak*, BUZZFEED NEWS (Apr. 15, 2019), <https://www.buzzfeednews.com/article/claudiakoerner/anti-vaccine-peach-measles-new-york-propaganda-outbreak> [https://perma.cc/8JQ7-V4XP] (“Its principal officer was listed as Rebecca Fleischmann, who told BuzzFeed News that her nonprofit did not publish or have any association with the magazine or pamphlets.”). Calls are led by Chany Silber, a Jewish mother in Brooklyn. *See* Gwynne Hogan, *Misinformation Hotline Stokes Fear of Vaccines In Ultra-Orthodox Community*, GOTHAMIST (Mar. 12, 2019), <https://gothamist.com/news/misinformation-hotline-stokes-fear-of-vaccines-in-ultra-orthodox-community> [https://perma.cc/XK25-RQWA].

359. Belluz III, *supra* note 323.

360. Chany Silber leads call-ins through Akeres Habayis Hotline, a recorded-message center for Orthodox Jewish women. *See* Hogan, *supra* note 358. Via this vehicle, “PEACH has been spreading

a Hasidic mother residing in Borough Park,³⁶¹ apparently with contacts in Monsey, Lakewood, and Jerusalem.³⁶²

Dr. Patricia Ruppert, the Health Commissioner of Rockland County, agrees, warning that “[f]or at least the last four years, what’s come to be known as the ‘PEACH pamphlet’ has been targeting orthodox Jewish communities in the Northeast.”³⁶³ Their first pamphlet titled *The Vaccine Safety Handbook: An Informed Parent’s Guide*³⁶⁴ became ubiquitous in Hasidic enclaves of Brooklyn during the 2018-19 outbreak³⁶⁵ as well as in Rockland,³⁶⁶ the material therein being decidedly false.³⁶⁷ A second pamphlet, called *All Your Vaccine Questions Answered*,³⁶⁸ apparently published in 2017, prominently features Hebrew letters indicating appreciation for the provenance and help of the

unfounded fears about vaccines in the Orthodox community and helping skeptical parents avoid them.” Zadrozny, *supra* note 1.

361. Another source identifies the founder as a Mrs. Etie Teigman. See Natan Slifkin, *Just the Vax, Ma’am*, RATIONALIST JUDAISM (Apr. 17, 2019), <http://www.rationalistjudaism.com/2019/04/just-vax-maam.html> [<https://perma.cc/VKE4-3VZP>].
362. See *Akeres Habayis Hotline*, LINKEDIN, <https://www.linkedin.com/in/akeres-habayis-hotline-641a9b3a> [<https://perma.cc/EB9V-VMSJ>]. See also THE AKERES HABAYIS HOTLINE 212-444-1900, <http://akereshabayishotline.blogspot.com> [<https://perma.cc/7CUN-UG8F>].
363. *Tracking Down the People Behind a Pamphlet That’s Fueling New York’s Measles Outbreak*, CBS NEWS (May 14, 2019), <https://www.cbsnews.com/news/measles-outbreak-tracking-down-the-people-behind-anti-vaccine-pamphlet/> [<https://perma.cc/7SRG-3ZDG>].
364. See generally P.E.A.C.H. Handbook, *supra* note 71. A companion pamphlet, *All Your Vaccine Questions Answered*, is also available. P.E.A.C.H., *All Your Vaccine Questions Answered*, DROPBOX (Dec. 1, 2018), <https://www.dropbox.com/s/uu9b5dg11rcenms/PEACH%20anti-vaxxing.pdf?dl=0> [<https://perma.cc/KSC9-XNZM>].
365. Paumgarten, *supra* note 203.
366. Short, *supra* note 28. See also Belluz III, *supra* note 319.
367. Zadrozny, *supra* note 1 (noting that “[w]ithout evidence, it claims that vaccines are the nation’s greatest threat to public health, linked to autism, ADHD, Sudden Infant Death Syndrome [and] miscarriage . . .”).
368. See generally P.E.A.C.H., *All Your Vaccine Questions Answered*, *supra* note 364.

Almighty.³⁶⁹ The pamphlets play on unique fears of the ultra-Orthodox,³⁷⁰ for example, claiming that vaccines contain traces of monkey kidneys, rabbit brains, pork products, and aborted fetuses,³⁷¹ and warning that “[f]rom our research (and for some of us, from personal experience) many more than ‘one in a million’ lives have been ruined by vaccines.”³⁷²

The methods of outreach, however, go beyond pamphleteering and symposia. Robocalls are another approach.³⁷³ In May of 2019, “CBS News obtained anonymous text messages sent [in the] last month to orthodox Jewish fathers in Brooklyn while they were in temple. When [CBS] . . . called the number provided in the text, . . . [they] got another misleading statement: “This vaccine will cause swelling of the brain. They all do. Every single vaccine causes encephalitis.”³⁷⁴

Another means of message dissemination is recorded conference calls or telephonic hotlines, also organized by P.E.A.C.H. and moderated by Ms. Silber, apparently since 2011.³⁷⁵ Indeed, “for a decade, through the Akeres Habayis Hotline,³⁷⁶ a recorded-message center for Orthodox Jewish women, P.E.A.C.H. has been spreading unfounded fears about vaccines in the Orthodox community and helping skeptical

369. *See id.*

370. Zadrozny, *supra* note 1 (noting that the pamphlet “challenges the effectiveness of vaccines in eradicating those illnesses and likens the U.S. government’s promotion of vaccines to the medical atrocities of Nazi Germany”).

371. Koerner & Reinstein, *Group for Jewish Moms*, *supra* note 358.

372. Gabriella Borter, *Insight: How One County Scrambled to Keep America Measles-Free*, Reuters (Nov. 4, 2019), <https://news.trust.org/item/20191104110248-dr8mg> [<https://perma.cc/L4EA-AUCV>].

373. Short, *supra* note 29.

374. *Tracking Down the People Behind a Pamphlet That’s Fueling New York’s Measles Outbreak*, *supra* note 363.

375. Zadrozny, *supra* note 1 (listing other contributors as Moishe Kahan and discredited physician Binyamin Rothstein and cooperating groups (or alter ego organizations) such as Enriched Parenting).

376. Hogan, *supra* note 358 (noting “the *Akeres Habayis* [translation: Anchor or Foundation of the Home, an appellation given to a Jewish Homemaker] Hotline . . . serv[es] as a telephonic hub for ultra-Orthodox mothers who are resistant to vaccinating their children”).

parents avoid them.”³⁷⁷ The Hotline is not uniquely geared to anti-vax rhetoric; it combines other information, including parenting and cooking.³⁷⁸ The source is “perfect for today’s busy Jewish wives and mothers. As you go about your daily routine, just call us and be enlightened about many different areas of life.”³⁷⁹

This method of combining benign and obviously useful information with treacherous “propaganda” is a very powerful means of persuasion. According to Professor Meghan Bridgid Maran, “[w]hen a piece of misinformation is linked to other beliefs, attitudes, values and behaviors that one already accepts, the misinformation becomes easier to understand and accept. And anti-vaccine websites can leverage this by associating misinformation about vaccines with alternative medicine or healthcare.”³⁸⁰

In addition to the two aforementioned periodicals produced by the P.E.A.C.H. group,³⁸¹ a third anti-vax pamphlet – also targeting the ultra-Orthodox – called *Gedolim Letters on Vaccination, Parental Rights and Religious Freedom*, [hereinafter *Gedolim Letters*]³⁸² seems influential in the ultra-Orthodox community of Lakewood, New Jersey.³⁸³ It also may have

377. Zadrozny, *supra* note 1.

378. *About Akeres Habayis*, THE AKERES HABAYIS HOTLINE 212-444-1900 (June 5, 2010), <http://akereshabayishotline.blogspot.com/2010/06/welcome-to-new-and-improved-akeres.html> [<https://perma.cc/4LMY-2FX9>].

379. *Akeres Habayis Hotline*, *supra* note 362 (last visited Feb. 17, 2022).

380. Zadrozny, *supra* 1.

381. *See generally* P.E.A.C.H. Handbook, *supra* note 71; P.E.A.C.H., *All Your Vaccine Questions Answered*, *supra* note 364.

382. “Gedolim” refers to the Great Ones, the most Eminent Sages. *See Gadol*, WIKIPEDIA, <https://en.wikipedia.org/wiki/Gadol> [<https://perma.cc/A3M5-76GV>] (last visited Oct. 20, 2021). Interestingly the anonymous author of the presentation places great weight on the anti-vax opinion of Rabbi Chaim Kanievesky, who in light of the COVID-19 epidemic is now a proponent of vaccination, urging parents to vaccinate children. *See* David Rosenberg, *Rabbi Chaim Kanievsky Backs Call to Vaccinate Children Over 12*, ISRAEL NATIONAL NEWS (June 29, 2021), <https://www.israelnationalnews.com/News/News.aspx/308936> [<https://perma.cc/2PRS-5394>].

383. *See* Tyler Pager, ‘Monkey, Rat and Pig DNA’: How Misinformation Is Driving the Measles Outbreak Among Ultra-Orthodox Jews, N.Y. TIMES (Apr. 9, 2019), <https://www.nytimes.com/2019/>

contributed to the New Jersey legislative defeat via their spiffy and professionally produced 54-page brochure produced and compiled by anonymous author(s).³⁸⁴

2. The American Anti-vaxxers and the Israel Connection

One Israeli Haredi columnist, Danit Shemesh, penned an article for the *Jerusalem Post* advancing several reasons defending her anti-vax stance.³⁸⁵ Before noting her position, it is crucial to understand that this woman, a Haredi Jerusalemite, is a transplanted Californian.³⁸⁶ It would not be far-fetched to assume that some of her anti-vax views may be transplanted from American anti-vaxxers.³⁸⁷ One striking allegation Ms. Shemesh leveled was blaming the prevalence of autoimmune diseases on

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- 04/09/nyregion/jews-measles-vaccination.html [https://perma.cc/UF7A-8AUQ]; see also Tracey Tully et al., *How Anti-Vaccine Activists Doomed a Bill in New Jersey*, N.Y. TIMES (Jan. 16, 2020), <https://www.nytimes.com/2020/01/16/nyregion/nj-vaccinations-religious-exemption.html> [https://perma.cc/4XWA-LYMQ].
384. Gedolim Letters, *supra* note 72, The author(s) rejected my invitation to identify themselves, citing fears of defamation. The rabbinical stances have been impressively countered in a self-published brochure by a local physician-philanthropist Richard Roberts. See *GEDOLIM LETTERS ON VACCINATION: Dr. Richard Roberts Publishes 192,000 Copies of Massive Brochure in English & Yiddish*, THE YESHIVA WORLD (June 4, 2019), <https://www.theyeshivaworld.com/news/general/1737738/gedolim-letters-on-vaccination-dr-rich-roberts-publishes-90000-copies-of-massive-brochure-in-english-yiddish.html> [https://perma.cc/Y4CM-Z54A]; Richard Roberts, *Gedolim Letters on Vaccinations*, THE YESHIVA WORLD (June 2019).
385. Pam Peled et al., *Three Ladies- Three Lattes: Measles Malady*, JERUSALEM POST (May 16, 2019), <https://www.jpost.com/omg/three-ladies-three-lattes-measles-malady-589802> [https://perma.cc/T3FH-JSCB].
386. See *Rank and File*, HAARETZ, <https://www.haaretz.com/rank-and-file-1.5303324> [https://perma.cc/NBE5-H4CK] (last visited Oct. 20, 2021).
387. See Peled, *supra* note 385; *Vaccines – An Informed Choice*, *supra* note 298. Instead, Shemesh's reasons exactly paralleled an American blog catering to the religious right communities, repeating almost verbatim points of its author, which echoes the Israeli anti-vaxxers. See Susan Lapin, *Can We Talk Vaccines*, RABBI DANIEL LAPIN (Apr. 4, 2019), <https://rabbidaniellapin.com/can-we-talk-vaccines/> [https://perma.cc/E2SD-59J8].

the vaccine.³⁸⁸ In point of fact, the opposite is true; the measles virus itself is highly immunosuppressive, and deaths and illness related to it are caused by increased susceptibility to other infectious diseases, especially encephalitis and pneumonia.³⁸⁹ The disease also causes a condition known as ‘immune amnesia’ which eliminates the body’s learned resistance to other diseases.³⁹⁰

Whether her source of curious misinformation was P.E.A.C.H. or some other American source is, of course, unknown. But P.E.A.C.H. does have five outlets in Jerusalem where its materials are available.³⁹¹ We also see the fingerprints of Kennedy Jr.’s *Children’s Health Defense* in Israel, which advertised the Tel Aviv Conference on its Facebook page.³⁹² A Hebrew website called *Vaccine Choice-Israel* boasted 45,000

388. See P.E.A.C.H. Handbook, *supra* note 71, at 12 (mentioning the disease along with a myriad of others).

389. Bracha Rager-Zisman et al., *Differential Immune Responses to Primary Measles-Mumps-Rubella Vaccination in Israeli Children*, 11 CLINICAL DIAGNOSTIC LAB. IMMUNOLOGY 913, 917 (2004); Paul Offit, *Measles Causes ‘Immune Amnesia,’ Leaving Patients Vulnerable to Repeat Infections*, HEALIO (Nov. 4, 2019), <https://www.healio.com/news/infectious-disease/20191104/measles-causes-immune-amnesia-leaving-patients-vulnerable-to-repeat-infections> [https://perma.cc/6FA4-PVE9].

390. Paul Offit, *supra* note 389. See also Melissa Healy, *Measles Infection Causes ‘Immune Amnesia,’ Leaving Kids Vulnerable to Other Illnesses*, JERUSALEM POST (Nov. 10, 2019), <https://www.jpost.com/israel-news/measles-infection-causes-immune-amnesia-leaving-kids-vulnerable-to-other-illnesses-607403> [https://perma.cc/M3N8-MJ6E] (noting that according to two studies published in the journals *Science* and *Science Immunology*, “in roughly 16% of those who suffered an active measles infection, the result was a severe case of ‘immune amnesia.’ In those children, a genetic census of antibodies – immune proteins that recognize and destroy invading microbes – showed that they had lost at least some immunity to more than 40% of common childhood diseases. Measles appeared to have stripped away immune protections these children had built over years of exposure to diseases and germs.”).

391. P.E.A.C.H. Handbook, *supra* note 71, at 37.

392. On November 6th, the Children’s Health Defense posted about Expo Tel Aviv hosting the International Conference on Informed Consent (ICIC) on November 21st. See *Children’s Health Defense*, FACEBOOK (Nov. 6, 2019), <https://www.facebook.com/ChildrensHealthDefense/posts/2465254477055292/> [https://perma.cc/KN8N-EMcompDN].

followers,³⁹³ now with over 53,000 followers, and required approval through an on-line questionnaire before admission³⁹⁴ before apparently being removed by Facebook.³⁹⁵ A review of the posts reveals familiar anti-vax tropes and unsubstantiated claims and allegations.³⁹⁶ Additionally, while attempts are made to restrict social media's involvement in the anti-vax movement in the US (at least Twitter and Instagram, and now with Facebook),³⁹⁷ no such effort appears to be directed at Hebrew-language websites.³⁹⁸

393. *See Vaccines – An Informed Choice*, *supra* note 298.

394. *See id.*

395. *Id.* The Facebook pages have since been removed at the time of writing this article. These figures are based on the author's recollection. *See* Siegal, *supra* note 275.

396. *Id.*

397. Catherine Kim, *Anti-vaccination Rallies Are Drawing Crowds – Even During the Measles Epidemic*, VOX (May 15, 2019), <https://www.vox.com/science-and-health/2019/5/15/18624715/antivax-vaccines-measles-new-york-orthodox-jews-rallies> [https://perma.cc/45ZZ-VV8Q] (stating that “[t]ech companies are trying to crack down on the anti-vaccination movement. If you look up vaccination-related content on Twitter, the app displays a statement from the United States Department of Health and Human Services at the top of the search results. Instagram has also blocked hashtags that spread misinformation.”). *See also* Andrew Griffin, *Instagram and Twitter Updates Stop People Looking at Anti-Vaxx Propaganda*, INDEPENDENT (May 10, 2019), <https://www.independent.co.uk/life-style/gadgets-and-tech/news/instagram-twitter-latest-update-anti-vaxx-nhs-a8908971.html> [https://perma.cc/U2YT-EMMQ].

398. Facebook allowed propulsion of anti-vax sentiments until recently. *See* Chuck Dinerstein, *Drawing Back the Curtain on Facebook's Vaccination Advertising*, AM. COUNCIL SCI. & HEALTH (Nov. 19, 2019), <https://www.acsh.org/news/2019/11/19/drawing-back-curtain-facebooks-vaccination-advertising-14406> [https://perma.cc/MJX8-B2L8].

V. QUASHING THE FLAWED ANTI-VAX MESSAGE: A POLICY-DRIVEN SOLUTION

Previously, attempts to deal with vaccine resistance have been confined to legislative decisions or executive order, either to eliminate non-medical vaccine exemptions, or to mandate vaccination during the pendency of a pandemic.³⁹⁹ Some claim these approaches are overly restrictive of individual liberty or violate the freedom of religion.⁴⁰⁰ To date most objections have not survived legal scrutiny and the legislation has been allowed to stand.⁴⁰¹ Although, in the wake of *Roman Catholic Diocese v. Cuomo*,⁴⁰² a determination that the state police powers are inviolate during a public health emergency, as *Jacobson v. Massachusetts* might be read to suggest,⁴⁰³ would be misplaced.⁴⁰⁴ The *Jacobson* case, considered iconic by public health law lawyers⁴⁰⁵ (although downgraded to a “modest” case by Justice

399. Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3 (manuscript at 51-52).

400. *See id.* (manuscript at 52).

401. Rockland County’s measles vaccine order mandating vaccination was stricken. *See id.* (manuscript at 34). *See also* Gabriella Nuñez, *Judge Sides with Florida Teachers Union, Says Districts Should Decide If Schools Should Reopen*, CLICK ORLANDO (Aug. 25, 2020), <https://www.clickorlando.com/news/local/2020/08/24/judge-sides-with-florida-teachers-union-says-districts-should-decide-if-schools-should-reopen/> [<https://perma.cc/VP3Z-MXAR>].

402. *Roman Cath. Diocese of Brooklyn v. Cuomo*, 141 S.Ct. 63, 68 (2020) (per curiam). *Id.* at 69 (Gorsuch, J., concurring) (“Even if judges may impose emergency restrictions on rights that some of them have found hiding in the Constitution’s penumbras, it does not follow that the same fate should befall the textually explicit right to religious exercise.”). *See also* *Calgary Chapel Dayton Valley v. Sisolak*, 140 S.Ct. 2603, 2604 (Alito, J., dissenting) (“We have a duty to defend the Constitution, [which guarantees freedom of religion] and even a public health emergency does not absolve us of that responsibility.”).

403. *See Jacobson v. Massachusetts*, 197 U.S. 11 (1905).

404. Michelle M. Mello & Wendy E. Parmet, *Public Health Law after Covid-19*, 385 NEW ENG. J. MED. 1153, 1154 (2021).

405. Pfeffer Billauer, *Fundamentalism in Roman Catholic Diocese v. Cuomo*, *supra* note 56.

Kavanaugh in Roman Catholic Diocese⁴⁰⁶) involves ratifying the state's police power to compel smallpox vaccination in those unwilling to take it on the grounds of exercising their personal or constitutional rights to freedom and liberty).⁴⁰⁷

Thus far, only five American states have been able to remove all nonmedical exemptions to mandatory pre-school vaccination requirements.⁴⁰⁸ Other states seeking to implement similar legislation, such as Maine⁴⁰⁹ and New Jersey,⁴¹⁰ have been thwarted.⁴¹¹ Legislators, pressured by community anti-vax activists and outside lobbyists, are loath to curtail what has been argued as a constitutional right (i.e., to refuse vaccination).⁴¹²

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406. Roman Cath. Diocese of Brooklyn, 141 S.Ct. at 75 (Roberts, J., dissenting).
407. Jacobson, 197 U.S. at 25-27.
408. Lauren Camera, *No Vaccine, No School?*, U.S. NEWS & WORLD REP. (Dec. 11, 2020), <https://www.usnews.com/news/the-report/articles/2020-12-11/will-states-require-children-get-a-coronavirus-vaccination-to-return-to-school> [<https://perma.cc/4VQ2-FHQE>].
409. See Andy O'Brien, *Eye on Augusta: Rampant Vaccination Misinformation Poses Real Challenge to Public Health*, FREE PRESS OF ME. (Mar. 21, 2019), <https://freepressonline.com/Content/Default/Eye-on-Augusta-2019/Article/Eye-on-Augusta-Rampant-Vaccination-Misinformation-Poses-Real-Challenge-to-Public-Health/-3/991/63485> [<https://perma.cc/J4T7-L7UZ>] (reporting on "hundreds of parents flooding into the State House last week to oppose a bill that would eliminate philosophical and religious exemptions from mandatory vaccines for public school children. Even more alarming was . . . a bipartisan group of legislators . . . reciting thoroughly debunked myths about the supposed dangers of vaccines [e.g., that vaccines cause autism] . . . parent after parent expressed fears about thimerosal, a mercury-based preservative used in vaccines that was removed from childhood vaccines nearly 20 years ago . . ."). Perhaps not surprisingly, Maine reported the highest rate of pertussis disease in the country for 2018.
410. Natan Slifkin, *The Lakewood Suicide Squad*, RATIONALIST JUDAISM (Mar. 10, 2018), <http://www.rationalistjudaism.com/2018/03/the-lakewood-suicide-squad.html> [<https://perma.cc/FLS8-XBD4>].
411. Camera, *supra* note 408.
412. See Sanjina Shrestha, *Republican Lawmakers Push to Cast Vaccine Refusal as a Civil Rights Issue*, GUARDIAN (July 16, 2021), <https://www.theguardian.com/world/2021/jul/16/republicans-covid-19-vaccine-refusal-legal-protections> [<https://perma.cc/ZNZ4-HPCU>]; Abigail Censky & Katarina Sostaric, *Republicans Are Changing State Laws to Try to Get Out of Federal Vaccine*

In ignoring this public health problem for the sake of political expediency, these legislators unwittingly facilitate transmission of the anti-vax message, generating additional converts to the cause and seeding the likelihood of another runaway epidemic. Governmental legal policy also influences vaccine uptake. By way of comparison, Israel does not require mandatory vaccination prior to attending school as a national policy, although local health directors are empowered to issue directives on a limited crisis-driven basis.⁴¹³ This power, however, has been officially employed only twice since the country's inception,⁴¹⁴ and the current policy is certainly one explanation for the high incidence of cases.

It must be recalled that the harm that ensues in not vaccinating is not just to the unvaccinated child, of whom 1 in 5 will end up in the hospital,⁴¹⁵ but to those for whom vaccination is medically contraindicated. Population-based harm also ensues by diverting personnel and financial resources from health departments that are called to address an emergency that ordinarily would be handled by the local physician. In the case of a secondary epidemic, for example a later outbreak of COVID-19 or flu occurring during the pendency of a measles outbreak, the load on hospitals would likely be so great as to lead them to their breaking point — to the detriment of the public at large.⁴¹⁶

Mandates, NPR (Nov. 22, 2021), <https://www.npr.org/2021/11/22/1057427047/republicans-are-changing-state-laws-to-try-and-get-out-of-federal-vaccine-mandat> [https://perma.cc/73XF-8WWN].

413. Shelly Kamin-Friedman, *Would it be Legally Justified to Impose Vaccination in Israel: Examining the Issue in Light of the 2013 Detection of Polio in Israeli Sewage*, 6 ISR. J. HEALTH POL'Y 1, 3 (2017).

414. *Id.* at 4.

415. *Measles Complications*, CDC, <https://www.cdc.gov/measles/symptoms/complications.html> [https://perma.cc/B5ML-BJZE] (last visited Oct. 12, 2021).

416. Maayan Hoffman, *More Israelis Died from COVID-19 Due to Hospital Overload*, JERUSALEM POST (Mar. 28, 2021), <https://www.jpost.com/health-science/more-israelis-died-from-covid-19-due-to-hospital-overcrowding-study-663429> [https://perma.cc/EU5H-QME4]; Ronny Linder, *At Least Fifth of Israeli Second-Wave COVID Deaths Were Preventable, Study Finds*, HAARETZ (Jan. 2, 2021), <https://www.haaretz.com/israel-news/.premium-hospital-overcrowding-behind-fifth-of-israeli-second-wave-covid-deaths-study-finds-1.9424805> [https://perma.cc/4HYL-52UL].

In recent years estimates placed global followers of English language anti-vax social media at 58 million people,⁴¹⁷ which accounts, at least in part, for the removal of WHO “measles-free” status in 2019 to four OECD countries including the United Kingdom⁴¹⁸ (with the United States just barely escaping). This situation, begs for some immediate redress as dissemination of vaccine misinformation is spreading faster than the virus itself.⁴¹⁹ These dangers created by FEAR speech, along with a lackadaisical and perhaps ignorant attitude of government officials, prompted Professor Arthur Caplan to note:

The effect that these websites have demands more serious, critical attention from public health officials, academics, the medical community and the media. Disagreement with proven facts is a choice that anyone can choose to make. Disseminating falsehoods, misinformation and distortions of the facts about vaccines is not a choice that ought to go unremarked and unchallenged.⁴²⁰

Various alternative vehicles have been suggested to stem anti-vax speech, including tort-based liabilities.⁴²¹ Professor Caplan recommends holding parents of non-vaccinated children liable in tort for injuries accruing to others,⁴²² and Professors Reiss and

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417. R. Armitage, *Online ‘Anti-Vax’ Campaigns and COVID-19: Censorship is Not the Solution*, 190 PUB. HEALTH e29, e29-e30 (2021).
418. *A First-World Problem: Conspiracy Theories about COVID-19 Vaccines May Prevent Herd Immunity*, ECONOMIST (Aug. 29, 2020), <https://www.economist.com/graphic-detail/2020/08/29/conspiracy-theories-about-covid-19-vaccines-may-prevent-herd-immunity> [<https://perma.cc/Y63W-9YL6>].
419. *Covid Vaccine Hesitancy: Misinformation ‘Spreads Faster than Virus’*, BBC (June 26, 2021), <https://www.bbc.com/news/newsbeat-57578684> [<https://perma.cc/T8FS-KSVZ>].
420. Ayelet Evrony & Arthur Caplan, *The Overlooked Dangers of Anti-Vaccination Groups’ Social Media Presence*, 13 HUM. VACCINES & IMMUNOTHERAPEUTICS 1475, 1476 (2017).
421. See, e.g., Reiss & Diamond, *supra* note 22.
422. *See Should Parents Be Liable If Unvaccinated Children Sicken Others?* WBUR (May 28, 2013), <https://www.wbur.org/hereandnow/2013/05/28/liable-unvaccinated-child> [<https://perma.cc/PN5M-V5SV>] (noting that this method, “provides a measure of justice for a family that is affected by an unvaccinated person’s choice. Second, the possibility of a lawsuit would

Diamond make a compelling case for using the vehicle of negligent misrepresentation to hold anti-vaxxers liable.⁴²³ One major problem with these approaches is that they require injury to occur before redress can be sought, delaying the impact (and stemming the dissemination of the anti-vax message), obviating the use of tort law as a preventive measure.⁴²⁴ Nevertheless, the delay in imposing a remedy, alone, should not discourage its use - as even mere recognition of the tort might have a deterrence value.

More problematic, however, is proving causation. Vaccination is not 100% effective. Therefore, it might be difficult to establish that regardless of the plaintiff's vaccination status the injured party would not have gotten sick.⁴²⁵ In other words, perhaps the vaccine would have lessened the chances of becoming sick, but arguing absolute prevention of the disease would be impossible. Of course, a jury could easily find that vaccine with a 97% effectiveness rate after two doses⁴²⁶ would -- more likely than not -- have prevented this plaintiff's disease. On the other hand, these statistics on efficacy are given on a population basis, and

encourage individuals to get vaccinated"). *See also* Arthur Caplan, *Liability for Failure to Vaccinate*, HARVARD L: BILL OF HEALTH (May 23, 2019), <https://blog.petrieflom.law.harvard.edu/2013/05/23/liability-for-failure-to-vaccinate/> [<https://perma.cc/KS54-ZABQ>] (explaining that although constitutional objections would likely abound regarding the negligent misrepresentation claim status, the injured party would not have gotten sick from another source).

423. *See, e.g.*, Reiss & Diamond, *supra* note 22.

424. *See* Terri D. Baxter, *Tort Liability for Parents Who Choose Not to Vaccinate Their Children and Whose Unvaccinated Children Infect Others*, 82 UNIV. CINCINNATI L. REV. 103, 138 (2014).

425. In one scenario, perhaps the vaccine would have lessened the chances of becoming sick but arguing absolute prevention of the disease would be impossible. Of course, a jury could easily find that vaccine with a 97% effectiveness rate after two doses would -- more likely than not -- have prevented this plaintiff's disease. On the other hand, these statistics on efficacy are given on a population basis, and proof that people do become sick even if vaccinated might attenuate the claim. *See Vaccination Is the Best Protection Against Measles*, FDA, <https://www.fda.gov/consumers/consumer-updates/vaccination-best-protection-against-measles> (last visited Oct. 10, 2021) [<https://perma.cc/74X8-WL3W>].

426. *Id.*

proof that people do become sick, even if vaccinated, might attenuate the claim.

The hardest obstacle to overcome would be pinpointing what caused the injury, in this case, the disease. Trying to impose liability on perpetrators of false information could trigger the “last clear chance” doctrine, which breaks the causal chain.⁴²⁷ Thus, where the plaintiff attended an anti-vax rally or read an anti-vax pamphlet – but was not exposed to the disease for several days afterwards during which time the plaintiff could have checked with her doctor or done further research and been vaccinated, she would have the last clear chance of preventing the harm --by vaccinating, which is her ultimate choice. No one is forcing her to adopt the rhetoric of the anti-vaxxers. Indeed, the P.E.A.C.H. pamphlet repeatedly advises to check with one’s doctor. Even where vaccinating is contraindicated for the plaintiff, where, for example, the plaintiff is too young or immunocompromised, the defendant could always argue they could have quarantined themselves. Again, this is an issue of “last clear chance.”

Alternatively framed, what caused the disease would not be the failure to vaccinate, but exposure to someone who was ill. Here, a superseding, intervening cause of harm (and the defense) would accrue, not from the anti-vax message, but from exposure to the person who transmitted the disease. Identifying the person whose exposure triggered the plaintiff’s harm – to name as a co-defendant- might be difficult in the face of a raging epidemic where the plaintiff was exposed to multiple people harboring the disease. Nevertheless, such exposures would be an obvious defense. Here again, establishing causation might be rather difficult, both as a matter of law, as well as a matter of fact.

The defendants could also argue that plaintiff assumed the risk and that no one stopped them from vaccinating;⁴²⁸ in other

427. RESTATEMENT (SECOND) OF TORTS §§ 479, 480 (1965) (“The last clear chance doctrine is used in tort law for cases involving negligence and is applied when both the plaintiff and defendant are responsible for an accident that resulted in harm . . . The doctrine considers which party had the last opportunity to avoid the accident that caused the harm.”).

428. Assumption of risk refers to a legal doctrine under which an individual is barred from recovering damages for an injury sustained when he or she voluntarily exposed him or herself to a known danger. *Id.* § 496A.

words, the misrepresentation did not cause the harm, the plaintiff's decision did. In this situation, the plaintiff cannot be heard to complain regarding a risk to which he voluntarily exposed himself. On the other hand, this defense is predicated on the plaintiff's knowledge and appreciation of that risk. In that the message of the anti-vax groups is to diminish or demolish the perception of that risk, they may not be able to avail themselves of the defense.

It also might be difficult to establish that but for the specific anti-vax message, the plaintiffs would have availed themselves of vaccination. The defendants could also argue that the anti-vax message was so ubiquitous that the plaintiff would have decided - even without specific involvement of the anti-vax/defendants - not to be vaccinated. Nevertheless, such an anti-vax defense, i.e., that "it wasn't my message but that of a "cooperating group," could be dismembered by a market-share or joint and several liability scheme.⁴²⁹

I suggest that some other means to deal with the situation must be found. Three approaches come to mind. Two streams of dissemination have been shown to directly impact the severity of an outbreak by perpetrating "FEAR speech." These are conferences (symposia) and pamphleteering.⁴³⁰ I suggest that the most effective means of fostering vaccine compliance would target impresarios of the conferences and regulate the pamphleteering progenitors, e.g., P.E.A.C.H. Nevertheless, this approach would entail constructing siege-towers to overcome First Amendment concerns, an effort I undertake in separate research.⁴³¹ Actually, First Amendment protections are not absolutely air-tight,⁴³²

429. See Donald G. Gifford & Paolo Pasicolan, *Market Share Liability Beyond DES Cases: The Solution to the Causation Dilemma in Lead Paint Litigation?*, 58 S.C. L. REV. 115, 117 (2020) (noting that "[t]he California Supreme Court, in *Sindell v. Abbott Laboratories*, pioneered an alternative means of proving cause-in-fact known as market share liability. This theory presumes that the amount of harm caused by each manufacturer is proportional to its share of the market" for a particular product).

430. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25. See also Billauer, *Religious Freedom vs. Compelled Vaccinations*, *supra* note 3, at 10.

431. *Id.*

432. "The First Amendment has permitted restrictions on a few historic categories of speech—including obscenity, defamation, fraud, incitement, and speech integral to criminal conduct." United States

although the usual mantra to addressing dangerous speech which does not produce imminent danger⁴³³ is counter-speech – which in this context has proven ineffective at best.⁴³⁴ Indeed, Counter-speech initiatives have abysmally failed⁴³⁵ as can be seen by the limited impact such efforts produced in the Rockland County epidemic,⁴³⁶ and as might be expected when fact is so ruthlessly denied (and repetitively so).⁴³⁷

For now, a more immediate and less legally controversial means must be found to address this dire public health threat. The third approach is a policy-driven directive requiring a curriculum that would equip high school students to be able to detoxify noxious propaganda and junk science – in this case the materials promulgated by the anti-vax movement. Such education could be enabled by content-neutral legislation mandating courses in skills and doctrine needed to disentangle flawed science- based rhetoric - of any stripe or color. The course is envisioned to equip high school students to be able to evaluate all types of risks they face, including sexual encounters, motorcycle riding, and masking for COVID-19 protection.

Before describing such a course, an overview of relevant First Amendment provisions is warranted.

v. Stevens, 559 U.S. 460, 460 (2010) (citing *Chaplinsky v. New Hampshire*, 315 U.S. 568, 572 (1942)).

433. See *Brandenburg v. Ohio*, 395 U.S. 444, 447-48 (1969).

434. Billauer, *Muzzling Anti-Vaxxer FEAR Speech*, *supra* note 311, at 10.

435. See Frederick Schauer, *Facts and the First Amendment*, 57 UCLA L. REV. 897, 910-11 (2010) (noting that “[i]ndeed, the persistence of the belief that a good remedy for false speech is more speech, or that truth will prevail in the long run, may itself be an example of the resistance of false factual propositions to argument and counterexample.”). See also Billauer, *Muzzling Anti-Vaxxer FEAR Speech*, *supra* note 311, at 10.

436. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25.

437. Schauer, *Facts and the First Amendment*, *supra* note 435 (countering the mantra that the best attack on bad speech is counter-speech).

A. *Government Speech as an Antidote*

As matters now stand, First Amendment protection is, for all practical purposes, virtually inviolate,⁴³⁸ although not quite absolute. One carve-out that enjoys some freedom of maneuverability is government speech.⁴³⁹ While there are limits to government speech, governmental involvement designed to teach and enlighten the populace, even attempting to persuade, is deemed noble.⁴⁴⁰ The power and breadth of this reach is broad, and the caveat extends even to political matters.⁴⁴¹ “[O]nly one conclusion can be reached: the state commands powerful machinery to prescribe and to instill basic values in politics, nationalism and other matters of opinion.”⁴⁴² In fact, “[t]o the occasional exasperation of commentators . . . the First Amendment is largely inapplicable to government speech,”⁴⁴³ and in many ways its use is unobjectionable.⁴⁴⁴ It is also possible that government speech could be used to compel organizations

438. “[P]erhaps it was not strong enough to satisfy those who exalt free speech above all other values, there is little doubt that *Brandenburg v. Ohio*, *New York Times Co. v. Sullivan*, and *Cohen v. California* represent a profound commitment to virtually unlimited discussion of political, moral, and social questions of all types.” Frederick Schauer, *Must Speech Be Special, Repository Citation?* 78 NW. U. L. REV. 1284, 1287 (1983).

439. See generally Steven Shiffrin, *Government Speech*, 27 UCLA L. REV. 565, 565 (1980).

440. MARK YUDOF, *WHEN GOVERNMENT SPEAKS* 147 (1st ed. 2009). See also Frederick Schauer, *Is Government Speech a Problem?*, 35 STAN. L. REV. 373, 373-86 (1983); Randall P. Bezanson & William G. Buss, *The Many Faces of Government Speech*, 86. IOWA L. REV. 1377, 1380-82 (2001).

441. Shiffrin, *supra* note 439, at 568. See also *Wooley v. Maynard*, 430 U.S. 705, 717 (1997).

442. Shiffrin, *supra* note 438, at 568.

443. Schauer, *Facts and the First Amendment*, *supra* note 435, at 917 (citing YUDOF, *supra* note 440). See Robert D. Kamenshine, *The First Amendment’s Implied Political Establishment Clause*, 67 CAL. L. REV. 1104, 1113 (1979) (noting no prohibition on government speech); *Nat’l Endowment for the Arts v. Finley*, 524 U.S. 569, 598 (1998) (Scalia, J., concurring). See also *Rust v. Sullivan*, 500 U.S. 173, 173 (1991); Abner S. Greene, *Government of the Good*, 53 VAND. L. REV. 1, 2-3 (2000); Frederick Schauer, *Is Government Speech a Problem?*, *supra* note 440, at 374-75.

444. GOSTIN & WILEY, *supra* note 8, at 142.

engaged with commercial or quasi-commercial activities integrated into anti-vax outreach efforts to finance such an endeavor.⁴⁴⁵

B. Education and Promoting Knowledge

Among the types of government speech enjoying broad protection are educational activities. Citing Professor J. Tussman,⁴⁴⁶ Professor Mark Yudof notes that the teaching powers of government rise to the level of the three hallowed duties of government, “if it is not, indeed, the first among them.”⁴⁴⁷ In fact, “[e]ducation affirmatively expands liberty by providing the knowledge for the making of informed choices.”⁴⁴⁸ Thus, not only does neither First Amendment theory, nor history, nor doctrine significantly restrict the government’s ability to attempt to correct widespread public factual inaccuracy through education,⁴⁴⁹ but this is deemed a desirable function of government, one which they are exhorted to perform.⁴⁵⁰

It is well settled that education provided by “public schools and state colleges, [and] the messages through which education proceeds originate in the government,”⁴⁵¹ are an acceptable means of governmental activity:

There can be no serious argument that the state, through these agents, should be denied a “right” to speak. The role of the state in educating children is deeply embedded in American practice, and it is impossible to educate without speaking . . . [notwithstanding] a truism that education is controversial.⁴⁵²

If this educational task is performed well – by disseminating knowledge – it enhances the liberty the First Amendment is

445. Bezanson & Buss, *supra* note 440, at 1389.

446. See JOSEPH TUSSMAN, *GOVERNMENT AND THE MIND* (1979).

447. YUDOF, *supra* note 440, at 40.

448. *Id.* at 213.

449. Schauer, *Facts and the First Amendment*, *supra* note 435, at 918.

450. YUDOF, *supra* note 440, at 33 (“Democratic nations [and], governments should affirmatively promote liberty- the expansion of choices and possibilities through knowledge.”).

451. Bezanson & Buss, *supra* note 440, at 1420.

452. *Id.* at 1420.

ostensibly invoked to promote. Thus, it is well-accepted that Democratic nations and governments should work to promote liberty and a government's failure to disclose facts destructs this democratic process.⁴⁵³ Where the instructional initiative, as here, is deemed to detoxify the manipulative and false content promulgated by the anti-vax movement, one might even say the government would be remiss if it failed to undertake such a program. The objective of this curriculum then, would provide scientific facts upon which citizens could base truly informed consent, to alert students of the misuse of the term by those attempting to persuade by subterfuge, and to instill the rudiments of understanding the scientific method so students can assess on their own whether proffered "science" is real or fantasy.

That the anti-vax movement entitles its symposia and pamphlets "informed consent" or "educational" is, in fact, the height of propagandizing and misrepresentation. It can even be said that their rhetoric rises to the level of coercive and manipulative, as flawed and false information (exemplified below) parlayed is packaged in neat emotional vignettes designed to inculcate fear, guilt, or shame, should they choose to adhere to mainstream, established science and vaccinate their children. This is the type of rhetoric that needs countering, not by head-to-head or fact-to-fact combat, but by teaching the basics of science and scientific understanding so that students can disentangle the propaganda on their own and know where to go to find valid and reliable sources to aid them.

The extent of government involvement in course-content is broad, and the state has been granted extensive rights to regulate what must be taught in both private and public schools, including courses in hygiene and civics. This right supersedes parental objection.⁴⁵⁴ Hence, parental objection likely would be swiftly overruled, as "it is widely accepted that education is immune to First Amendment challenges, even though the state selects what to communicate in public schools on the basis of content."⁴⁵⁵ In

453. *Disinformation and Propaganda—Impact on the Functioning of the Rule of Law in the EU and its Member States*, EUROPEAN PARLIAMENT POL'Y DEPT. FOR CITIZENS' RIGHTS & CONST. AFFS. (Feb. 2019), http://aei.pitt.edu/97042/1/disinformation_and_propaganda.pdf [<https://perma.cc/9SPM-RHXY>].

454. YUDOF, *supra* note 440, at 229.

455. Bezanson & Buss, *supra* note 440, at 1422.

fact, we see parental choice and determinism, a mantra of plaintiffs in *Association of Jewish Camp Owners v. Cuomo*,⁴⁵⁶ given short shrift in the context of vaccination, with rulings such as the state “frequently interferes with parental choice,”⁴⁵⁷ encompassed in judicial writings.⁴⁵⁸

The state is even empowered to provide content-directed and value-driven education, including directing the point of view to be taught.⁴⁵⁹ In the words of one noted law professor: “State- operated schools prescribe curriculum, textbooks, even the specific point of view that must be taught. Indeed, it is often contended that a basic goal of public elementary education is to instill values.”⁴⁶⁰ Moreover, even absolute content- neutrality in education is not required, even if it is desirable.⁴⁶¹

C. The Facts and Only the Facts, Ma’am – and the First Amendment

Sensitive to this apparently lone exception regarding religious teachings, noted anti-vaxxer Kennedy Jr. now relabels the science of vaccine-preventable diseases as a “theology.”⁴⁶² It appears that

456. *Ass’n of Jewish Camp Operators et al. v. Cuomo*, 470 F. Supp. 3d 197, 206-7 (N.D.N.Y. July 8, 2020).

457. YUDOF, *supra* note 440, at 229.

458. Shiffrin, *supra* note 439, at 571 (stating that tensions arise “when government proceeds to promote community values as a speaker rather than as a censor.”).

459. *Id.* at 568. *See also* Christopher Koliba, *Democracy and Education Schools and Communities Initiative Conceptual Framework and Preliminary Findings*, UNIV. OF VT. (May 8, 2000), <https://www.uvm.edu/~dewey/articles/Democonc.html> [<https://perma.cc/TB2P-CSP2>].

460. Shiffrin, *supra* note 439, at 568. *See generally* Frederick Schauer, *Must Speech Be Special?*, 78 NW. L. REV. 1284 (1983).

461. Bezanson & Buss, *supra* note 440, at 142; *see also.*, *Bd. of Educ. v. Pico ex rel. Pico*, 457 U.S. 853, 869-72 (1982); *Mozert v. Hawkins Cnty. Pub. Sch.*, 647 F. Supp. 1194, 1199-1200 (E.D. Tenn. 1986); *but see Mozert v. Hawkins County Bd. of Educ.*, 827 F.2d 1058 (6th Cir. 1987) (holding that this public school requirement did not interfere with the Free Exercise Clause).

462. *Robert F. Kennedy, Jr. vs Alan Dershowitz: The Great Vaccine Debate!*, *supra* note 224. *See also* Alan M. Dershowitz, *Youtube Takes Down Debate on Vaccinations*, JERUSALEM POST (Apr. 5, 2021), <https://www.jpost.com/opinion/youtube-takes-down-debate-on-vaccinations-opinion-664106> [<https://perma.cc/W7T2->

to him and his ever-increasing group of followers, the notion that vaccines prevent disease is nothing more than a belief, and a controversial one at that. In that guise, perhaps this belief, now elevated to the “religious” it might even achieve First Amendment protection⁴⁶³—even in the face of government speech asserting the contrary.⁴⁶⁴ Theoretically, children could be exempt from risk-assessment classes designed to teach the importance and validity of vaccination if their parents claim that their anti-vax views are religious. This mortally - and morally - dangerous approach, now also introduced into social discourse, goes beyond the process of politicizing science-policy that we see in the context of other COVID-19 response measures, such as masking or drug choice.⁴⁶⁵

We are now seeing a theocratization of *science*, meaning demoting science to opinion and obliterating the concept of “objective” facts. All we have are beliefs -- at least if you would believe the rhetoric espoused by Kennedy Jr. and his ilk.⁴⁶⁶ Under this construct, everything is debatable; everyone is entitled to his or her own opinion or belief,⁴⁶⁷ even when it comes to matters once considered inviolate scientific knowledge – Past proof of scientific knowledge and fact, *e.g.*, that vaccines prevent disease, is relegated by RFK Jr. and anti-vax groups, to the notion of

F9U4] (lamenting that the YouTube edition of the vaccine debate against Bobby Kennedy was removed).

463. *See, e.g.*, Church of the Lukumi Babalu Aye, Inc. v. City of Hialeah 508 U.S. 520, 547 (1993).
464. *See* Shiffrin, *supra* note 439, at 593.
465. *See e.g.*, Wolfgang Stroebe et al., *Politicization of COVID-19 Health-Protective Behaviors in the United States: Longitudinal and Cross-National Evidence*, 16 PLOS ONE (2021), <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0256740> [<https://perma.cc/QN34-4V3W>].
466. *See* Rabbi Daniel Lapin, *The Sinister Lights of Perverted Science* (Sept. 22, 2020), <https://rabbidaniellapin.com/the-sinister-lights-of-science/> [<https://perma.cc/8Y4A-HMT4>] (comparing scientists to magicians for an audience that includes a Christian Right ministry).
467. *See e.g.*, Emily Hansen, *Commentary: Everyone has a right to their own opinion*, GRANITE BAY TODAY (Apr. 10, 2019), <https://granitebaytoday.org/commentary-everyone-has-a-right-to-their-own-opinion/> [<https://perma.cc/CWU5-9DTA>] (illustrating how pervasive this view is).

fantasyland or “theocracy”, retrogressing our society to that of 1796 when Edward Jenner discovered the technique of inoculation and proved its efficacy.⁴⁶⁸ Just as then, when the uneducated rejected this novel, but “scientifically proven” notion, so today do anti-vaxxers revert to the belief system of the pre-science literate of Jenner’s times. This danger of allowing factual falsities to survive unaddressed foreshadows a breakdown of society when there is nothing we can agree on, regardless of any First Amendment concerns.⁴⁶⁹ Further, when scientific precepts are contested as theocracy – and this practice becomes mainstream, the practice threatens to eviscerate the predicates of scientific advancement. Sadly, the notion of protection for fact-speech has been given short shrift in the context of First Amendment analysis.⁴⁷⁰

Nonetheless, the importance of conveying factually true information was well-stated by Professor Schauer:

Yet even though we do not accept that truth and knowledge of it have a lexical priority over all other values, it seems relatively uncontroversial to assert that, ingeneral, truth is, *ceteris paribus*, better than falsity, that knowledge is, *ceteris paribus*, better than ignorance, and that a society with more true belief is, *ceteris paribus*, better than one with less belief in the truth or than one with more beliefs that are actually false.⁴⁷¹

The issue, however, is that what is considered “truth” is now under attack.⁴⁷² Kennedy Jr.’s system also undermines the rule of

468. *History of Smallpox*, CDC, <https://www.cdc.gov/smallpox/history/history.html> [<https://perma.cc/ZHX6-LTXM>] (last reviewed Feb. 20, 2021).

469. See Schauer, *Facts and the First Amendment*, *supra* note 435, at 918-19 (regarding the danger of false speech and methods of addressing it).

470. *Id.*

471. *Id.* at 902.

472. See, e.g., *Early Outpatient Treatment: An Essential Part of a COVID-19 Solution*, *Hearing on Hydroxychloroquine Use Before the S. Comm. on Homeland Sec. & Gov’t Aff.*, 116th Cong. (2020) (statement of Harvey Risch, M.D., Ph.D., Professor of Epidemiology, Yale School of Pub. Health). In the context of determining the efficacy of hydroxychloroquine, Risch denigrated the methodological requirement of controlled studies to determine

law in cases revolving around scientific issues.⁴⁷³ In those instances, the determination of the soundness of the “science” relied on, or its “junkiness” is a legal inquiry.⁴⁷⁴ This divisor between belief and scientific fact has plagued the courts in the context of admissibility of scientific evidence in a courtroom, culminating in the case of *Daubert v. Merrell Dow*.⁴⁷⁵ And while the outcome of a particular *novel* scientific claim, the subject of a *Daubert* inquiry, might be debatable, the existence of “science” as a founding premise of law and policy is roundly acknowledged, along with a unified view of basic premises.⁴⁷⁶

Not so, however, if Mr. Kennedy Jr. and the anti-vaxxers have their way. Their view includes taking basic scientific dogma, such as “vaccines eradicate disease,” and claiming it is now controversial, a stance more befitting the contemporaries of Edward Jenner than modern day rationalists. And while First Amendment law doesn’t prevent this type of speech,⁴⁷⁷ at least one commentator notes “that the phenomenon of persistent factual falsity should be an occasion for pause or embarrassment to the free speech tradition.”⁴⁷⁸

Nevertheless, rounding in on itself – how can governmental programs address false facts when they are couched as religious

the efficacy of a drug and advocated for using “logic,” ordinarily the byway of philosophy, to determine scientific “truth.”

473. Billauer, *When Public Health is Eroded by Junk Science*, *supra* note 25 (manuscript at 18). *See also* Barbara Pfeffer Billauer, *Daubert Debunked: A History of Legal Retrogression and the Need to Redefine ‘Science’ in Law*, 21 SUFFOLK J. TRIAL ADVOC. 1 (2016).
474. *Daubert v. Merrell Dow Pharms. Inc.*, 509 U.S. 579, 589-90 (1993).
475. *Id.* at 585, 589-90. *See also* Barbara Pfeffer Billauer, *Admissibility of Scientific Evidence Under Daubert: The Fatal Flaws of ‘Falsifiability’ and ‘Falsification,’* 22 B.U.J. SCI. & TECH. 21, 23-24 (2015).
476. YUDOF, *supra* note 440, at 30 (noting that “one of the main objects of science and philosophy was always to unify knowledge, to avoid what [is] called bifurcation of thought,” which is precisely the state of affairs we are about to enter as anti-vaxxers delegitimize science as an objective vehicle for conveying provable facts).
477. *See United States v. Alvarez*, 567 U.S. 709, 722 (2012).
478. *See Schauer, Facts and the First Amendment*, *supra* note 435, at 898.

beliefs?⁴⁷⁹ Thankfully, it appears we can leapfrog over this concern – at least for the moment - so long as we can maintain that the issue of vaccine propriety is scientifically-driven and not belief-based. Until the notion of vaccine-science as theology becomes societally entrenched, false facts tainting the safety and efficacy of vaccination is undoubtedly well-suited for and well-served by redress through government educational programs. The reason is simple: it appears that while the First Amendment does not seem to concern itself with factual integrity, it leaves it to government to determine how to deal with factual controversies. This approach allows the government full reign as long as the means do not restrict individual speech.⁴⁸⁰ As written by Schauer:

Perhaps ironically and perhaps importantly, the same First Amendment that has persistently ignored the epistemic failings of the marketplace of ideas is the First Amendment that leaves dealing with such failings to the discretion of the government so long as the methods the government employs stay clear of restrictions on private speakers.⁴⁸¹

D. A New Approach: The Educational Public Health Campaign

To address public health concerns, I suggest that the power of state governments should be construed broadly.⁴⁸² Regardless, in all speech-related activities, governmental involvement must be by the least restrictive means.⁴⁸³ In terms of public health strategy, government speech in the form of education campaigns might be the strategy of choice.⁴⁸⁴ The reason is straightforward: “[g]overnment’s

479. *See id.* at 901 (noting that “[n]evertheless, it is crucial to distinguish between what is the case and what people think is the case”).

480. *Id.* at 917-18.

481. *Id.* at 917.

482. *See generally* Jorge E. Galva et al., *Public Health Strategy and the Police Powers of the State*, 120 PUB. HEALTH REP. 20 (2005). *See also* Barbara Pfeffer Billauer, *Where One Man’s Freedom Ends . . .*, AM. COUNCIL ON SCI. & HEALTH (Aug. 30, 2021), <https://www.acsh.org/news/2021/08/30/where-one-man%E2%80%99s-freedom-ends-%E2%80%A6-15764> [https://perma.cc/F8X6-AQZK].

483. *United States v. Playboy Ent. Group, Inc.*, 529 U.S. 803, 813 (2000).

484. Vaccine education campaigns directed at children have been shown to be extremely effective. *See, e.g.*, Perri Klass & Adam J. Ratner,

use of its own voice does not raise the constitutional concerns triggered when it silences or compels speech.”⁴⁸⁵ As educational approaches regarding health and scientific threats targeting schools have been shown to work,⁴⁸⁶ this approach is recommended here.

In this regard, I propose a government-directed curriculum, either as a stand-alone unit or with portions incorporated into existing course materials (e.g., the history of vaccination could be addressed in a world history course; graph reading and basic statistics could be addressed in mathematics classes). Insofar as the curriculum could be constructed to be content neutral - i.e., only mathematics, science, the history of science, communication theory, and acknowledged persuasion techniques⁴⁸⁷ are taught (the latter as means of self-defense against manipulative rhetoric where examples from the anti-vax materials can be used as teaching material), theoretically, no complaint could be raised.

While this research reveals the nefarious activities of anti-vax groups and their methods of channeling their message to suit the

Vaccinating Children against Covid-19 — The Lessons of Measles, NEW ENG. J. MED. (Jan. 20, 2021), <https://www.nejm.org/doi/full/10.1056/NEJMp2034765> [<https://perma.cc/D6ZR-BFLB>]. *See also* IMAGE: OFFICIAL RUBELLA FIGHTER MEMBERSHIP CARD, CTRS. FOR DISEASE CONTROL AND PREVENTION: PUB. HEALTH IMAGE LIBR. (PHIL), <https://phil.cdc.gov/details.aspx?pid=7493> [<https://perma.cc/8VXQ-3D4M>]; Jane E. Brody, *City’s Rubella Drive on TV ‘Sells’ Children on Need for Shots*, N.Y. TIMES (June 14, 1970), <https://www.nytimes.com/1970/06/14/archives/citys-rubella-drive-on-tv-sells-children-on-need-for-shots.html> [<https://perma.cc/A4LK-PNXY>].

485. GOSTIN & WILEY, *supra* note 8, at 142. *See also* *Rust v. Sullivan*, 500 U.S. 173, 192-93 (1991) (upholding a gag order in an abortion clinic).
486. B. Nandha & K. Krishnamoorthy, *School-Based Health Education Campaign—A Potential Tool for Social Mobilization to Promote the Use of DEC-Fortified Salt Towards Elimination of Lymphatic Filariasis*, 22 HEALTH EDUC. RSCH. 539, 539 (2007) (noting that “[t]hough there are various methods for dissemination of information, theoretical analysis suggests that as an existing, established infrastructure, school health education (SHE) ranks as the most cost-effective public health strategy. School students can be involved in delivering health messages to the community, provided the package is simple, demands minimal study time and is perceived as appropriate to local needs.”).
487. *See, e.g.*, Schauer, *Facts and the First Amendment*, *supra* note 435, at 909.

concerns of various insular communities, in most instances, their methods involve packaging their generalized messages to suit the particular market. Hence, one familiar trope, the autism-vaccine link, was heavily marketed to the Somali – who disproportionately suffered from that condition and hence were heavily sensitized to it.⁴⁸⁸ The misleading messages of the anti-vax groups can be categorized into seven basic categories,⁴⁸⁹ with several duplicitous tactics used to parlay them.

1. Vaccines do not eradicate disease (not even polio or smallpox).⁴⁹⁰
2. Vaccine adjuvants cause disease or are noxious (e.g., autism).⁴⁹¹
3. Vaccines cause disease (including SIDs, autoimmune disease).⁴⁹²
4. Government/ Big Pharma admit vaccines are dangerous (VAERS⁴⁹³, package inserts)
5. The diseases for which vaccines are sought are not dangerous.⁴⁹⁴
6. Placebo testing was not done to prove vaccines are safe.⁴⁹⁵

488. *See* Part III.A *supra*.

489. Others craft a ten-category approach. *See* David Gorski (a.k.a. “Orac”), *Children’s Health Defense: Ten Lies About Vaccines*, RESPECTFUL INSOLENT (Mar. 5, 2020) <https://respectfulinsolence.com/2020/03/05/childrens-health-defense-ten-lies-about-vaccines/> [<https://perma.cc/TG54-BWWF>] (noting “recently [Children’s Health Defense] posted a list of ten “facts” about vaccines. In reality, it’s ten bits of disinformation, half-truths, and lies.”).

490. *See generally* CCDH PLAYBOOK, *supra* note 88. *See also* P.E.A.C.H., *supra* note 71, at 15.

491. P.E.A.C.H., *supra* note 71, at 22-25.

492. *Id.* at 32-36; Gedolim Letters, *supra* note 72, at 38.

493. *See, e.g.*, Vaccine Adverse Event Reporting System, <https://vaers.hhs.gov> [<https://perma.cc/4YDM-3S9M>] (last visited Dec. 4, 2021).

494. *See* CCDH PLAYBOOK, *supra* note 88, at 12; *But see* Barbara Pfeffer Billauer, *Religious Freedom vs. Compelled Vaccinations*, *supra* note 3, at 10.

495. *Robert F. Kennedy, Jr. vs Alan Dershowitz: The Great Vaccine Debate!*, *supra* note 224; Orac, *supra* note 489.

7. Liability protection for manufacturers provides impetus for negligence.⁴⁹⁶

The communication and persuasion techniques used to parlay this message include:⁴⁹⁷

1. (Fake) Articles written by and paid for by (non-credentialed) anti-vax agents published in substandard journals, or parlaying Letters to the Editor as “research”⁴⁹⁸
2. Marketing false claims made by disgraced spokespeople or those without valid expert credentials.⁴⁹⁹
3. Fraudulently misrepresenting the content of articles in valid journals, taking statements out of context and refusing to recognize the remainder.⁵⁰⁰
4. (Flawed) misrepresentation of statistics⁵⁰¹
5. Reckless use of hysteria and hyperbole⁵⁰²
6. Irrelevant use of the profit motive of Big Pharma⁵⁰³

496. Orac, *supra* note 489.

497. *See generally* Part II.B *supra*. *See also* P.E.A.C.H., *supra* note 70, at 2; Gedolim Letters, *supra* note 71, at 1.

498. *Robert F. Kennedy, Jr. vs Alan Dershowitz: The Great Vaccine Debate!*, *supra* note 224. *See also* Billauer, *Anti-Vax Under Cover: Targeting Jewish Moms*, *supra* note 294.

499. *See, supra* note 133; *Anti-Vaccine Doctor Mark Geier Not Exonerated—License Still Suspended*, SKEPTICAL RAPTOR (Feb. 5, 2018), <https://www.skepticalraptor.com/skepticalraptorblog.php/anti-vaccine-doctor-mark-geier-not-exonerated/> [<https://perma.cc/UX5J-5H68>]; Orac, *supra* note 489.

500. *Robert F. Kennedy, Jr. vs Alan Dershowitz: The Great Vaccine Debate!*, *supra* note 224.

501. *See, e.g.*, P.E.A.C.H., *supra* note 70.

502. *See, e.g.*, *Anti-Vaccine Protesters Misappropriate Holocaust-Era Symbol to Promote Their Cause*, ANTI-DEFAMATION LEAGUE (Apr. 5, 2019), <https://www.adl.org/blog/anti-vaccine-protesters-misappropriate-holocaust-era-symbol-to-promote-their-cause> [<https://perma.cc/MM8D-3QRF>].

503. Liz Essley Whyte, *Spreading Vaccine Fears. And Cashing In.*, CTR. FOR PUB. INTEGRITY (June 8, 2021), <https://publicintegrity.org/health/coronavirus-and-inequality/spreading-fears-cashing-in-anti-vaccine/> [<https://perma.cc/LH98-E7KF>].

7. Obstinate refusal to admit basic facts (death numbers), claiming science is theology.⁵⁰⁴

The seven categories of mis-science lend themselves to a curriculum encompassing immunology (how vaccines work), toxicology: (the differences between mercury, aluminum and mercury-related compounds, such as thimerosal), statistics and epidemiology.

The anti-vax groups support their assertions with “junk science” and “junky” scientists, meaning those without credentials, experience, academic affiliation, or just plain “paid off” (i.e., having a financial stake in their position, for example, as expert witnesses, on an NGO payroll, having their articles “funded” by antivax foundations, or marketing natural products at anti-vax conferences).⁵⁰⁵ But without the tools needed to determine which “scientists” are real, and which are bogus or debunked, or how graphs and statistics are manipulated, the uneducated or science-illiterate population are unwitting prey to the FEAR messages of the anti-vax propaganda.⁵⁰⁶

504. E-mail between author and the anonymous author of *Gedolim Letters* (2019) (on file with author). See also Billauer, *Religious Freedom vs. Compelled Vaccination*, *supra* note 3 (manuscript at 19).

505. *E.g.*, Neena Satija & Lena Sun, *A Major Funder of the Anti-vaccine Movement has Made Millions Selling Natural Health Products*, WASH. POST (Dec. 20, 2019), https://www.washingtonpost.com/investigations/2019/10/15/fdc01078-c29c-11e9-b5e4-54aa56d5b7ce_story.html [<https://perma.cc/6ZK6-6XPE>]. See also Barbara Pfeffer Billauer, *More on Measles: De-Mystifying the Myths: #1 Autism, Thimerosal and the Vaccine*, TIMES ISR. (Dec. 19, 2019), <https://blogs.timesofisrael.com/more-on-measles-de-mystifying-the-myths-1-autism-thimerosal-and-the-vaccine/> [<https://perma.cc/B8BX-E6W6>].

506. Compare the portrayal of the P.E.A.C.H. pamphlet with the following representations. See *File:Measles Cases Graph.svg*, WIKIMEDIA COMMONS (July 26, 2019), https://commons.wikimedia.org/wiki/File:Measles_cases_graph.svg [<https://perma.cc/QD77-4KYU>] (portraying a graph of: “Cases Reported to CDC and Deaths Per 100000 Per Year in the United States”); *File:Measles in England & Wales 1940-2017.png*, WIKIPEDIA (May 15, 2020), https://en.wikipedia.org/wiki/File:Measles_in_England_%26_Wales1940-2017.png [<https://perma.cc/2CL9-6FZ6>] (portraying a graph of: “Measles in England & Wales 1940-2017”); *Understanding the Unvaccinated: A Look at Hesitancy as*

Even simple risk-assessment gets thrown out of whack by anti-vax propaganda. Thus, according to the Center for Countering Digital Hate: Briefing Note,⁵⁰⁷ the anti-vax message is simple: 1. the disease isn't dangerous, 2. the vaccine is, and 3. the vaccine proponents are untrustworthy. Teaching students how to determine whether a disease is dangerous, including assessing its impact on public health in terms of contagion, casualty, expenditure of resource and how to evaluate claims that the vaccine is dangerous (notably arguments involving statistics or fractions), will go a long way to enabling reasoned decisions. Demonstrating the untrustworthiness and financial ties of anti-vax "experts" and teaching students how they can find this information out for themselves would also go a long way to eradicating vaccine resistance.

CONCLUSION

Using a novel methodology, and for the first time quantifying the extent of the threat posed by anti-vax groups, this research details increasing trends in vaccine resistance attributable to these groups. The research vividly demonstrates that the influence of anti-vax groups is associated with sometimes even a doubling of cases, which increases the level of disease upwards of five-fold compared to earlier epidemics in the same locale within a short time span.⁵⁰⁸

The materials used by these groups were found to be brilliantly designed to play on idiosyncratic fears of insular groups, such as an

Well as Access, RICE KINDER (Aug. 16, 2021), <https://kinder.rice.edu/urbanedge/2021/08/16/covid-19-vaccine-hesitancy> [<https://perma.cc/LY9Q-87UQ>] (referring to the Kaiser Family Foundation's figure labeled: "Republicans, Rural Residents, Younger Adults, and Uninsured Lag in Vaccine Uptake"); *File:Measles Incidence England&Wales 1940-2007.png*, WIKIMEDIA COMMONS (May 6, 2010), https://commons.wikimedia.org/wiki/File:Measles_incidence_England%26Wales_1940-2007.png [<https://perma.cc/WN47-HF3Z>] (portraying a graph of: "Measles Cases in England and Wales, 1940-2007"); Hannah Fox, *Measles Cases in England Almost Quadrupled in 2018*, WHICH? (Mar. 23, 2019), <https://www.which.co.uk/news/2019/03/measles-cases-in-england-almost-quadrupled-in-2018/> [<https://perma.cc/RL7Q-T8G3>] (portraying a graph of: "Confirmed Measles Cases in England and Wales: 1996 to 2018").

507. CCDH PLAYBOOK, *supra* note 88.

508. Sharma, *supra* note 247.

excessive (and reasonable) fear of autism in the Somali community. Moreover, the groups are now ratcheting up to attract followers in the Black community by raising historical concerns as a triggering device, exacerbating the Black community's at-risk status for vaccine resistance. I also determined that the methods of these groups were decidedly low-tech in the form of conferences and pamphlets masquerading as educational platforms and exhorting free personal choice and incorporated the kitchen-sink of anti-vax tropes interspersed with emotional stories, entreaties to parental care and reason, and brandishing of community-resonant hysteria-generating triggers, such as references to the Holocaust.

Various approaches have been advocated to contain these groups and their messages, including imposing tort liability. These ideas, while intriguing, will be difficult to sustain, and even if usable require injury before they can be invoked. Waiting for personal injury claims to have a deterrent effect on the population is not a viable choice. Six states have imposed legislation rejecting all but medical exemptions to mandatory vaccination prior to schooling,⁵⁰⁹ yet other states which have attempted the same have been thwarted by legislators who have fallen under the spell of the anti-vax groups or who are held hostage by constituents who have succumbed to anti-vax messages. The 2021 *Roman Catholic Diocese* case breeds dread in those championing police powers for the safeguarding of public health.⁵¹⁰

While the anti-vax materials contain rank falsehoods, fake scientific literature, fraudulent use of graphs, flawed statistical analyses, endangering advice, and reckless attempts to manipulate by using hysteria (FEAR speech), the First Amendment is generally thought to protect this societal exhortation – even as it causes disease in those who cannot be vaccinated due to innate medical conditions, and even as ensuing epidemics rape local treasuries when exorbitant public health resources must be spent to control raging epidemics. Finally, the groups are now couching scientific views as theology, increasing First Amendment protections they could invoke.

To address this imminent health threat, I therefore propose using government speech in a novel format: mandating high school

509. States With Religious and Philosophical Exemptions From School Immunization Requirements, NCSL, <https://www.ncsl.org/research/health/school-immunization-exemption-state-laws.aspx> [<https://perma.cc/2MKK-9HQH>] (last visited Feb. 14, 2022).

510. Mello & Parment, *supra* note 404, at 1153-54.

curricula designed to teach students the falsity of statements contained in anti-vax rhetoric, advise them of the junk science therein and alert them to the persuasion and manipulation techniques used. One chapter of the proposed curriculum is set forth by way of example, illustrating that the lessons can be achieved in a perspective neutral fashion. In other words, by teaching the history of science (e.g., Jenner and smallpox), graph reading, the differences between correlation and causation, and the scientific method, much venom of anti-vax chatter can be detoxified. Government speech, as I show here, enjoys the greatest degree of protection from intervention, and as such appears to furnish the antidote needed to this grave threat.