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The Right for Autonomy, the Duty of Disclosure and Public Health Considerations – The 2013 Polio Crisis in Israel as a Case Study

Dr. Nili Karako Eyal

I. Introduction

At the end of May 2013, during a routine environmental surveillance of the Poliovirus in the sewage system, wild-type Poliovirus 1 (WPV1) was detected in several facilities in southern Israel. Several weeks later, a continuous circulation of WPV1 was detected in other parts of Israel.¹

In August 2013, following a thorough epidemiological and virological investigation and the recommendation of an invited WHO mission, the Israeli Ministry of Health conducted a supplemental immunization activity in the southern region of the country.

Two weeks later, based on newly discovered findings indicating the continuous circulation of WPV1—and notwithstanding the absence of paralytic Polio cases—a

* This study is the working product of the Edmond J. Safra Center for Ethics at Tel-Aviv University research group "Vaccination Policy in Israel."

** I would like to thank Prof. Jonathan Gershoni, Prof. Nadav Davidovitch, and Dr. Hagai Boas for their assistance and guidance during the writing of this study.

1. See *2 Drops- Polio Vaccination Campaign, Questions and Answers*, STATE OF ISR. MINISTRY OF HEALTH (last visited Apr. 8, 2015) (Isr.) http://www.health.gov.il/English/Topics/Vaccination/two_drops/Pages/FAQ.aspx. [hereinafter *Questions and Answers*]; Head of Public Health Services, *Circular 19/13, Update for Circular 18/13 – the Polio Campaign* at 2 (Aug. 13, 2013), http://www.health.gov.il/hozer/bz19_2013.pdf (Isr.) [hereinafter *Circular 19/13*]; E. Kaliner et al., *Silent Reintroduction of Wild-Type Polioviruses to Israel, 2013 – Risk Communication Challenges in an Argumentative Atmosphere*, EURO SURVEILLANCE (Feb. 20, 2014), <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20703>.

decision was made to extend supplemental immunization activities to the entire country.² According to the decision, all children who were born after 1/1/2004 and who received at least one dose of inactivated Poliovirus vaccine (IPV) but not OPV would receive bivalent oral Polio vaccine (bOPV).³ This public health action aimed to stop the spread of the virus and protect the population from infection.⁴ Nevertheless, the decision whether to vaccinate a child with bOPV was left to the parents and was not declared mandatory.⁵

The circumstances of the situation were unique: There was an absence of paralytic Polio cases and a silently circulating WPV1; The exposed community was highly IPV immunized and thus at negligible risk of being paralyzed or dying owing to WPV1.⁶ ; The benefit of bOPV to IPV-vaccinated children was

2. See E. Kaliner et al., *supra* note 1, at 1; Eran Kopel et al., *Lessons from a Public Health Emergency—Importation of Wild Poliovirus to Israel*, 371 *NEW ENG. J. MED.* 981 (2014), <http://www.nejm.org/doi/full/10.1056/NEJMp1406250>; Itamar Gruto, Head of Public Health Services, A Letter – Preparing for a Vaccine Campaign against Polio All Over the Country, Starting on 18/8/2013 (Aug. 12, 2013), <http://www.health.gov.il/PublicationsFiles/polio-prep.pdf> (Isr.); *Circular 19/13*, *supra* note 1.

3. See *Circular 19/13*, *supra* note 1, ¶¶ 2.2, 4; *Questions and Answers*, *supra* note 1. Excluded from this group were children with immunological abnormalities or children with family members living within the same house with immunological abnormalities. In addition, the decision stipulated under what circumstances the giving of the vaccine would be postponed. *Id.*

4. See *Questions and Answers*, *supra* note 1; see also *Circular 19/13*, *supra* note 1, ¶ 2/1.

5. See E. Kaliner et al., *supra* note 1, at 1.

6. This claim requires some explanation. IPV is highly effective at producing immunity to Poliovirus and protecting individuals from paralytic Poliomyelitis. Overall, 90% or more of vaccine recipients develop protective antibody to Poliovirus after two doses, and at least 99% become immune after three doses. In other words, a person is considered fully immunized if he or she has received a primary series of at least three doses of IPV. See Advisory Committee on Immunization Practices, *Poliomyelitis Prevention in the United States – Updated Recommendations*, CDC (May 19, 2000), <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4905a1.htm>; American Academy of Pediatrics, Committee on Infectious Diseases, *Poliomyelitis Prevention: Revised Recommendation for Use of Inactivated and Live Oral Poliovirus Vaccines*, 103 *PEDIATRICS* 171 (1999), <http://pediatrics.aappublications.org/content/pediatrics/103/1/171.full.pdf>; Howard Faden et al., *Long-Term Immunity to Poliovirus in Children Immunized with Live Attenuated and Enhanced-Potency Inactivated Trivalent Poliovirus Vaccines*, 168 *J. INFECTIOUS DISEASES* 452 (1993),

marginal.⁷; The main purpose of administering bOPV was to protect groups at special risk from being infected with WPV1 and becoming sick; Protecting these groups required high vaccination rates in order to stop the spreading of the virus; A voluntary vaccination policy that required public cooperation; The discontinuation of OPV in Israel in 2005.⁸

Given this unique situation, the Israeli Ministry of Health faced a significant communication challenge. Aware of this challenge, the Minister of Health articulated and implemented an extensive communication strategy. This communication strategy is the focus of the paper. More specifically, this paper addresses several questions: What ethical and legal conflict did the Ministry of Health face? How did the Ministry of Health resolve this conflict? What were the characteristics of the Ministry of Health's communication strategy? Did the Ministry of Health's communication strategy comply with Israeli law?

The quest for answers will be directed by two principles: the individual right for autonomy and the public health interest. The choice of these principles is not random. The conflict between the individual right for autonomy and the

<https://www.jstor.org/stable/pdf/30113149.pdf?acceptTC=true>; World Health Organization, *Polio Vaccines: WHO Position Paper, January 2014*, 89 WKLY. EPIDEMIOLOGICAL REC. 73, 84 (2014), <http://www.who.int/wer/2014/wer8909.pdf?ua=1>. In Israel, children who are vaccinated according to the recommended schedule will complete a series of three doses of IPV by the age of 6 months. See *Vaccines for Babies and Children*, STATE OF ISREAL MINISTRY OF HEALTH (last visited Apr. 8, 2015) (Isr.) http://www.health.gov.il/english/topics/pregnancy/vaccination_of_infants/pages/default.aspx.

7. As noted, a child is considered fully immunized if he or she has received a primary series of at least three doses of IPV. However, IPV is less effective than OPV at inducing intestinal mucosal immunity. It follows that while bOPV would qualitatively add to the local immune protection of a child who had received three doses of IPV, it is at best a marginal contribution to his immunity. See *supra* note 6.

8. The population in Israel has been vaccinated against Polio since 1957. In 1988, a national vaccination campaign was conducted for all residents above the age of 39. In 1990, a combined vaccination program (IPV and OPV) was adopted. However, in 2005, according to the recommendation of the WHO, the use of OPV was discontinued, and the population was given only IPV. See Head of Public Health Services, *Circular 14/13, The Existence of WPV in the Facilities in Southern Israel* at 2 (June 27, 2013), http://www.health.gov.il/hozer/BZ14_2013.pdf (Isr.).

interest of public health is typically addressed in ethical and legal writing on vaccinations. That is not surprising. Vaccinations have considerable public health benefits and generally take the form of organized public health interventions. Moreover, vaccinations have long been supported by law, through negative (and positive) legal incentives, which often restrict the individual right for autonomy to some degree.⁹ Consequently, whether public health considerations justify a restriction of the right for autonomy in the context of vaccinations, to what degree and through which means, are central questions in ethical and legal writing.¹⁰ Despite sharing the same theoretical framework of discussion with other papers, this paper addresses an ethical and legal issue that has received little attention in academic and public discourse: the duty of disclosure in the context of vaccinations.¹¹ In particular, the paper addresses the question whether public health considerations provide a justification for

9. See Wendy E. Parmet, *Informed Consent and Public Health: Are They Compatible When It Comes to Vaccines?* 8 J. HEALTH CARE L. & POL'Y 71, 75–77 (2005), <http://digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=1095&context=jhclp>.

10. During my research, I found many papers concerning this issue. See, e.g., Lotte Asveld, *Mass Vaccination Programmes and the Value of Respect for Autonomy*, 22 BIOETHICS 245 (2008); Lawrence O. Gostin, *When Terrorism Threatens Health: How Far Are Limitations on Personal and Economic Liberties Justified?* 55 FLA. L. REV. 1105 (2003); Mary Holland, *Compulsory Vaccination, the Constitution, and the Hepatitis B Mandate for Infants and Young Children*, 12 YALE J. HEALTH POL'Y L. & ETHICS 39 (2012); Ben Horowitz, *A Shot in the Arm: What a Modern Approach to Jacobson v. Massachusetts Means for Mandatory Vaccinations during a Public Health Emergency*, 60 AM. U. L. REV. 1715 (2011); Stephanie Pywell, *Vaccination and Other Altruistic Medical Treatments: Should Autonomy or Communitarianism Prevail?*, 4 Med. L. Int'l 223 (2000), <http://oro.open.ac.uk/43533/3/vaccination.pdf>.

11. See Annakarina De La Torre-Fennell, *Chapter 821: Mandated Vaccinations Bring Informed Consent*, 44 MCGEORGE L. REV. 719 (2013); Margaret J. Kochuba, *Public Health vs. Patient Rights: Reconciling Informed Consent with HPV Vaccination*, 58 EMORY L.J. 761 (2009); Parmet, *supra* note 9; Karin Schumacher, *Informed Consent: Should It Be Extended to Vaccinations?*, 22 T. JEFFERSON L. REV. 89 (1999); Kristine M. Severyn, *Jacobson v. Massachusetts: Impact on Informed Consent and Vaccine Policy*, 5 J. PHARMACY & L. 249 (1996); Andrea Peterson Woolley, *Informed Consent to Immunization: The Risks and the Benefits of Individual Autonomy*, 65 CALIF. L. REV. 1286 (1977).

restricting the duty of disclosure in the case of vaccination.

Delimitating the research question to the issue of disclosure has several implications. First, the decision to vaccinate the population with bOPV as describe above and the decision to adopt a voluntary vaccination policy are not the focus of this paper, and they will not be critically discussed. Therefore, both of these decisions are accepted as reasonable and valid. Second, whether parents' right to make decisions regarding the health of their children—that is, their right for parental autonomy—prevails in the context of vaccinations will also not be addressed. Third, the paper addresses one aspect of the communication strategy adopted by the Israeli Ministry of Health: the nature and content of the information provided to the public. Other aspects of the communication strategy, while important, exceed the scope of the paper. Such aspects include the methods used to disseminate the information; the use of nonverbal techniques; the identity of the persons providing the information; and nature of persuasion efforts addressed to parents.¹²

The scope of the paper is also restricted by the unique circumstances of the Israeli Polio crisis. First, the vaccine was of a social nature. As already noted, bOPV was offered to parents whose children received at list one dose of IPV. Moreover, a considerable part of the target population received more than one dose of IPV. Therefore, their risk of being paralyzed or dying as a result of WPV1 was negligible. It follows that bOPV was of marginal benefit to the target population and was mainly intended to protect other groups in the population who were at special risk of being infected with the virus and becoming sick.¹³ The social nature of the vaccine provides a unique opportunity to discuss the relationship between the individual right for information and public health considerations. At the same time, the marginal benefit of the vaccine to the target population makes the issue of paternalistic interventions less relevant to the discussion;

12. For further discussion on these questions, *see, e.g.*, FAY A. ROZOVSKY, CONSENT TO TREATMENT – A PRACTICAL GUIDE 731–32 (2d ed. 1990); Pywell, *supra* note 10, at 236-38.

13. For an explanation of this fact, *see supra* notes 6-7.

therefore, this aspect will not be addressed.¹⁴ Second, the vaccine was of a voluntary character. As noted above, discussing the reasonableness of the decision to adopt a voluntary vaccination policy is not one of this paper's purposes. Therefore, the question whether vaccinations should be coerced or encouraged through legal sanctions or legal incentives exceeds the scope of this paper.

This does not mean that the conclusions of the paper are limited to its specific context. First, most routine childhood vaccinations provide both individual and community protection. In the case of infectious diseases, when a sufficiently large proportion of individuals in a community are vaccinated, "herd immunity" is achieved. As a result, individuals who are not immunized are protected from infection, and the community as a whole benefits from the eradication of the disease.¹⁵ It follows that most childhood vaccines are intended to benefit others and not just the recipient.¹⁶ As such, they share the same characteristic with bOPV: both have a social nature. Sharing this same characteristic, they raise similar questions as to the scope of the right for information in the context of threats to public health. Thus, for example, whether informing the public as to the social nature of the vaccine endangers public health and, if it does, whether this information should be concealed from the public are common concerns related to routine childhood vaccinations and bOPV.¹⁷ Second, even in countries where

14. For a discussion on paternalism as a justification for public health interventions, see LAWRENCE O. GOSTIN, *PUBLIC HEALTH LAW: POWER, DUTY, RESTRAINT* 50–54 (2d ed. 2008).

15. See Kevin M. Malone & Alan R. Hinman, *Vaccination Mandates: The Public Health Imperative and Individual Rights*, in *LAW IN PUBLIC HEALTH PRACTICE* 262, 264 (Richard A. Goodman et al. eds., 2007).

16. See GOSTIN, *supra* note 14, at 376-80. Regarding the claim that some childhood vaccines (e.g., Polio and Rubella) are of little or no benefit to their recipient and as such are altruistic. See Pywell, *supra* note 10, at 225.

17. The dilemma between personal well-being and social good, in the form of maintaining "herd immunity," has been noted in the literature as a barrier to routine childhood vaccination. See Anat Gesser-Edelsburg et al., *Why Do Parents Who Usually Vaccinate Their Children Hesitate or Refuse? General Good vs. Individual Risk*, *J. RISK RES.* 15 (2014), <https://www.researchgate.net/publication/270276100>. Therefore, it is not surprising that the question, whether parents should be informed that childhood vaccinations are primarily intended to benefit public health, arises

childhood vaccinations are “mandatory,” parents can still choose not to vaccinate their children and bear the consequences. As long as children are not forcibly vaccinated, parents’ right to make an autonomous decision regarding the vaccination of their child is preserved, even if it is restricted through legal sanctions.¹⁸ It follows that the alleged conflict between the individual right for autonomy and public health considerations,¹⁹ as well as the question, whether the individual right for autonomy information should be restricted based on public health considerations, is relevant to other types of vaccines and to other countries. Moreover, although the discussion focuses on Israeli law, the basic questions that the paper addresses—that is, whether the public health action infringed upon a constitutional human right, whether the action was for a worthy purpose, whether there is a reasonable connection between the public health action and the achievement of the public health objective, and whether any infringement of a human right was proportionate to the expected benefit of the action—are also shared by other legal systems.²⁰

The paper consists of five parts. Part II of this paper presents the alleged conflict between parents’ right to make an autonomous decision regarding their children and the interest of public health, as manifested in the general context of vaccinations and in the specific case of the 2013 Polio crisis. The discussion will focus on parents’ right for information, the equivalent duty of disclosure, and the issue of understanding. Special attention will be given to informational manipulation as endangering parents’ understanding of the situation and thus their right to make autonomous decisions regarding vaccinations. Part III explores how this conflict was resolved by the Israeli Ministry of Health. For this purpose, an empirical analysis of the communication strategy adopted by the Ministry of Health, and of the information that was delivered

in the general context of childhood vaccinations. See Pywell, *supra* note 10, at 235.

18. For a similar argument, see Woolley, *supra* note 11, at 1302–05.

19. Throughout the paper, I use the phrase “alleged conflict” because I believe that there is no real conflict between the right to receive information and public health considerations.

20. See *infra* note 119.

to the public following this strategy, will be presented. Part IV observes whether parents' right to make autonomous decisions applies to vaccinations according to Israeli law and whether this right may be restricted based on public health considerations. The next part of the paper, Part V, will offer a critical analysis of the communication strategy adopted by the Israeli Ministry of Health during the 2013 Polio crisis. Two questions will be addressed: First, did the adopted communication strategy infringe upon parents' constitutional right to autonomy? I will answer this question in the affirmative. Second, was infringing parents' constitutional right to autonomy justified under Israeli law? For this purpose, I will examine whether infringing parents' constitutional right to autonomy was required for a worthy purpose and whether the infringement of this right exceed what is required. Part VI will conclude the paper by presenting my conclusions.

II. The Conflict between the Right to Make Autonomous Decisions and the Public Health Interest – the 2013 Polio Crisis in Israel as a Case Study

Historically, the interest of public health has supported the use of coercive measures or otherwise interfered with human rights—such as the right to privacy, the right to liberty and the right to autonomy. Consequently, public health actions are often perceived as creating an ethical and legal conflict between the community interest in health and human rights.²¹

This type of conflict is typical to vaccinations.²² Most infant vaccinations provide both individual and community protection.²³ As history indicates, vaccinations have an important public health function. They prevent the spread of infectious diseases, reduce diseases' incidence, eliminate local

21. See Jonathan M. Mann, *Medicine and Public Health, Ethics and Human Rights*, 27 HASTINGS CENT. REP. 6–13 (1997); GOSTIN, *supra* note 14, at 11.

22. See Kochuba, *supra* note 11, at 772; Pywell, *supra* note 10, at 223–24.

23. See Malone & Hinman, *supra* note 15, at 264. However, not all vaccines provide community protection. Some, such as tetanus, protect the vaccinated individual alone. *Id.*

and global epidemics, mitigate disease severity and reduce mortality.²⁴ Achieving these goals requires that a critical portion of the community is immune (herd immunity).²⁵ At the same time, some parents delay vaccinations, avoid certain vaccinations, or quit vaccinating altogether for different reasons,²⁶ thereby reducing the protection level in the community. Reducing the community's protection may result in the loss of the herd immunity effect and may raise the risk of epidemic outbreaks.²⁷ In such circumstances, public actions that interfere with individuals' right for autonomy may be suggested and used, thus raising the question whether priority should be given to public health considerations or to individual autonomy.²⁸

The 2013 Polio crisis in Israel provides an example of this conflict of interests. Understanding the nature of this conflict requires further discussion of each of these principles: the individual right to make an autonomous decision regarding medical treatments and the interest of public health.

The individual right to make an autonomous decision regarding medical treatment means that, subject to some exceptions and limitations, a competent individual (and a guardian in the case of a minor) has the right to make an intentional, free, and knowledgeable decision about his treatment that will be accepted as valid and binding on

24. See GOSTIN, *supra* note 14, at 376; David E. Bloom et al., *The Value of Vaccination*, 6 WORLD ECON. 15, 19 (2005), <http://vaccinews.net/downloads/David%20E%20Bloom%20-%20The%20value%20of%20vaccination.pdf>; Saad B. Omer et al., *Vaccine Refusal, Mandatory Immunization, and the Risks of Vaccine-Preventable Diseases*, 360 NEW ENG. J. MED. 1981, 1983 (2009), <http://www.nejm.org/doi/pdf/10.1056/NEJMsa0806477>.

25. See Parmet, *supra* note 9, at 74–75; F. E. Andre et al., *Vaccination Greatly Reduces Disease, Disability, Death and Inequity Worldwide*, 86 Bull. World Health Org. 81, 140 (2008), <http://www.who.int/bulletin/volumes/86/2/07-040089/en/>.

26. See Asveld, *supra* note 10, at 247.

27. See Malone & Hinman, *supra* note 15, at 264–65.

28. See GOSTIN, *supra* note 14, at 376–79 (describing the nature of the conflict between the right for autonomy and public health and its causes). See, e.g., Parmet, *supra* note 9, at 72 (arguing that in the context of vaccinations, there is a prima facie contradiction between the principle of autonomy and public health considerations).

others.²⁹ The principle that the individual right to make autonomous decisions should be respected by others, is based on the intrinsic and instrumental value of treating individuals as autonomous moral agents and allowing them to control different aspects of their life.³⁰ In the healthcare setting, where a power imbalance between professionals and individuals is unavoidable, respecting the individual right to make autonomous decisions is considered to be of special importance. It prevents professionals' authority from being exercised in a controlling fashion and gives the individual the ultimate control over his body.³¹

Faden and Beauchamp claimed that for a decision to be autonomous, the individual should have a substantial understanding of the relevant and material facts that accurately describe the nature of the decision and its possible outcomes.³² This principle underlies the legal and ethical duty of disclosure—that is, the duty to provide individuals with relevant and accurate information concerning the nature of a recommended medical procedure, its purpose and expected benefit, its possible outcomes, its risks and the reasonable alternatives to the procedure.³³ Providing an individual false or inaccurate information regarding relevant and material facts or withholding critical information from him breaches the duty

29. See H. TRISTRAM, *THE FOUNDATIONS OF BIOETHICS* 308 (1986); RUTH R. FADEN ET AL., *A HISTORY AND THEORY OF INFORMED CONSENT* 238 (1986); ALASDAIR MACLEAN, *AUTONOMY, INFORMED CONSENT AND MEDICAL LAW: A RELATIONAL CHALLENGE* 144 (2009); SHEILA A. M. MCLEAN, *AUTONOMY, CONSENT AND THE LAW* 40, 41 (2010).

30. See MACLEAN, *supra* note 29, at 29, 45–46.

31. *Id.* at 133.

32. See FADEN ET AL., *supra* note 29, at 241, 250, 252; Tom L. Beauchamp, *Autonomy and Consent*, in *THE ETHICS OF CONSENT: THEORY AND PRACTICE* 55, 68 (Franklin G. Miller & Alan Wertheimer eds., 2010). This stance was expressed by other scholars as well. See John Kleinig, *The Nature of Consent*, in *THE ETHICS OF CONSENT: THEORY AND PRACTICE* 3, 16 (Franklin G. Miller & Alan Wertheimer eds., 2010). While essential, the condition of understanding is not enough. For a decision to be autonomous, three additional conditions must be fulfilled: competence, voluntariness and intention. *Id.* at 13–20.

33. See Tom L. Beauchamp, *Informed Consent: Its History, Meaning, and Present Challenges*, 20 *CAMBRIDGE Q. OF HEALTHCARE ETHICS* 515, 515–16, 518 (2011); MCLEAN, *supra* note 29, at 42; MACLEAN, *supra* note 29, at 134–36.

of disclosure, thus potentially interfering with the individual right to make an autonomous decision about the procedure. Other forms of informational manipulation—presentation effects, framing effects, or formulation effects—may also have the same results.³⁴ Considering its importance to the discussion, I would like to expand on the issue of informational manipulation.

Informational manipulation can occur in different ways (i.e., deception in opposed to selective delivery of information) and infer to different types of information (i.e., the nature of the procedure in opposed to its side effects). Therefore, actions of informational manipulation may differ in their degree of severity.³⁵ These differences might influence our moral judgment as to the seriousness of the manipulation.³⁶ Thus, for example, it is reasonable to hold that providing parents inaccurate information as to the nature of a treatment is a more severe action than providing them with accurate but ambiguous information. Nevertheless, the seriousness of the manipulation does not necessarily determine whether the decision in question was autonomously made. The real question is whether the actor substantially understands what he was doing. Therefore, if the manipulation altered the individual's understanding of the situation—thereby leading to incompatibility between what the individual understood and the facts that accurately describe the nature of the decision and its outcomes, such that he lacked a sufficient understanding of the situation—his decision should not be considered as autonomous.³⁷ It follows that while some minor informational

34. According to Beauchamp, informational manipulation comprises actions that can negate an individual's ability to act freely. Beauchamp, *supra* note 33, at 69-70. He claimed that altering an individual's understanding through the manipulation of information is an external influence that can be irresistible. *Id.* It follows that informational manipulation can breach both the condition of voluntariness and the condition of understanding. *Id.* at 70; See FADEN ET AL., *supra* note 29, at 362. See also MCLEAN, *supra* note 29, at 52.

35. See, e.g., Kleinig, *supra* note 32, at 17.

36. *Id.* (discussing a similar claim).

37. See FADEN ET AL., *supra* note 29, at 362-63; Tom L. Beauchamp, *Autonomy and Consent*, in THE ETHICS OF CONSENT: THEORY AND PRACTICE 55, 68 (Franklin G. Miller & Alan Wertheimer eds., 2010); Gail Van Norman, *Informed Consent: Respecting Patient Autonomy*, 61 CSA BULL. 36, 43-44

manipulation will not render an individual's decision less than substantially autonomous, infringement of the individual's right for autonomy is not limited to cases of deception. More subtle forms of manipulations may also deprive the individual of the ability to make an autonomous decision.³⁸

The second principle is that of public health. At its core, the field of public health is primarily concerned with protecting and promoting the health of communities. Its features and goals include the promotion of public health and the prevention of diseases and disability.³⁹ Often, promoting and protecting public health require state intervention. Such intervention is mainly justified through consequential considerations (i.e., producing benefits or avoiding and removing harm) and grounded in the state's police power and obligation to protect the public health and welfare.⁴⁰

Allegedly, these principles conflicted in the 2013 Polio crisis case. To protect groups at special risk of being infected with WPV1 and becoming sick, the spread of the virus needed to be stopped. For this purpose, high vaccination rates were needed. Because the vaccination target population was already given IPV, bOPV was mainly expected to benefit groups at special risk, while benefiting vaccinated children only marginally. It follows that the administration of bOPV primarily aimed to protect the health of others. In other words, it was altruistic in nature and was intended to promote the public good. Applying the principle of autonomy to the circumstances of this case would have required that full and accurate information regarding the vaccine's nature, purpose and expected benefits be provided to parents in an understandable manner.⁴¹ Therefore, parents should have

(2012).

38. See FADEN ET AL., *supra* note 29, at 363; Beauchamp, *supra* note 33, at 68.

39. See James F. Childress et al., *Public Health Ethics: Mapping the Terrain*, 30 J.L. MED. & ETHICS 170, 170 (2002).

40. *Id.* at 170–71; GOSTIN, *supra* note 14, at 16–18. For further discussion in the characteristics of public health, see GOSTIN, *supra* note 14, at 4, 8–12, 17–23.

41. See Pywell, *supra* note 10, at 235 (arguing that the public should receive complete and accurate information regarding vaccines' benefits and risks so that individuals can truly act autonomously). See Pywell *supra* note 10, at 235.

been clearly and explicitly informed that bOPV provided, at best, a marginal benefit to children who had already been vaccinated with IPV and that the administration of bOPV was primarily intended to protect others who were at special risk. While consistent with the principle of autonomy, expressly revealing the fact that bOPV offered only a marginal benefit to IPV-vaccinated children carried the risk of reducing parents' willingness to vaccinate their children and consequently reducing vaccination rates. Thus, full application of the principle of autonomy in this case seems to be at odds with the interest of public health.

How was this alleged conflict resolved by the Ministry of Health? This question will be addressed in the next part.

III. Solving the Conflict – The Communication Strategy Adopted by the Israeli Ministry of Health during the 2013 Polio Crisis

The unique circumstances of the situation and the desire to achieve high vaccination rates were considered by the Ministry of Health to present a significant communication challenge. Understanding the communication challenge, the Ministry's communication and media experts were added as full members to the national outbreak control team, and a comprehensive communication plan was articulated. The Government Advertising Bureau was recruited to carry out this plan. As a complementary measure, a commercial strategic consulting firm provided counseling to prepare the communication plan and design key messages for the public.⁴²

According to the communication plan, the objective of the communication strategy was to achieve a high level of public cooperation and thus high vaccination rates. To achieve this goal, the aim was to build and maintain public trust and create a supportive public atmosphere regarding the decision. An important tool in building and maintaining public trust was

42. See Kaliner et al., *supra* note 1, at 2.

transparency to avoid a potential accusation of concealing information. Therefore, it was decided that the public should receive full information from an official health authority.⁴³

Information was delivered to the public by using various communication channels. The Ministry of Health created a new official Polio website, which included information regarding the disease and the vaccine, updates concerning new locations where the virus was detected, the number of vaccinated children, a FAQ page and informational videos.^{44, 45} A preexisting national call center (“The Voice of Health”) was reinforced by Ministry of Health staff for several weeks.⁴⁶ Parents received informational pamphlets prior to the vaccination,⁴⁷ and they were invited to direct questions to public health professionals through an existing Ministry of Health Official Facebook interface⁴⁸ and live chats.⁴⁹ Information was also delivered to the public through interviews

43. See *Circular 19/13*, *supra* note 1, ¶¶ 2.2, 2.6; Head of Public Health Services, *Circular 18/13, The Polio Campaign*, ¶ 7.6.2, add. 1 (July 29, 2013), http://www.health.gov.il/hozer/bz18_2013.pdf (Isr.) [hereinafter *Circular 18/13*]; Kaliner et al., *supra* note 1, at 2.

44. See *Questions and Answers*, *supra* note 1; *The Live Attenuated Polio Vaccine: Main Characteristics*, HEAD OF PUB. HEALTH SERVS. (last visited Apr. 8, 2015) (Isr.) <http://www.health.gov.il/PublicationsFiles/bOPV.pdf> [hereinafter *Live Attenuated Polio Vaccine*]; *Circular 19/13*, *supra* note 1, ¶ 7.5.6; *Circular 18/13*, *supra* note 43, ¶ 7.6.2.

45. See “2 Drops” For Stopping Polio Campaign, STATE OF ISR. MINISTRY OF HEALTH (Apr. 8, 2013) (Isr.) http://www.health.gov.il/English/News_and_Events/Spokespersons_Messages/Pages/04082013_1.aspx. For updates examples, see *The Existence of Polio Virus in Iron Sewage*, STATE OF ISR. MINISTRY OF HEALTH (Aug. 27, 2013) (Isr.) http://www.health.gov.il/NewsAndEvents/SpokemanMessegges/Pages/27082013_1.aspx; *Updates of Vaccinated Against Polio*, STATE OF ISR. MINISTRY OF HEALTH (Sept. 3, 2013) (Isr.) http://www.health.gov.il/NewsAndEvents/SpokemanMessegges/Pages/03092013_1.aspx.

46. See *Circular 19/13*, *supra* note 1, ¶ 7.2.

47. *Id.* ¶ 7.5.6; *Circular 18/13*, *supra* note 43, ¶ 7.6.2. For the information pamphlet, see *Circular 18/13*, add. 3.

48. Informational videos were also published through the Ministry of Health official Facebook interface on August 7, 11, and 20, 2013. Ministry of Health, FACEBOOK, http://www.facebook.com/Health.gov.il?hc_location=stream (Isr.).

49. See, e.g., Ministry of Health, FACEBOOK, http://www.facebook.com/Health.gov.il?hc_location=stream (Isr.). Unfortunately, it is not possible to observe the information provided to the public through these live chats.

with Ministry of Health officials.⁵⁰ Print media (national and regional) and online journalism, including various social networks, forums and blogs, were additional channels for delivering information to the public.⁵¹ Phone calls and SMS messages to parents who did not vaccinate their children were used to provide information as needed.⁵² Following the enhanced risk perception and public anxiety regarding the vaccine associated with paralytic Polio (VAPP), the public was presented with data from post marketing safety surveillance, the package insert of the vaccine, laboratory tests results of the specific bOPV lots used and clinical trials performed with the vaccine.⁵³

Throughout the campaign, extensive information was delivered to the public from these communication channels.⁵⁴ The information addressed the following issues: what Poliomyelitis is; what Poliovirus is; how Poliovirus infection occurs and how it spreads; types of Polio vaccines and the differences among them; the immune status against Poliovirus in Israel; the vaccine's purpose; the vaccine's efficiency and effectiveness; the vaccine's safety; the risks associated with the vaccine to the child and his family (especially the risk of VAPP); the vaccine's side effects; the decision for public health

50. See, e.g., *Interview with the Ministry of Health Director-General, Channel 10*, YOUTUBE (Aug. 19, 2013) (Isr.), <https://www.youtube.com/watch?v=yf3CuZRI0y>; *A Interview with the Ministry of Health Director-General, Israel Today Studio*, YOUTUBE (Aug. 19, 2013) (Isr.), <https://www.youtube.com/watch?v=aWf6Vh06Pe8>.

51. See, e.g., A. Fox, *Everything You Should Know About the Polio Vaccine Campaign*, MAKO (Aug. 11, 2013) (Isr.), <http://www.mako.co.il/home-family-kids/healthcare/Article-d757862a58c6041006.htm>; R. Linder-Gantz, *Polio Mania // The Experts Answer: Everything You Should Know About the Polio Vaccine Campaign*, THE MARKER (Aug. 28, 2013) (Isr.), <http://www.themarker.com/consumer/health/1.2108285>; H. Luski, *The Polio Vaccine: For or Against?* (Aug. 8, 2013) (Isr.), http://www.doctors.co.il/Vaccinating_Children_Against_Polio_Forum, ZAPDOCTORS (Isr.) <http://www.doctors.co.il/forum-5778>.

52. See Kaliner et al., *supra* note 1, at 5.

53. *Id.*

54. Note that because this paper focuses on the communication policy adopted by the Ministry of Health, the information that was delivered to individual parents by individual doctors and nurses in private conversations will not be addressed. It should also be noted that the research includes information that was provided to health professionals, which was accessible to the public through the Ministry of Health's website.

action and the factual findings and reasons on which it was based; and special instructions regarding special risk groups.

The main slogan chosen for the campaign was “Just two drops and the family is protected from the risk of Polio.” The theme that bOPV protects family members from the risk of Polio was repeated in various ways in the information that was delivered to the public.⁵⁵ The aim of this strategy was to convey the message that the vaccine would protect family members and not just individuals or “society.” Stressing the benefits of the vaccine to family members and close friends was intended to address the possibility that parents would decide not to pursue vaccination with bOPV because their child had already been vaccinated with IPV, rendering the child protected from paralysis in the event of exposure to WPV1.

Aware to the possibility that parent may perceive bOPV as a “social” vaccine requiring their cooperation for merely altruistic purposes, the Ministry of Health chose to present bOPV as indirectly beneficial to individuals.⁵⁶

With this theme, an explanation was provided regarding the vaccine’s benefit to family members in a highly IPV-immunized community. It was explained that although most of the population was immunized, some groups were at special risk of infection with the virus, including individuals who were never vaccinated, babies who had not yet received IPV, adults whose level of immunization had naturally decreased or weakened and immunocompromised individuals.⁵⁷ It was also

55. See *Circular 18/13*, *supra* note 43, ¶ 7.6.2, add. 1,3; *The Disease and the Vaccine*, STATE OF ISR. MINISTRY OF HEALTH, (last visited Mar. 23, 2016) (Isr.)

http://www.health.gov.il/English/Topics/Vaccination/two_drops/Pages/Vaccination.aspx [hereinafter *The Disease and the Vaccine*]; *Interview with Ministry of Health Deputy Director-General*, YOUTUBE (Aug. 22, 2013) (Isr.), <https://www.youtube.com/watch?v=eSIcbhxspoU>; Ministry of Health, *FAQ*, FACEBOOK, https://www.facebook.com/Health.gov.il/app_380387718754477 [hereinafter *FAQ Facebook*]; *Supplemental Polio Vaccination Campaign*, STATE OF ISR. MINISTRY OF HEALTH (last visited Mar. 23, 2016) (Isr.) http://www.health.gov.il/English/Topics/Vaccination/two_drops/Pages/default.aspx; *Questions and Answers*, *supra* note 1.

56. See Kaliner et al., *supra* note 1, at 3.

57. *Circular 18/13*, *supra* note 43, ¶ 7.6.2, add. 3; *The Disease and the Vaccine*, *supra* note 55; *FAQ Facebook*, *supra* note 55; *Questions and Answers*, *supra* note 1.

stated that all these groups together constituted a small but significant percentage of the population who were at risk of being infected with the virus (approximately 2%), that it is impossible to know whose level of immunization had naturally decreased and that there were individuals at risk in nearly every extended family.⁵⁸

The campaign included general statements regarding the benefits of the vaccine to the entire population and its importance as a means for stopping the spread of the virus and preventing paralytic cases.⁵⁹ In addition, explicit and implicit expressions describing the vaccine as a benefit to all unimmunized individuals were included in the information provided to the public.⁶⁰ In contrast, calls for the public to show social responsibility or to demonstrate altruism were rare. Moreover, these motives were presented only as a response to claims made by opponents of the vaccine.⁶¹

In the vast majority of cases, with rare exceptions, the information delivered to the public did not explicitly state that bOPV provided, at best, a marginal benefit to a child who had received three doses of IPV.^{62, 63} Only by thoroughly reading of

58. See *Circular 18/13*, *supra* note 43, ¶ 7.6.2, add. 3; Fox, *supra* note 51; Linder-Gantz, *supra* note 51.

59. See *Circular 18/13*, *supra* note 43, ¶ 2.1; *FAQ Facebook*, *supra* note 55; ; Linder-Gantz, *supra* note 51; *Live Attenuated Polio Vaccine*, *supra* note 44; Luski, *supra* note 51; *Questions and Answers*, *supra* note 1; Ministry of Health, FACEBOOK, http://www.facebook.com/Health.gov.il?hc_location=stream (Isr.); *The Two Drops Campaign: Vaccine against Polio, Letter to the Parents*, MINISTRY OF EDUC. ¶ 1 (Aug. 21, 2013) (Isr.), <http://cms.education.gov.il/NR/rdonlyres/55B159F4-5C9A-4A7B-B462-19DAACB0C43A/174448/igeret.pdf> [hereinafter *The Two Drops Campaign*].

60. See Fox, *supra* note 51; *Ministry of Health*, *supra* note 59; *Questions and Answers*, *supra* note 1.

61. Itamar Gruto, *The Polio Vaccine: Who Is Irresponsible?*, NRG (Aug. 12, 2013) (Isr.), <http://www.nrg.co.il/online/1/ART2/498/519.html>.

62. For an explanation to this claim, see *supra* notes 6-7.

63. Overall, I found only two cases in which Ministry of Health official representatives admitted that bOPV provided no real benefit to vaccinated children. First, Prof. Itamar Gruto, the Head of Public Health Services, honestly and clearly stated that the vaccine provided no benefit to vaccinated children. In a comment article published as a response to an article published by Avishai Matia, who attacked the vaccine campaign, Prof. Itamar Gruto said: "It is not a secret that a vaccinated child is protected from the disease. So why vaccinate him?" See Gruto, *supra* note 2. An admission as to

all the published information would parents understand that the vaccine provided only a negligible benefit to vaccinated children.⁶⁴

Statements that generally addressed the risk of infection contributed to the impression that bPOV provided a real benefit to IPV-vaccinated children. Although they addressed (the real) risk of infection, these statements did not explicitly differentiate between groups who were at special risk of developing the disease and IPV-vaccinated children who were at risk of being infected with the virus but not of developing the disease. For example, the following statements were made: “Do not take risks – receive vaccines”; “The purpose of the campaign is to stop the spread of Polio in southern Israel and the rest of the country as soon as possible, due to the fear that people will be infected with Polio and become sick”;⁶⁵ “The advantage of the attenuated live vaccine. . . is the prevention of

the fact that the vaccine is not intended to protect vaccinated children is also found in the following interview with a Ministry of Health representative. See Luski, *supra* note 51.

64. Note that whether parents actually understood that the vaccine provided only a negligible benefit to vaccinated children exceeds the scope of the paper and deserves separate empirical research. The goal of the empirical research presented in this part of the paper is to determine whether the nature and content of the information provided to the public enabled a reasonable parent, through a reasonable interpretation, to understand that the vaccine provided only a marginal benefit to vaccinated children and that it was primarily intended to protect others. Therefore, although some parents may have understood that the vaccine provided no real benefit to vaccinated children—by thoroughly reading all the published information or using other sources of information—the conclusions presented in this part of the paper hold. Nevertheless, it is worth mentioning the findings of research conducted by Gesser-Edelsburg, Shir-Raz, and Green regarding parents’ attitudes toward the bOPV campaign. According to the findings of this research, more than half of the respondents noted that the information provided by the Ministry of Health—explaining why they should give their children bOPV—was not comprehensive or clear. Only one-quarter of the parents noted that the information provided was comprehensive and clear. These findings were reinforced by qualitative findings. The researchers also found that almost 30% of the parents who vaccinated or intended to vaccinate their children did so because they misunderstood the reasons for vaccinating their children. Namely, they thought that bOPV was intended to protect their children from the disease. See Gesser-Edelsburg et al., *supra* note 17, at 11–13, 16.

65. See *FAQ Facebook*, *supra* note 55; *Questions and Answers*, *supra* note 1.

infection person to person”;⁶⁶ “The purpose of the vaccine is to stop the chain of infection of WPV using the attenuated live vaccine. . .”;⁶⁷ “A WPV has appeared in Israel that might cause paralysis and even death. The risk from the disease is real and tangible and is not expected to vanish unless children are vaccinated. The purpose of the vaccine is to prevent carriers of and death from Polio.”⁶⁸

The message that bOPV provided real benefit to vaccinated children was also conveyed to the public in more explicit ways. For instance, the Ministry of Health provided the following answer to the question (which was included on the FAQ page published by the Ministry of Health) “My children are already vaccinated. Why I should vaccinate them again?”: “The vaccine’s purpose is to provide additional protection to your children and to the entire extended family.”⁶⁹ This message stressed that bOPV provided additional protection to vaccinated children, which was true. Moreover, the phrase “additional protection” suggested that IPV-vaccinated children had some previous protection, which was also true. However, this message did not clarify that this “additional protection” provided only a marginal benefit to the child’s immunity.

Parents, who specifically inquired about the purpose of bOPV and its benefits, received two types of answers from Ministry of Health specialists. First, Ministry of Health specialists provided correct information but simultaneously **implied** that bOPV provided real benefit to vaccinated children by using scientific expressions, employing vague and general wording or omitting the fact that bPOV provided a negligible contribution to the child’s immunity. Examples of such answers are as follows: “The purpose of the vaccine is dual: 1. To teach the child’s digestive system to identify the virus and to terminate it before it invades the body. . . ; children are much more sensitive to the outbreak of the disease if they

66. See Fox, *supra* note 51.

67. See *The Two Drops Campaign*, *supra* note 59.

68. See E. Koppel, *Vaccinating Children Against Polio Forum*, ZAPDOCTORS (Aug. 18, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-3085>.

69. See *Questions and Answers*, *supra* note 1.

are infected with the virus. . .”;⁷⁰ “When you consider whether to give your children attenuated live vaccine you should consider its considerable safety, especially because children were already given previous doses of inactivated vaccine by injection, in comparison to the risk of being infected with WPV”;⁷¹ “The attenuated virus strengthens the resistance of the immune system against the virus”;⁷² “The inactivated virus protects from blood exposure, and the attenuated live vaccine teaches the intestine to identify the virus and terminate it before it penetrates to the blood.”⁷³ Second, Ministry of Health specialists **explicitly** stated that bOPV contributed to protecting IPV-vaccinated children from being infected and becoming sick, without clarifying that this contribution was only marginal. For example, the question “What is the chance of a child who received only IPV becoming sick, considering the fact that he is situated in an area where there are carriers of the virus?”⁷⁴ received the following answer: “Therefore the

70. See G. Hirshhorn, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 26, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-7699>. For similar answers, see, e.g., G. Hirshhorn, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 19, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-4083>.

71. See E. Koppel, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 11, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-1510>. Apparently, the mother who received this answer felt that her question was not sufficiently answered. In her response, she said: “I understand the need in the vaccine considering the desire to defeat the virus from Israel. At the same time, I still don’t understand why my children need the attenuated live vaccine if, as you said, they are already immunized.” See “*Continued Question*,” *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 11, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-1563>. Her repeated question did not receive a clear answer, and she was not expressly and honestly informed that the vaccine provided no benefit to her children. Instead, she received the following answer: “The WPV is dangerous; attenuated live vaccine against WPV is not dangerous.” See E. Koppel, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 12, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-1776>.

72. See G. Hirshhorn, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 20, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-5701>.

73. See G. Hirshhorn, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 21, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-5879>.

74. See *Vaccinating Children against Polio Forum: Statistical Chances*, ZAPDOCTORS (Aug. 13, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-2389>. This question was accompanied by two additional

benefit of vaccinating the sensitive population. . .with attenuated live vaccine (which has zero risk of serious side effects), contrary to the real risk of being infected, secreting the virus and possibly getting sick with irreversible Poliomyelitis as a result of WPV, is not on the same scale of ‘statistical comparison.’”⁷⁵ Following the question, “Is it necessary to vaccinate children who received IPV with attenuated live vaccine, and what will it contribute to the child?”⁷⁶ the following information was provided: “Vaccinate your child because it causes the digestive system to recognize the virus and destroy it before it begins to multiple and penetrates the blood . . . It is another safety measure against the virus.”⁷⁷

Based on these empirical findings, a few conclusions can be drawn as to the characteristics of the communication strategy adopted by the Ministry of Health:

First, extensive information was provided to the public regarding the vaccine. However, this strategy primarily aimed to achieve a high level of public cooperation and thus high vaccination rates. Although the secondary outcome of this

questions, both of which related to a vaccinated child’s risk of becoming sick, in different circumstances and from different sources.

75. See E. Koppel, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 13, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-2418>. This answer was followed by a response written by another person: “There is still no answer here about the chances for infection of a child that received 3 or 4 doses of inactivated virus.” See also *Vaccinating Children against Polio Forum: It Does Not Answer*, ZAPDOCTORS (Aug. 20, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-4894>.

76. See *Vaccinating Children against Polio Forum: The Polio Vaccine*, ZAPDOCTORS (Aug. 20, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-5192>.

77. See G. Hirshhorn, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 21, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-5691>. For similar answers or explanations, see also G. Hirshhorn, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 21, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-5484>; G. Hirshhorn, *Vaccinating Children against Polio Forum*, ZAPDOCTORS (Aug. 22, 2013) (Isr.), <http://www.doctors.co.il/forum-5778/message-6370>; *Interview with Dr. M. Golan-Malci, a pediatric specialist*, YOUTUBE (Sept. 30, 2013) (Isr.), <https://www.youtube.com/watch?v=SzT-TwNR6Q8&feature=youtu.be>; *Interview with I. Izhaki, a nurse in a family health clinic*, FACEBOOK (Aug. 11, 2013), <https://www.facebook.com/photo.php?v=405182099593707&set=vb.148373088607944&type=2&theater>.

strategy was that it improved parents' ability to make autonomous decisions, this was not the purpose of the strategy. Transparency was considered a tool for promoting public health and not a strategy for supporting the individual right for autonomy.

Second, the campaign did not include calls for "social responsibility" or altruism, although each of these ideas better described the nature of the behavior that was expected from parents in this case. As the Ministry of Health admitted, the decision not to use ideas of "social responsibility" or altruism in the campaign was based on the assumption that parents might refuse to vaccinate their children if they perceived bOPV as a "social" vaccine of altruistic nature.

Third, although the information provided to the public did not include untrue statements, manipulation of information was part of the Ministry of Health's strategy to increase vaccination rates. This claim requires further explanation regarding the nature of informational manipulation.

Informational manipulation may take several forms.⁷⁸ Displaying false or misleading facts is the most common form of informational manipulation. However, manipulation of information is not limited to this mode of communication. Indeed, it may occur by varying the amount of information that is disclosed—that is, by providing an individual with only part of the information while concealing other pieces of information that are relevant to the understanding of the nature and the outcomes of a particular choice. In such cases, the information that is provided is truthful, relevant and clear—but only partial. Varying the presentation of facts in a way intended to influence a decision maker's understanding of the nature and outcomes of a choice is thus another form of informational manipulation. To engage in this form of manipulation, known

78. For an extensive discussion about the nature of informational manipulation, see FADEN ET AL., *supra* note 29, at 362-63; Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 39 AM. PSYCHOLOGIST 341, 346 (1984); Steven A. McCornack, *Information Manipulation Theory*, 59 COMM. MONOGRAPHS 1 (1992); Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCI. 453, 453-58 (1981); Aaron D. Twerski & Neil B. Cohen, *Informed Decision Making and The Law of Torts: The Myth of Justiciable Causation*, 1988 U. ILL. L. REV. 607, 634-39 (1988).

as framing, one may use a “positive” frame instead of a “negative” frame, use vague or equivocal wording, change the order of information to create anchoring or primacy effects,⁷⁹ or change the weight given to different pieces of information by emphasizing some and suppressing others. Information can also be manipulated by allocating more space or time for the discussion of some pieces of information, while giving little attention to other pieces of information. In addition, information can be manipulated by presenting some pieces of information explicitly while indirectly and impliedly addressing other pieces of information. Finally, failing to respond to questions in a relevant manner is another way to manipulate information.

Several of these methods were used during the 2013 Polio crisis in Israel. With rare exceptions, the information delivered to the public did not explicitly state that bOPV provided, at best, a marginal benefit to IPV-vaccinated children. This fact was omitted in the vast majority of messages, and only after a thorough review of the data presented to the public could parents have reached such a conclusion. It follows that while the scope of information provided to the public was large part of the relevant information was presented to the public only implicitly. As a result, the material fact that the bPOV had (at most) a marginal benefit to IPV-vaccinated children was subtly concealed from parents.⁸⁰

The information delivered to the public included general statements about the vaccine’s benefits to the entire population. Supposedly, these findings can lead to the conclusion that the public was informed about the “social” nature of bOPV. However, attention should be paid to the slogan chosen for the campaign, which focused on the vaccine’s benefits to family members. The theme that bOPV was needed

79. An anchoring effect occurs when different starting points yield different estimates, which are biased toward the initial values. Primacy effects are closely related to anchoring. In the formation of impressions, early information predominates over later information. See Twerski & Cohen, *supra* note 78, at 636–39.

80. This strategy, that is, manipulating the balance of personal and societal benefits of vaccines, has been also adopted in other countries. See Pywell, *supra* note 10, at 235-39.

to protect of family members was repeated and presented to the public in various ways. As a result, the “social” nature of the vaccine was suppressed by the theme that the vaccine was expected to benefit family members, which implied the existence of an “individual” benefit. Using the image of the “family” contributed to this impression, because of the importance of the “family” in Israeli society and its centrality to the life of the individual in Israel.⁸¹

Moreover, the explanation provided to the public regarding the benefits of the vaccine to family members was partial and vague. The description of groups at special risk addressed the total rate of the unimmunized population (2%). The information did not specify the estimated portion of each group in this population.⁸² Because not all groups are present in all families, this partial information made the risk to family members seem greater than it actually was. In addition, the public was informed that “[t]here are individuals at risk in nearly every extended family.” Because no explanation was given for the phrase “extended family,” it was possible to interpret extended family to include distant relatives. The expected result of this interpretation was an increase in the number of individuals who were at special risk in each family. It follows that although the information provided to the public regarding the benefits of the vaccine to family members was true, it was framed in such a way that it made the risk to family members seem greater than it actually was. Accordingly, the vaccine’s benefits to family members seemed greater as well.

Vague, general, equivocal and scientific wording was used in other cases. Language of this nature was used regarding the risk of infection. Further, the risk of infection was generally addressed without explicitly differentiating between individuals who were at special risk of developing the **disease** and IPV-vaccinated children who were at risk of being infected

81. See Sylvie Fogiel-Bijaoui & Reina Rutlinger-Reiner, *Guest Editors’ Introduction: Rethinking the Family in Israel*, 28 *Isr. Stud. Rev.* vii, viii (2013).

82. Considering the fact that most of the groups at risk could have been identified (for example, the number of unvaccinated babies), presenting this kind of information, at least roughly, was possible.

with the **virus** but not of developing the disease.⁸³ As a result, IPV-vaccinated children were presented as being exposed to the same nature of risk as special risk groups, which were exposed to a real risk to their health. Another example of using general wording is the description of bOPV as providing “additional protection to the child” or “another safety measure against the virus” without clarifying that the extent of this “additional protection” was very small. Finally, in several cases, scientific expressions were used to describe the benefit of bOPV to vaccinated children. For example, “the inactivated virus protects from blood exposure; the attenuated live vaccine teaches the intestine to identify the virus and terminates it before it penetrates to the blood.” Although this statement provides true information, by using scientific expressions, it avoids presenting a clear and simple answer regarding the benefit of the vaccine to vaccinated children. At the same time, this scientific explanation contributes to the impression that bOPV has real importance to vaccinated children.

Another framing strategy that was used entailed “positively” framing the vaccine’s expected benefits. The information provided to the public referred to several benefits, such as protecting the family from the risk of Polio, stopping the spread of the virus and preventing paralytic cases. This information included only positive messages. By contrast, the fact that the vaccine was not expected to make a real contribution to an IPV-vaccinated child, which carries a negative or at least a neutral connotation, was rarely mentioned. In this way, a positive instead of a negative value was attributed to the vaccine, an image that could have influenced parents’ decisions.

The above discussion leads to the conclusion that in planning its communication strategy, the Ministry of Health weighted mainly, if not exclusively, public health considerations. As a result, the individual right to make autonomous decisions was maintained as long as it served the goal of public health. When the two themes conflicted, considerations of public health received priority.

83. See H. E. Gray et al., *Failure to Detect Infection by Oral Polio Vaccine Virus Following Natural Exposure Among Inactivated Polio Vaccine Recipient*, 136 EPIDEMIOLOGY & INFECTION 180, 181 (2008).

This conclusion leads to the question whether the strategy adopted by the Ministry of Health was consistent with Israeli law. This question will be addressed in the next section.

IV. The Right to Make Autonomous Decisions and Public Health Considerations in the Context of Vaccination – The Law in Israel

The right to autonomy and the doctrine of informed consent are well established in Israeli law through court rulings and legislation. A physician has an obligation to obtain a patient's free consent to medical treatment (or his guardian's consent in the case of a minor) and to provide him with information regarding the proposed treatment, in order to enable him to make an intelligent decision.⁸⁴ This legal rule is restricted by several exceptions established in general or specific legislation.⁸⁵

The individual right to make autonomous decisions also applies to childhood vaccines. Unlike various sanctions or initiatives designed to increase parents' willingness to vaccinate their children in other countries,⁸⁶ Israeli law does

84. See CA 2781/93 Da'aka v. Carmel Hosp., 53(4) PD 526, 572–73 (1999) (Isr.); Patient's Rights Act, 1591-1996, SH No. 1591 art. 13 (Isr.).

85. Patient's Rights Act, *supra* note 84, at art. 15 (Isr.).

86. The state power and authority to pass compulsory vaccination laws was recognized in the landmark decision of the U.S. Supreme Court, *Jacobson v. Massachusetts*, 197 U.S. 11, 27, 29 (1905). As of now, all states in the United States have school entry vaccination laws. Depending on the state and subject to some exemptions, children must be vaccinated against some or all of the following diseases before enrolment: mumps, measles, rubella, diphtheria, pertussis, tetanus and Polio. The majority of school entry laws focus on children entering kindergarten. However, in a significant number of states, school entry requirements also apply to day care programs, middle schools, colleges and universities. See *Childcare and School Vaccination Requirements 2007-2008*, CDC 1, 3–4, 26–27 (2007), <http://www2a.cdc.gov/nip/schoolsurv/CombinedLaws2007.pdf>; *School Entry Vaccination Requirements: Summary of the Evidence*, NAT'L CTR. FOR IMMUNIZATION RES. & SURVEILLANCE 1, 4-5 (2013) [hereinafter *School Entry Vaccination Requirements*]; *State Vaccination Requirements*, CTRS. FOR DISEASE CONTROL & PREVENTION (Apr. 6, 2015), <http://www.cdc.gov/vaccines/imz-managers/laws/state-reqs.html#other>. School entry vaccination requirements also exist in some Australian states or territories (New South Wails, Victoria, Tasmania and Australian Capital Territory). See *School Entry Vaccination Requirements*, *supra*, at 3. In

not obligate parents to vaccinate their children, and the choice not to vaccinate them has no legal implications for them or their children.⁸⁷ Although the Public Health Ordinance, 1940, authorizes the Ministry of Health Director General to declare a mandatory vaccination in circumstances where there is a risk to the public owing to an infectious disease, this authority was invoked rarely and was never invoked for routine child vaccinations.⁸⁸ Over the years, there have been calls for a mandatory vaccination policy. These assertions were followed by several initiatives to impose a legal obligation on parents to vaccinate their children.⁸⁹ One initiative produced legislation

addition, according to Australian federal legislation, some government payments, such as the Family Tax Benefit Part A supplement, the Child Care Benefit and the Child Care Rebate, are paid only for children who have been vaccinated or who have a medical or conscientious exemption. See *Immunisation Related Payments for Parents*, AUSTL. GOV'T DEP'T OF HEALTH (Dec. 4, 2015), <http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/immunisation-related-payments-for-parents>; *Immunising Your Children*, AUSTL. GOV'T DEP'T OF HUM. SERVS. (Mar. 11, 2016), <http://www.humanservices.gov.au/customer/subjects/immunising-your-children>.

In Canada, three provinces—Ontario, New Brunswick and Manitoba—have legislated vaccination policies, which apply strictly to children about to enroll in school. See Erin Walkinshaw, *Mandatory Vaccinations: the Canadian Picture*, 183 CANADIAN MED. ASS'N J. E1165, E1165–66 (2011); *Frequently Asked Questions: Is Immunization Compulsory in Canada? Does My Child Have to Be Immunized?*, PUB. HEALTH AGENCY OF CAN. (Aug. 27, 2012), <http://www.phac-aspc.gc.ca/im/vs-sv/vs-faq16-eng.php>. Measures to enforce mandatory vaccination that are more stringent have been adopted in other countries. For example, Slovenia adopted a mandatory program for nine designated diseases, and a failure to comply results in a fine. See Walkinshaw, *supra*, at E1167–68.

87. Other countries also have no mandatory vaccination policy. Among 29 countries included in research on vaccination programs and policies in the EU, Iceland, and Norway, 15 countries, including the UK, were not found to have any mandatory vaccines. See M. Haverkate et al., *Mandatory and Recommended Vaccination in the EU, Iceland and Norway: Results of the VENICE 2010 Survey on the Ways of Implementing National Vaccination Programs*, 17 EURO SURVEILLANCE 1 (2012).

88. See Michal Alberstein & Nadav Davidovich, *Therapeutic Jurisprudence and Public Health: Israeli Perspectives*, 26 BAR ILAN L. STUD. 549, 577 (2010) (Isr.).

89. In 2008, the Advising Committee Regarding Infectious Diseases considered the option of adopting school entry vaccination requirements. After a discussion, the Committee decided not to adopt such a policy in Israel and suggested that the government make the most of other less limiting

that stated that child care benefits would be reduced if a child was not properly vaccinated. However, this legislation was abolished shortly after it was approved.⁹⁰ As already stated, the policy of voluntary childhood vaccinations was followed by the Ministry of Health during the 2013 Polio crisis.

It follows that according to Israeli law, the duty to obtain the individual's consent (or his guardian's consent in the case of a minor) applies to childhood vaccinations, as with other medical treatments.⁹¹

options. See *Adopting School Entry Vaccination Requirements*, ST. OF ISR. MINISTRY OF HEALTH HAIFA DIST. HEALTH OFF. (Feb. 17, 2008) (Isr.), <http://www.health.gov.il/Services/Committee/IDAC/Documents/CMV17022008.pdf>. In 2013, the Committee discussed the option to use children's enrollment in kindergarten according to Free Education Policy to improve childhood vaccination rates. Among other issues, the Committee discussed the possibility of obligating parents to present, at the time of registration, certification that their child was vaccinated and requiring that parents sign up upon refusal to vaccinate their child. None of these suggestions were adopted. See *Meeting Summary of the Advising Committee Regarding Infectious Diseases and Vaccines, Using Children Enrolment to Kindergarten to Improve Childhood Vaccination Rates and Integrating the HPV Vaccine to School Vaccination Program*, MINISTRY OF HEALTH (Jan. 30, 2013) (Isr.), <http://www.health.gov.il/Services/Committee/IDAC/Documents/CMV11022013.pdf>. In 2012, two doctors from the Medical Association of Pediatricians suggested that the Ministry of Health Director General promote legislation that would require parents to bear the costs of their children's hospitalization, if the children became sick as a result of parents' failure to vaccinate them. The proposal did not receive the Ministry of Health's support. See *State Comptroller of Israel Report, Vaccination Program for Children, Adults and Health Staff, Annual*, 64C 615 (2014) (Isr.), http://www.mevaker.gov.il/he/Reports/Report_248/c51ffb79-e3a9-49b3-9654-8054462506ba/214-ver-4.pdf.

90. In 2009, the Law for Economic Efficiency was enacted. Legislative Amendments to Implement the Economic Program, 2009-2010 SH No. 2203 p. 157 (Isr.). Art. 61 (2) (d) of this law included Amendment 113 to the Social Security Law [Consolidated Version], 1995, S.H. 1522, p. 210 (Isr.). The amendment, which was included in art. 68 (d) of the Social Security Law, ordered the reduction of allowances for children who were not vaccinated according to the vaccination program adopted by the Ministry of Health. A petition that was filed in the High Court of Justice to declare the amendment as unconstitutional was refused. See *H CJ 7245/10 Adalah v. Minister of Welfare and Soc. Aff.* (2013) (Isr.). In 2013, this amendment was canceled, through Amendment 147 to the Social Security Law. See *Law for the Change of National Priorities (Legislative Amendments for the Achievement of Budgetary Goals for the Years 2013 and 2014)*, SH No. 2405 p. 116 (2013) (Isr.).

91. This conclusion raises the question of who bears the obligation to ask for parents' consent. The same question arises as to the duty of disclosure

While the issue of mandatory vaccine policy has stimulated considerable legal discussion, the issue of the duty of disclosure in the context of vaccinations has received little attention in Israeli law.⁹² Contrary to that in other countries, Israeli legislation does not specifically establish what information should be delivered to parents prior to the administration of a vaccine.⁹³ In addition, Israeli rulings and legislation provide no clear answers regarding what the scope of the duty of disclosure is in the case of childhood vaccination and whether the duty of disclosure is or should be restricted in this case.

The issue of the duty of disclosure and its scope has been discussed in very few court decisions, the most notable of which is the decision handed by the Israeli Supreme Court in the

that will be discussed in the paragraphs that follow. Vaccines are a unique medical treatment. They are a collective action aimed at improving public health—initiated by the government and executed through health agencies—rather than a medical treatment given by a specific health care provider to a specific patient. See Childress et al., *supra* note 39, at 170; GOSTIN, *supra* note 14, at 17–18. This characteristic of vaccines raises the question of who bears the obligation to ask for parents' informed consent. This question is of special importance when a child is seeking a judicial remedy claiming that his parents' informed consent was not obtained. The unique characteristics of vaccines raise another question: How should information regarding vaccines be provided to the public (i.e., the Internet, newspapers, pamphlets)? For a discussion on this issue, see, e.g., Leslie E. Gerwin, *The Challenge of Providing the Public with Actionable Information During a Pandemic*, 40 J. L. MED. & ETHICS 630 (2012). Both of these questions exceed the scope of this paper, which focuses on the content of information provided to the public and its framing.

92. The fact that the duty of disclosure in the context of vaccinations has received little attention in Israeli law is notable, given the voluntary vaccine policy that Israel has adopted.

93. Thus, for example, in the United States, all vaccine providers, both public and private, are required by the National Vaccine Childhood Injury Act of 1986 (NCVIA) to provide the appropriate Vaccine Information Statement (VIS) to the patient (or his legal representative) prior to every dose of vaccine covered by the NCVIA. See Vaccine Information, 42 U.S.C. § 300aa-26 (1986). The VIS provides basic information regarding a vaccine's risks and benefits. It is noteworthy that according to the Centers for Disease Control and Prevention (CDC), VISs are not "informed consent" forms. At the same time, the CDC states that because VISs cover both benefits and risks associated with vaccinations, they provide enough information that anyone reading them should be adequately informed. See Vaccine Information Statements (VIS), VIS Frequently Asked Questions, General Questions, CTRS. FOR DISEASE CONTROL & PREVENTION (June 13, 2014), <http://www.cdc.gov/vaccines/hcp/vis/about/vis-faqs.html>. For a discussion on the nature of VISs, see also Severyn, *supra* note 11, at 270–73.

matter of CA 470/87 *Altari v. Israel* [1993] PD 47(4) 146 (Isr.). In this case, a claim was filed in the name of a child who received a vaccine against tetanus, diphtheria, and pertussis.⁹⁴ The child was diagnosed several years later with brain damage, and she claimed that her condition resulted from the vaccine that she received. Among other arguments, the plaintiff ascribed negligence to the state, claiming that no warning was provided to her parents concerning the vaccine's risks. The claim was rejected together with the argument that the state breached a duty to inform the parents of the vaccine's risks. Several arguments formed the basis of the court's ruling. First, at the time that the vaccine was given to the plaintiff, the relevant risk was not known. Therefore, the state was not able to inform the parents of its existence. Second, notwithstanding the unfortunate experience in the case of the plaintiff, the parents vaccinated their two younger children. Therefore, the court ruled that even if the parents were warned in advance regarding the vaccine's risks, they would have still chosen to vaccinate the plaintiff. Third, even when the existence of the risk became known, the state was under no obligation to reveal it to the parents. A physician's duty to warn of a treatment's risks applies only to material risks. In the present case, the risk involved in the vaccine, although it exists in principle, was very rare, whereas its benefit and necessity to children's health are undisputed. Fourth, the decision to vaccinate a child is not an individual decision that concerns the provision of a treatment to a specific patient for a defined disease. Rather, the decision to vaccinate a child is a decision that concerns mass vaccinations of healthy children, with the goal of protecting them from the risks of a severe childhood disease. In such cases, parents are not competent to decide and are not required to make an individual decision whether to vaccinate their children. Therefore, there is no justification to provide parents this information, which may cause panic among many parents and may force them to make an individual decision that concerns their children's health, although they lack the competence to make it.⁹⁵

94. See CA 470/87 *Altari v. Israel*, 47(4) PD 146 (1993).

95. *Id.* at 153.

Although *Altori v. Israel* addresses the issue of disclosure in the context of vaccinations, it is questionable whether this decision should be interpreted as recognizing an exception to the duty of disclosure in the case of vaccines based on public health considerations. Only one of the four arguments presented by the court—the fourth argument stating that vaccination is not an individual decision subjected to parents’ discretion—may be interpreted as addressing public health considerations. More important, according to the third argument, the state was not under a duty of disclosure in the first place, given the nature of the risk and the benefits of the vaccine. It is also noteworthy that this argument, which addressed the scope of the state’s duty of disclosure, was actually based on two general principles that outline the scope of the duty of disclosure in all informed consent cases. First, the duty of disclosure applies only to material risks, as opposed to distant and rare risks. Second, in determining the scope of the duty of disclosure, not only the treatment’s risks but also other considerations, including the benefit of the treatment, should be considered.⁹⁶ These principles outline the boundaries of the duty of disclosure regarding all medical procedures and are not limited to childhood vaccines. It follows that this argument was based on general principles of the doctrine of informed consent and that it does not articulate a specific exception for vaccinations. That being the case, it is questionable whether the decision in *Altori v. Israel* recognized an exception to the duty of disclosure in the context of vaccinations based on the interest of public health.⁹⁷

The same line of reasoning was applied in *Haliba v. Ministry of Health*, decided by the District Court following *Altori v. Israel*.⁹⁸ In this case, a claim was filed by an infant

96. *Id.*; CA 323/89 *Kuheri v. Israel*, 45(2) PD 142, 166–67, 175 (1991); CA 3108/91 *Rayvi v. Vaygel*, 57(2) PD 497, 509 (1993).

97. *Altori v. Israel* was not presented by subsequent court decisions as recognizing an exception to the duty of disclosure in the case of vaccination, based on public health considerations. See CA 4384/90 *Vatori v. Laniado Hosp.*, 51(2) PD 171, 182 (1997); CA 2781/93 *Ali Da’aka v. Carmel Hosp.* 53(4) PD 526, 546, 549 (1999); Magistrate Court (Jer) 015576/01 *Abu-Chabih v. Clalit Health Services* (2005) Nevo Legal Database (by subscription) ¶ 22 (Farkash, J.) (Isr.).

98. See CC (BS) 001018/00 *Haliba v. Ministry of Health* [2005] Nevo

who became ill with Polio at the age of three months. The plaintiff claimed that his disease resulted from a Polio vaccine given to him a month earlier and that the state was negligent, among other reasons, because it did not warn his parents regarding the risk of VAPP involved in the vaccine. The court dismissed his claim. The public interest in vaccinations and the advantage of not informing parents concerning the vaccine's risks were mentioned in the decision.⁹⁹ However, the court's ruling was primarily based on the argument that according to law only material risks should be disclosed to patients, whereas the risk of VAPP was rare.¹⁰⁰ Moreover, the court's basic assumption was that the state was under an obligation to receive the parents' informed consent and therefore to provide them with information.¹⁰¹ Although the public health interest was not overlooked in the decision, the argument regarding the public health interest was not decisive, and such an interest was not presented as a justification for restricting the duty of disclosure in the context of vaccinations.

The issue of disclosure in the case of the 2013 Polio crisis reached the Israeli High Court of Justice during the vaccination campaign. In a petition filed by an association called "Returned Balance for the Promotion of Health Education in Israel," the petitioner requested that the vaccination process be cancelled or delayed, and alternatively, that all information related to it be published. In particular, the petitioner requested that the Ministry of Health clarify to the public that the vaccine is not intended to benefit children

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99. In the words of the court:

The public policy in Israel, according to which the whole public is vaccinated against a disease (93%), is approved and agreed upon by everyone. This is the way to protect the public from severe and cruel disease.... It should be noted that this is a public policy whose purpose is to prevent fear and panic in the public, so they will not make hasty and wrong decisions.

Id. at ¶¶ H (1), H (2). In addition, the court cited, with agreement, the arguments presented in *Altori v. Israel*.

100. See *Haliba*, CC (BS) 001018/00, ¶¶ d (3), H (1), H (2), H (4).

101. *Id.* ¶ D.

who were already vaccinated with IPV. In its answer to the petition, the Ministry of Health did not directly address the relevance of the duty of disclosure to vaccinations and its scope. Instead, the Ministry of Health claimed that the disclosure made to the public was consistent with the provisions of the Patient's Rights Act, 1996, regarding informed consent and that it enabled the parents to make an informed decision regarding vaccination. The Ministry of Health further claimed that the information provided to the public made it clear that the vaccine was intended to protect populations who were not vaccinated, that every sensible person who read the publications could have understood them, and that the information provided to the public was understandable and not misleading.¹⁰² The petition was dismissed. The petitioner's request that information regarding the purpose of the vaccine be provided to the public was denied because its factual basis was not proved through medical opinion. As a result, the court did not address the question whether the Ministry of Health was under a duty to disclose this information and whether it sufficiently fulfilled his duty. Thus, the question of disclosure and its scope in the context of vaccination remained without a clear answer.

Similar to Israeli court rulings, Israeli legislation does not recognize an explicit exception to the duty of disclosure in the context of vaccinations, based on public health considerations. Two statutes are relevant to this discussion: the Public Health Ordinance, 1940, and the Patient's Rights Act, 1996.

The Public Health Ordinance specifically regulates the issue of vaccinations, but it does not explicitly address the issue of disclosure. Nevertheless, it can be interpreted as authorizing the Ministry of Health Director General to restrict disclosure based on public health considerations. According to the ordinance, the Ministry of Health Director General is authorized to use all necessary measures to protect the public from infection by an infectious disease and to prevent its

102. See HCJ 13/5672 Returned Balance for the Promotion of Health Educ. in Isr. Ass'n v. Ministry of Health (2013) Protocol (Isr.); HCJ 13/5672 Returned Balance for the Promotion of Health Educ. in Isr. Ass'n v. Ministry of Health (2013) Preliminary Response to the Petition and to the Application for an Interim Injunction ¶¶ 1, 36–38, 69–70, 80–87, 131 (Isr.).

spreading.¹⁰³ These sweeping instructions can be interpreted as authorizing the Ministry of Health Director General to restrict the information that will be provided to the public, if such a restriction is necessary to protect the public from an infectious disease. For example, the provision of information could be restricted if he reasonably believes that providing all information to the public will substantially decrease vaccination rates.

Similar to Public Health Ordinance, the Patient's Rights Act does not explicitly address the issue of disclosure regarding vaccines. Article 13 (a) to the Patient's Rights Act generally establishes the obligation to receive a patient's informed consent (or a guardian's consent in the case of a minor) prior to any medical treatment. Article 13 (b) describes which information should be provided to the patient in order to enable him to make an informed decision. Neither of these provisions specifically addresses the special case of vaccinations. Nevertheless, article 2 of the Patient's Rights Act defines "medical treatment" as including "preventive treatment," thus making it clear that the law's provisions do not apply to therapeutic treatments alone. Moreover, Article 1 declares that the purpose of the Patient's Rights Act is to protect the rights of an individual who seeks or receives medical treatment, thus extending its scope beyond individuals who need medical treatment because of illness. In addition, the law is not limited in application; its provisions apply to every health care provider and health care setting. The above considerations lead to the conclusion that the provisions of the Patient's Rights Act are applicable to vaccinations, notwithstanding the fact that vaccination is not "regular" medical treatment—that is, even though vaccination is a public intervention directed at protecting and improving public health.¹⁰⁴ It follows that the

103. See Public Health Ordinance, 1940, I.R. 1065, art. 19, 20(1) (c), at 191 (Isr.). It is noteworthy that according to art. 20, the authority to take all necessary measures is conditioned on the publication of an official announcement by the Director General that an infectious disease severely threatens public health. *Id.* On the other hand, art. 19 does not set such a condition for the use this authority. *Id.*

104. For these characteristics of public health interventions and the difference between them and "regular" medical treatments, see Childress et al., *supra* note 39, at 170.

general duty of disclosure established in art. 13 (b)¹⁰⁵ applies to vaccinations.¹⁰⁶ In other words, according to the provisions of the Patient's Rights Act, parents have a statutory right to receive information that will enable them to make an informed decision prior to every vaccine given to their child.¹⁰⁷ Finally, it is noteworthy that none of the exceptions to the duty of

105. As a general principle, the fact that the duty of disclosure established in art. 13 applies to vaccinations is accepted by the Israeli Ministry of Health. See Head of Medical Administration, *Notic57/97, The Duty to Provide Information to Women Giving Birth during Hospitalization* (Sept. 16, 1997) (Isr.), http://www.health.gov.il/hozer/mr57_1997.pdf; Ministry of Health, Summary of the Advisory Committee Regarding Infectious Diseases and Vaccines, 11.8.11, Presenting Side Effects of Vaccines in Ministry of Health Publications at 1 (Dec. 5, 2011) (Isr.), <http://www.health.gov.il/Services/Committee/IDAC/Documents/CMV11082011.pdf>;

106. This legal model is also common in U.S. law. Most states in the United States do not have comprehensive statutes that apply specific disclosure requirements regarding vaccinations, thus leaving the issue to general informed consent or patient's rights laws. See *Niemiera v. Schneider*, 555 A.2d 1112, 1118-19 (N.J. 1989); *Tenuto v. Lederle Labs., Div. of Am. Cyanamid Co.*, 616 N.Y.S.2d 391, 391-92 (N.Y. App. Div. 1994); *Turner v. Children's Hosp., Inc.*, 602 N.E.2d 423, 431-432 (Ohio Ct. App. 1991); Abigail English et al., *Legal Basis of Consent for Health Care and Vaccination for Adolescents*, 121 PEDIATRICS S85, S86 (2008). However, there is an important difference between U.S. law and Israeli law regarding the duty of disclosure. As already noted, while Israeli legislation does not specifically establish what information should be provided to parents regarding vaccinations, U.S. federal law stipulates specific disclosure requirements regarding vaccinations, in the form of VISs. See *supra* note 94.

107. Other countries also recognize parents' right to receive information prior to vaccination, including Canada, Australia and the UK. See *Canadian Immunization Guide, Part 1: Key Immunization Information 2013, National Guidelines for Immunization Practice, Guideline 5*, PUB. HEALTH AGENCY OF CAN. (last visited Apr. 8, 2015), <http://www.phac-aspc.gc.ca/publicat/cig-gci/p01-03-eng.php>; *Welcome to The Australian Immunisation Handbook 10th Edition, Parts 2.1- 2.3, AUSTL. IMMUNIZATION HANDBOOK (July 16, 2015)*, <http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home>; *Pub.Health Eng., Ch. 2: Consent, IMMUNIZATION AGAINST INFECTIOUS DISEASE: THE GREEN BOOK* (Mar. 19, 2013), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/144250/Green-Book-Chapter-2-Consent-PDF-77K.pdf; *Id.* at *Ch. 7: Immunization of Individuals with Underlying Medical Conditions* (May 7, 2014), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/309218/Green_Book_Chapter_7_v1_3.pdf; *Id.* at *Ch. 8: Vaccine Safety and Adverse Events Following Immunization* (Mar. 20, 2013), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/147868/Green-Book-Chapter-8-v4_0.pdf.

disclosure established in the Patient's Rights Act addresses vaccinations or generally exempts a provider from the duty of disclosure based on public health considerations.¹⁰⁸ That being the case, it can be claimed that the Patient's Rights Act does not allow for a restriction of the duty of disclosure based on public health consideration.

However, a different interpretation of the Patient's Rights Act is possible. Article 13 (b) of the law states that a physician should provide a patient information that the latter reasonably needs to make a decision regarding treatment. Article 13 (b) was interpreted by Israeli courts as applying a "reasonable patient" standard. Until recently, this test was interpreted by Israeli courts as obligating the provision of information that a reasonable patient in the patient's position would have considered significant.¹⁰⁹ However, in the last decade, courts have interpreted this test as requiring the disclosure of information that a patient has a reasonable expectation to receive. Following this interpretation, it was also ruled that in deciding the issue of disclosure, a court's consideration should not be limited to the patient's right to autonomy and his needs for information. Rather, consideration should also be given to professional attitudes about the information that should be provided to patients.¹¹⁰ According to this version of the "reasonable patient" test, in deciding the scope of the duty of disclosure regarding vaccinations, courts can consider professional opinions. Based on this approach, it is possible to interpret the law as authorizing courts to restrict the scope of the duty of disclosure, if the professional opinion is that providing the public with all relevant information regarding the vaccine endangers public health. Israeli courts have not yet addressed this issue, so this interpretation remains only a possibility.

It follows that both laws—the Public Health Ordinance

108. See Patient's Rights Act, 1996, art. 13 (d), 15 (Isr.).

109. See CA 8693/08 Herman v. Sternberg ¶ 24 (Fogelman, J.) (2011) (Isr.); CA 4960/04 Sidi v. Clalit Health Servs. 60(3) PD 590, 600 (2005) (Isr.). Nevo Legal Database (by subscription)

110. See *Sidi*, 60(3) PD at 602; CA 1303/09 Kadosh v. Bikur Holim Hosp. ¶ 15 (Rivlin, J.), ¶ 33 (Amit, J.) (2012) (Isr.). Nevo Legal Database (by subscription)

and the Patient's Rights Act—can be interpreted as authorizing a restriction of the information provided to the public regarding vaccinations, if such restriction is required for the protection of public health.

Nevertheless, consideration should be given to the rule delineated by the Israeli Supreme Court that all laws should be interpreted in accordance with the spirit of Israeli Basic Laws, including Basic Law: Human Dignity and Liberty (1992). Therefore, an interpretation that minimizes the violation of constitutional human rights should be preferred. Consideration should also be given to the new balance between human rights and the interests of society, which was established with the passing of the Basics Laws. Accordingly, human rights can be restricted to protect social interests—provided that such a restriction is required for a worthy purpose and does not exceed what is required.¹¹¹

That being the case, two questions should be addressed: First, did the communication strategy adopted by the Israeli Ministry of Health during the 2013 Polio crisis infringe upon a constitutional human right? Second, if so, was such infringement for a worthy purpose, and was it proportionate to the expected benefit of the action taken?¹¹² These questions are the subject of the next part of the paper.

V. The Communication Strategy Adopted by the Israeli Ministry of Health during the 2013 Polio Crisis – a Critical Analysis.

A. *Did the Communication Strategy Adopted by the Israeli Ministry of Health during the 2013 Polio Crisis Infringe upon a Constitutional Human Right?*

As the discussion in parts II and III indicates, the communication strategy adopted by the Ministry of Health

111. See CA 2281/06 Zohar v. Israel ¶ 49 (Danziger, J.) (2010) (Isr.); CrimA 537/95 Ganimat v. Israel 49(3) PD 355, ¶ 13, at 461 (1995) (Isr.) Nevo Legal Database (by subscription); Aharon Barak, *The Constitutionalization of the Israeli Legal System as a Result of the Basic Laws and Its Effect on Procedural and Substantive Criminal Law*, 31 ISR. L. REV. 3, 5–8, 11 (1997).

112. See Barak, *supra* note 111, at 9–10.

during the 2013 Polio crisis was not consistent with the moral principle of autonomy in two respects: First, the information delivered to the public did not explicitly state that bOPV provided, at best, a marginal benefit to IPV-vaccinated children. Moreover, the information that was delivered to the public was framed in such a way that it implicitly or explicitly conveyed the message that bPOV provided a real benefit to vaccinated children. Second, the slogan chosen by the Ministry of Health (i.e., “Just two drops and the family is protected from the risk of Polio”) and the explanations that accompanied it overemphasized the benefits of the vaccine to family members. Simultaneously, the message suppressed the real purpose of the vaccination, which was of a social nature— that is, to protect special risk groups.

These strategies are also inconsistent with the individual right to autonomy as recognized and protected through the provisions of the Patient’s Rights Act. Article 13 of the Patient’s Rights Act stipulates the obligation to receive a patient’s informed consent and the obligation to provide him with information to make an informed decision. As established by the courts, these rules are embedded in the individual right to autonomy and, simultaneously, are aimed at protecting this right.¹¹³ Article 13 (b) further delineates what information should be provided to individuals. According to Article 13 (b) (2), a health provider has an obligation to inform patients regarding the purpose of the medical procedure and its expected benefit. Article 13 (b) (4) requires the disclosure of the risks and possibility of alternative treatments, including receiving no medical treatment. Article 13 (c) further states that information should be delivered to patients to foster maximum understanding and a decision based on free will.

It follows that parents were entitled to receive clear and correct information about the purpose of the administration of bOPV, its expected benefits, and the risks involved by not receiving it so that they could make an autonomous decision regarding whether to vaccinate their children. This conclusion finds support in the “elective” nature of the administration of

113. See, e.g., CA 7756/07 Gerstel v. Dan ¶ 21 (Rubinstein, J.) (2010) (Isr.). Nevo Legal Database (by subscription)

bOPV. As already noted, the Ministry of Health adopted a voluntary vaccination policy, which persevered parents' right for autonomy. This right was meaningless unless parents received information as to the purpose of the vaccine and its expected benefits. While bOPV was not a "regular" medical treatment, as its main purpose was to benefit others rather than vaccinated children, the social nature of the vaccine did not change parents' needs for information.¹¹⁴ In fact, the nature of the vaccine strengthens the claim that parents were entitled to full and clear information as to the purpose of the vaccine and its expected benefits. The fact that the vaccine had mainly a public health purpose and offered only a marginal benefit to vaccinated children was essential information for parents' decision whether to vaccinate their child.

It follows that providing parents with partial information and concealing from them the real purpose of the vaccine and its benefits—by framing the information so that the vaccine's benefits to a vaccinated child and his family were overemphasized and using other forms of informational manipulation regarding the purpose of the vaccine—violated the Patient's Rights Act and infringed upon parents' right for autonomy.

This conclusion holds notwithstanding the fact that a thorough reading of the information could have led some parents to the understanding that the vaccine provided only a marginal benefit to vaccinated children. Given the complexity of the information and the nature of the target population, which was diverse on an intellectual level, providing information in this manner was not consistent with the law and, more importantly, with the goal of the law, which is to enable parents to make an autonomous decision regarding their children.

Moreover, parents' right to make an autonomous decision was infringed notwithstanding the fact that they received an extensive amount of information and were not directly misled through the presentation of false information. Certainly, providing parents with information as to the vaccine's efficiency, effectiveness, safety, associated risks, and side

114. For this argument, see Woolley, *supra* note 11, at 1301.

effects, as well as other aspects of the campaign, improved their ability to make an autonomous decision. Nonetheless, parents were still unable to make an autonomous decision if other pieces of substantial information were concealed from them. The fact that bOPV provided only a marginal benefit to vaccinated children and that its purpose was mainly to protect others was part of the information that described the nature of the vaccine and its purpose. As such, it was substantial information that was crucial for making an autonomous decision. It follows that providing parents with other pieces of information, despite its importance, did not negate the infringement of their right to autonomy.

It also makes no difference that parents were not directly misled through the presentation of false information. As explained above, the seriousness of the manipulation does not necessarily determine whether the individual was capable of making an autonomous decision. The real question is whether the manipulation altered the facts regarding the purpose of the procedure and its benefits so that they did not reflect its true nature. As the above discussion indicates, although only subtle forms of informational manipulation were used during the 2013 Polio crisis, the message conveyed to parents was that the vaccine provided a real benefit to a vaccinated child and his family. Thus, the true social nature of the vaccine was suppressed. Under these circumstances, parents' right to make an autonomous decision was infringed.

Having decided that the Ministry of Health's communication strategy infringed parents' right to make autonomous decisions, the next issue that should be addressed is whether this infringement constitutes a violation of a constitutional right.

According to the ruling of Israeli Supreme Court, the right for autonomy is one of the most important expressions of the constitutional right for human dignity. As such, it is considered a constitutional right that is embedded in the Basic Law: Human Dignity and Liberty.¹¹⁵ It is also well accepted that the

115. See HCJ 7245/10 Adalah v. Ministry of Welfare and Soc. Affairs ¶ 44 (Arbel, J.) (2013) (Isr.) Nevo Legal Database (by subscription); CA 2781/93 Ali Da'aka v. Carmel Hosp. 53(4) PD 570–71 (1999) (Isr.); HCJ 4330/93 Ganem v. Israeli Bar Ass'n 50(4) PD 221, 231 (1996) (Isr.).

right for autonomy is of special importance given the implications of medical treatment for the quality and length of life.¹¹⁶

It follows that the communication strategy adopted by the Israeli Ministry of Health during the 2013 Polio crisis constituted a violation of parents' constitutional right for autonomy.

B. Was the Infringement of Parents' Constitutional Right for Autonomy for a Worthy Purpose, and was it Proportionate?

The conclusion that the Ministry of Health's communication strategy infringed upon parents' constitutional right for autonomy, does not necessarily preclude an interpretation that the law authorizes such a strategy. Parents' constitutional right for autonomy may be restricted by law to protect social interests, provided that such a restriction is required for a worthy purpose and does not exceed what is required (the "proportionality test").

Therefore, the first question that should be addressed is whether protecting the public health is a worthy purpose. The Israeli Supreme Court addressed this question by shortly before the 2013 Polio crisis in *Adalah v. Ministry of Welfare and Social Affairs*. In this case, the constitutionality of a law reducing children support payments, if a child was not vaccinated as required, was challenged. All three judges agreed that protecting public health by increasing vaccination rates constitutes a worthy purpose.¹¹⁷

The next issue that should be addressed is whether the restricting measure—that is, withholding information from parents—fulfilled the proportionality test. This test is divided into three subtests. The first subtest, the "reasonable connection test," examines whether the restricting measure is expected to achieve the worthy purpose, at least in part, at an

116. See *Ali Da'aka.*, 53(4) PD at 572; *Adalah*, HCJ 7245/10, ¶ 44 (Arbel, J.).

117. See *Adalah*, HCJ 7245/10 ¶¶ 57 (Arbel, J.), 62 (Brak-Erez, J.), 6 (Hayut, J.). This stance is also acceptable in U.S. law, where courts have expressly upheld public health and more specifically disease prevention as a legitimate governmental interest. See GOSTIN, *supra* note 14, at 138.

adequate level of probability. The second subtest examines whether the restricting measure is the least injurious measure. The third subtest examines whether the damage to the constitutional right is proportionate to the expected benefit from the restricting measure.¹¹⁸

Allegedly, restricting the information provided to parents regarding the vaccine fulfills the “reasonable connection test.” In making a decision whether to vaccinate their child, parents assess several considerations: the risk that their child would become infected and sick if he or she were not vaccinated, the severity of the disease, the efficacy of the vaccine in preventing infection and the safety of the vaccine (the risks involved in the vaccine to child health).¹¹⁹ It is argued that admitting to parents that the risk that an IPV-vaccinated child would become sick if he or she were not vaccinated with bOPV was marginal, that the expected benefit of the vaccine to vaccinated children was negligible, and that the vaccine was mainly aimed at protecting others may have reduced parents’ willingness to vaccinate their children. As the number of vaccinated children decreased, so would the level of herd immunity, thereby increasing the risk of infection and morbidity for special risk groups.¹²⁰ Therefore, it seems that restricting the information provided to parents regarding the vaccine complies with the “rational connection test.”

I would like to challenge this claim. Social science research

118. See *Adalah*, HCJ 7245/10 ¶¶ 59–60 (Arbel, J.), 63–67 (Barak Erez, J.). Similar restrictions are imposed on public health interventions according to U.S. law. See GOSTIN, *supra* note 14, at 126–27, 131, 142. Similar criteria for reviewing public health interventions were also suggested by Gostin. *Id.* at 46, 54–70.

119. See P. Bakhache et al., *Health Care Providers’ and Parents’ Attitudes Toward Administration of New Infant Vaccines: A Multinational Survey*, 172 EUR. J. PEDIATRICS 485, 485 (2013); Eve Dubé et al., *Vaccine Hesitancy: An Overview*, 9 HUM. VACCINES & IMMUNOTHERAPEUTICS 1763, 1770 (2013); Natalie Henrich & Bev Holmes, *Communication during a Pandemic: Information the Public Wants about the Disease and New Vaccines and Drugs*, 12 HEALTH PROMOTION PRAC. 610, 617 (2011); Maria D. Whyte et al., *Factors Influencing Parental Decision Making when Parents Choose to Deviate From the Standard Pediatric Immunization Schedule*, 28 J. COMMUNITY HEALTH NURSING 204, 206 (2011).

120. See Dubé et al., *supra* note 119, at 1763; Karin Hardt et al., *Sustaining Vaccine Confidence in the 21st Century*, 1 VACCINES 204, 205-06 (2013).

has shown that the decision-making process related to vaccination is far from rational in the scientific sense. Parents' decisions are made in a broad socio-cultural context, and different variables, such as past experience with health services, perceptions about health, personal experience and family lifestyle, personal beliefs, attitudes and values, influence parents' decision whether to vaccinate their child.¹²¹ Given the complex nature of the vaccination's decision-making process, it is difficult to predict how a change in the scope or form of information provided to parents would affect their decision.

Moreover, the causal connection between parents' level of knowledge and vaccination acceptance is not straightforward and is far more complicated from the suggestion that full knowledge about the benefits and risks of vaccines makes vaccinations less desirable.¹²² Generally, informational uncertainty and ambiguity are associated with decreased willingness to adopt preventive measures, such as vaccinations.¹²³ Moreover, there is evidence that providing parents with information regarding a vaccine's risks does not deter them from vaccinating their children.¹²⁴ In fact, parents who received full and correct information concerning vaccines become more supportive of vaccination.¹²⁵

121. See Dubé et al., *supra* note 119, at 1765; Gesser-Edelsburg et al., *supra* note 17, at 2; Hardt et al., *supra* note 120, at 206; Irene A. Harmsen et al., *Why Parents Refuse Childhood Vaccination: A Qualitative Study Using Online Focus Groups*, 13 BMC PUB. HEALTH 1183, 1187–88 (2013); Julie Leask et al., *Communicating with Parents about Vaccination: A Framework for Health Professionals*, 12 BMC PEDIATRICS 1, 8 (2012); Julie Leask et al., *What Maintains Parental Support for Vaccination when Challenged by Anti-vaccination Messages? A Qualitative Study*, 24 VACCINE 7238, 7243 (2006) [*hereinafter* *What Maintains Parental Support*]; Schicko Ozawa & Meghan L. Stack, *Public Trust and Vaccine Acceptance: International Perspectives*, 9 HUM. VACCINES & IMMUNOTHERAPEUTICS 1774, 1775 (2013); Whyte et al., *supra* note 119, at 205; Ohid Yaqub et al., *Attitudes to Vaccination: A Critical Review*, 112 SOC. & MED. 1, 7 (2014).

122. See Dubé et al., *supra* note 119, at 1768.

123. See Gesser-Edelsburg et al., *supra* note 17, at 3.

124. See Severyn, *supra* note 11, at 271; Schumacher, *supra* note 11, n.128 and accompanying text. Moreover, as *Altori v. Israel* exemplifies, even parents who believe that their child suffered damage as a result of a vaccine may not necessary refuse to vaccinate their other children.

125. See Ellen Wright Clayton, Gerald B. Hickson & Cynthia S. Miller, *Parents' Responses to Vaccine Information Pamphlets*, 93 PEDIATRICS 369, 371

This should come as no surprise. Manipulation of information—that is, providing parents with partial, vague or ambiguous information—may cause parents to feel that they do not have the information they need to make a decision or to experience confusion. The desire to fill in the information gaps and to clarify the facts increases the chance that parents will turn to and rely more heavily on other available sources of information—such as family members, friends or the Internet—even if their credibility is questionable.¹²⁶ As a result, they may obtain inaccurate information based on anecdotal stories, rumors, and the activity of anti-vaccination groups or individuals.¹²⁷ Identifying inaccurate information

(1994); Julie Leask, *Vaccination and Risk Communication: Summary of a Workshop, Arlington, Virginia, USA, 5–6 October, 2000*, 38 J. PEDIATRIC CHILD HEALTH 124, 126 (2002); De La Torre-Fennell, *supra* note 11, at 724.

126. For a study supporting this claim, see Julie S. Downs et al., *Parents' Vaccination Comprehension and Decisions* 26 VACCINE 1595, 1604 (2008). While professionals are still considered an important information source, the Internet has recently become an essential source of information regarding health-related concerns, including vaccination. See Astrid Austvoll-Dahlgren & Solvi Helseth, *What Informs Parents' Decision-Making about Childhood Vaccinations?*, 66 J. OF ADVANCED NURSING 2421, 2422 (2010); Dubé et al., *supra* note 119, at 1766; Abbey M. Jones et al., *Parents' Source of Vaccine Information and Impact on Vaccine Attitudes, Beliefs, and Nonmedical Exemptions*, 2012 ADVANCES IN PREVENTIVE MED. 1, 1–2 (2012); Laurie N. Stempler, *Point and Click to Protect Public Health: Taking Charge of Information Dissemination Over the Internet During a Public Health Emergency*, 73 BROOK. L. REV. 1591, 1602 (2008); Whyte et al., *supra* note 119, at 212; Daniel Jolley & Karen M. Douglas, *The Effects of Anti-Vaccine Conspiracy Theories on Vaccination Intentions*, PLOS ONE (Feb. 20, 2014), <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0089177>. The Internet was also used as a source of information in the 2013 Polio crisis in Israel. Browsing monitoring activity of the Ministry of Health during the campaign revealed an obvious increase in Internet use for gathering information during the 2013 Polio crisis than during similar events in the past. See Kaliner et al., *supra* note 1, at 5. Studies have identified friends as another source of information regarding vaccination. See Leslie K. Ball et al., *Risky Business: Challenges in Vaccine Risk Communication*, 101 PEDIATRICS 453, 454 (1998); Judith Petts & Simon Niemeyer, *Health Risk Communication and Amplification: Learning from the MMR Vaccination Controversy*, 6 HEALTH, RISK & SOC'Y 7, 11–13, 15–16 (2004).

127. See American Academy of Pediatrics, *Policy Statement: Increasing Immunization Coverage*, 125 PEDIATRICS 1295, 1298–99 (2010); Steve P. Calandrillo, *Vanishing Vaccinations: Why Are So Many Americans Opting Out of Vaccinating Their Children?*, 37 U. MICH. J.L. REFORM 353, 402–03 (2004); Dubé et al., *supra* note 119, at 1766; Hardt et al., *supra* note 120, at 206, 216; Allison Kennedy et al., *Confidence About Vaccines in the United*

and differentiating it from creditable information is not an easy task. In the absence of existing information, parents do not have a supportive reference point with which to interpret and identify misleading information.¹²⁸ Tactics used by anti-vaccination groups also render it difficult to differentiate between creditable information and unfounded information.¹²⁹ Unfortunately, once misconceptions are created, it is difficult to “correct” them.¹³⁰ It follows that informational manipulation increases the likelihood that parents’ decision-making will be based on misconceptions regarding an illness and vaccine.¹³¹ Because parents’ decisions are greatly influenced by the **perceived** risks and benefits associated with a vaccine and by the **perceived** frequency and severity of an illness,¹³² misconceptions as to the importance and benefit of a vaccine are expected to decrease parents’ willingness to vaccinate their children.¹³³ Thus, informational manipulation may ultimately deter parents from vaccinating their children instead of making vaccination more desirable.

In the long run, concealing information from parents regarding a vaccine or using other forms of manipulation may pose a real danger to public health. Vaccination requires the

States: Understanding Parents’ Perceptions, 30 HEALTH AFF. 1151 (2011); Stempler, *supra* note 126, at 1591–92; Whyte et al. *supra* note 119, at 212.

128. See *What Maintains Parental Support*, *supra* note 121, at 7242.

129. See P. Carrillo-Santistevé & P. L. Lopalco, *Measles Still Spreads in Europe: Who Is Responsible for the Failure to Vaccinate?*, 18 CLINICAL MICROBIOLOGY & INFECTION 50, 52 (2012); Jason L. Schwartz, *New Media, Old Messages: Themes in the History of Vaccine Hesitancy and Refusal*, 14 VIRTUAL MENTOR 50, 52-53 (2012).

130. Studies show that early impressions are important for the formation of beliefs about vaccination. Therefore, the public is more likely to retain a story about a vaccine associated injury than a story that discredits it. See Leask, *supra* note 125, at 125; Thomas May, *Public Communication, Risk Perception, and the Viability of Preventive Vaccination Against Communicable Diseases*, 19 BIOETHICS 407, 418 (2005). For example, it has taken over a decade to generate evidence to dispel the possible link between MMR vaccine and autism. See Ozawa & Stack, *supra* note 121, at 1775.

131. For a similar claim, see Carrillo-Santistevé & Lopalco, *supra* note 129, at 52; Whyte et al., *supra* note 119, at 212.

132. See Dubé et al., *supra* note 119, at 1768; Jolley & Douglas, *supra* note 126, at 2; Whyte et al., *supra* note 119, at 205-06.

133. See Jolley & Douglas, *supra* note 126, at 6; Harmsen et al., *supra* note 121, at 2.

cooperation of the public,¹³⁴ and public cooperation is closely related to the perceived credibility of provided information and the public's trust in health authorities.¹³⁵ Distrust of medical information and health authorities negatively influences parental attitudes toward vaccination and has been linked to reticence toward vaccination.¹³⁶

Trust in the credibility of information and authorities may be lost when the public discovers that relevant information was concealed from him.¹³⁷ More subtle forms of informational manipulation may pose a similar danger to public trust, if not worse, considering their nature, as they are more sophisticated, more difficult to detect and more likely to exploit the basic belief that speakers in a society adhere to principles of cooperative exchanges.¹³⁸ In an age in which the Internet, blogs and forums are used by individuals and organizations as additional sources of information and as a tool for rapid

134. See Sam Berger & Jonathan D. Moreno, *Public Trust, Public Health, and Public Safety: A Progressive Response to Bioterrorism*, 4 HARV. L. & POL'Y REV. 295, 302–03 (2010). The cooperation of the public is also needed in countries that mandate vaccinations, considering the fact that parents have the option to apply for exemption or to avoid vaccinating their children and bear the legal consequences. See Parmet, *supra* note 9, at 103.

135. See Berger & Moreno, *supra* note 134, at 302–03; Dubé et al., *supra* note 119, at 1769; Parmet, *supra* note 9, at 99. This is especially true in the context of vaccinations, which are medical treatments given to healthy children. See Louis Z. Cooper, Heidi J. Larson & Samuel L. Katz, *Protecting Public Trust in Immunization*, 122 PEDIATRICS 1, 1 (2008). An example of the negative influence that distrust may have on public cooperation can be found in the case of the Anthrax attacks in the United States in 2001. See Berger & Moreno, *supra* note 134, at 302.

136. See Austvoll-Dahlgren & Helseth, *supra* note 126, at 2427; Hardt et al., *supra* note 120, at 206; Jolley & Douglas, *supra* note 126, at 2; Edward Mills et al., *Systematic Review of Qualitative Studies Exploring Parental Beliefs and Attitudes Toward Childhood Vaccination Identifies Common Barriers to Vaccination*, 58 J. OF CLINICAL EPIDEMIOLOGY 1081, 1085 (2005); Pawel Stefanoff et al., *Tracking Parental Attitudes on Vaccination Across European Countries: The Vaccine Safety, Attitudes, Training and Communication Project (VACSATC)*, 28 VACCINE 5731, 5736 (2010); Whyte et al., *supra* note 119, at 206; Yaqub et al., *supra* note 121, at 6.

137. Loss of trust is often associated with past actions or inactions that have damaged public interests or abused public trust. See ONORA O'NEILL, *AUTONOMY AND TRUST IN BIOETHICS* 15 (2002). Parental attitudes toward vaccination are dynamic in terms of individual change over time. See *What Maintains Parental Support*, *supra* note 121, at 7243.

138. See McCornack, *supra* note 78, at 6.

information dissemination, concealment of information and other forms of informational manipulation are more likely to be revealed. Reality itself may also expose the fact that partial or inaccurate information was provided to the public. Revelations of this kind might cause parents to question the credibility of the information provided to them and eventually expose health authorities' informational manipulation, which would endanger public trust.¹³⁹ Moreover, the exposure of informational manipulation is expected to support anti-vaccination movements, which would exacerbate distrust. Often, anti-vaccination movements claim that health authorities conceal the "real truth" about vaccinations from the public, and they point to conspiracy theories as the "true" explanation for vaccination policy.¹⁴⁰ The exposure of the fact that health authorities knowingly and intentionally provided partial, ambiguous and vague information to parents with the purpose of achieving high vaccination rates would support anti-vaccination movements' claims that the real truth about vaccines is being concealed from the public, and once trust is lost, it would be difficult to restore it.¹⁴¹ The result would be damage to public trust and a decrease in the public's willingness to vaccinate their children.

Finally, notwithstanding the difference between informational manipulation and "classic" coercive measures (i.e., quarantine and isolation), individuals might feel that

139. For a similar claim, see May, *supra* note 130, at 418–19. The author supported his claim with the example of the Swine Flu Affair, where overemphasis of the risks of an outbreak, which did not materialize, resulted in public distrust. May, *supra* note 130, at 418–19. For a study that supports his claim, see Marloes Bults et al., *Perceived Risk, Anxiety, and Behavioral Responses of the General Public During the Early Phase of the Influenza A (H1N1) Pandemic in the Netherlands: Results of Three Consecutive Online Surveys*, BMC PUBLIC HEALTH (Jan. 3, 2011), <http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-11-2>.

140. See Dubé et al., *supra* note 119, at 1766; Jolley & Douglas, *supra* note 126, at 1.

141. See Jolley & Douglas, *supra* note 126, at 7; Kennedy et al., *supra* note 127, at 1156; Yaqub et al., *supra* note 121, at 7. This claim is exemplified by the case of the MMR vaccine. Although a decade has passed since the debate regarding this vaccine subsided, and although the link between the MMR vaccine and autism has been disproved, parents in England demonstrate a relatively high level of distrust in the MMR vaccine. See Stefanoff et al., *supra* note 136, at 5736.

informational manipulation is in fact a sophisticated way to coerce them to vaccinate their children. As history shows, coercive measures might be counterproductive and ineffective, causing people to ignore or contravene public commands, owing to fear and a loss of trust in health authorities.¹⁴² In addition, ideas of individual and parental autonomy, free choice, transparency, consumerism, and the desire to assume responsibility for one's own health now compose the social climate under which vaccinations are provided to the public. In such a climate, a revelation that health authorities used informational manipulation to increase vaccination rates might negatively influence parents' attitudes toward vaccination because of the perception that they pose a threat to their basic rights or as a result of feelings of frustration and anger toward health authorities.¹⁴³

Determining how the Ministry of Health's informational manipulation during the 2013 Polio campaign influenced parents' willingness to vaccinate their children with bOPV, what its long-run implications were for parents' trust in health authorities and how it affected parents' decision making regarding other vaccines requires an empirical analysis that exceeds the purpose and scope of this paper.

Nevertheless, several findings may shed some light on these issues. First, parents who found the Ministry of Health's information regarding the benefits and purpose of bOPV partial, vague and ambiguous and who consequently turned to

142. See Berger & Moreno, *supra* note 134, at 303–04; Parmet, *supra* note 9, at 100.

143. This claim is supported by the fact that anti-vaccination lobbyists frame non-vaccination as an informed choice made by parents who venerate freedom of choice and vaccination policies as an infringement of civil rights. See Calandrillo, *supra* note 127, at 388; *What Maintains Parental Support*, *supra* note 121, at 7238. Moreover, studies show that the notion of being an informed decision-maker is important to many parents and that parents want to receive information about vaccines. See Petts & Niemeyer, *supra* note 126, at 14; *What Maintains Parental Support*, *supra* note 121, at 7242. Regarding the connection between social and political culture and parents' attitudes toward vaccination, see Thomas M. Fitzgerald & Deborah E. Glotzer, *Vaccine Information Pamphlets: More Information Than Parents Want?*, 95 PEDIATRICS 331, 333 (1995); Yaqub et al., *supra* note 121, at 7. These findings are followed by the claim that the authorities should respect individuals' civil rights, as a means for building trust and achieving voluntary compliance; see Berger & Moreno, *supra* note 134, at 306.

the Internet for answers were expected to have obtained inaccurate or unfounded information that was disseminated by groups and individuals. Anti-vaccination groups, homeopaths, groups of parents that were organized in response to the campaign, as well as journalists and individual people, presented inaccurate or unfounded information as the truth. For instance, some of the notable claims that were presented to the public are as follows: the eradication of Polio could have occurred even without the Polio vaccine; the protection provided by IPV is short lived and unreliable; many people who were vaccinated with IPV are not immunized against the Poliovirus;¹⁴⁴ maintaining basic hygiene is the best way to prevent infection with the virus;¹⁴⁵ since the beginning of the campaign, a number of children had suffered severe neurological injuries as a result of the vaccine;¹⁴⁶ and economic interests and other irrelevant considerations are the real motivation for the vaccination campaign.^{147, 148} It follows that

144. Suzanne Humphries, *The Right to Know – The Freedom to Choose, Association for Providing Information Regarding Vaccines, LTD*, HASON (last visited Apr. 8, 2015) (Isr.), http://www.hisunim.com/index.php?option=com_content&view=category&id=43&Itemid=145 (examining these claims were in a lecture by Dr. Suzanne Humphries). They were repeated by anti-vaccination activists. See, e.g., Gideon Caner, *An Instructor for Mind-Body Health*, FACEBOOK (Aug. 23, 2013), (Isr.), <https://www.facebook.com/gidon.kenar>.

145. See Humphries, *supra* note 144; Refuha Shlema, *My Recommendations Regarding Polio*, NOA ADAM GROS – CLASSIC HOMEOPATHY (last visited Apr. 8, 2015) (Isr.), <http://noa-adam.co.il/%d7%94%d7%9e%d7%9c%d7%a6%d7%95%d7%aa%d7%99-%d7%91%d7%a0%d7%95%d7%92%d7%a2-%d7%9c%d7%a4%d7%95%d7%9c%d7%99%d7%95/> (last visited Apr. 3, 2016) 3/4/2016.

146. The tragic stories of these children and reports about other similar cases appeared on the following websites: *Community of Vaccines Injured*, FACEBOOK (Nov. 14, 2013), (Isr.), <https://www.facebook.com/nifgaey.hisunim.il?fref=ts>; *Other Truth – News You Will Not See On T.V.*, (last visited Apr. 8, 2015) (Isr.), <http://www.emetaheret.org.il/tag/%D7%97%D7%99%D7%A1%D7%95%D7%9F-%D7%A4%D7%95%D7%9C%D7%99%D7%95/> 28.9.14; *Returned Balance: For the Dissemination of Health Education in Israel*, FACEBOOK (Nov. 26, 2013), (Isr.), <https://www.facebook.com/izunhozer>. The claim that these children were injured because of bOPV was not scientifically proved.

147. See Humphries, *supra* note 144; Avishai Matia, *Vaccinating Against Polio? You Are Irresponsible Parents*, NRG (Aug. 11, 2013) (Isr.), <http://www.nrg.co.il/online/1/ART2/498/187.html>; Shlema, *supra* note 145. This claim was not proved and not supported by solid evidence.

parents who turned to the Internet, looking for more information, were exposed to misconceptions as to the vaccine's necessity, importance and risks. These misconceptions had the potential of negatively influence parents' willingness to vaccinate their children. Second, the fact that bOPV is of marginal benefit to vaccinated children, which was subtly concealed from the public, was exposed on the web during the campaign.¹⁴⁹ It follows that the use of informational manipulation was not expected to remain hidden for long. As explained above, the expected result of such a revelation is a loss of trust in health authorities and a decrease in parents' willingness to comply with the Ministry of Health's calls to vaccinate their children. Third, although not common, the phenomenon of vaccination refusal or hesitancy exists in Israeli society in the context of routine childhood vaccinations. In this context, parents—especially university-educated mothers and socioeconomically advantaged mothers—show a desire for autonomy over their lives and the lives of their children.¹⁵⁰ More specifically, parents who participated in research by Gesser-Edelsburg, Shir-Raz and Green focused on the 2013 Polio crisis expressed a desire to receive accurate, concrete and scientifically based information. Within this socio-cultural climate, revelations about the use of informational manipulation carried a real risk that parents' willingness to vaccinate their children would decrease. Fourth, although the Ministry of Health indicated with satisfaction that 910,229 children were vaccinated with bOPV as of December 2013, attention should be paid to the fact that only 65.81% of the overall target population was vaccinated. Moreover, in several cities, vaccination rates fell below this percentage, ranging

148. Aware of this problem, the Israeli Ministry of Health made efforts to eliminate disinformation through online and traditional media. See Kaliner et al., *supra* note 1, at 4–5.

149. See Aviv Lavi, *Yael German Went to War – 7 Million People, Protest's 'Graduates' that First Turn to the Internet and then to the Doctor*, GLOBES (Aug. 24, 2013) (Isr.); Humphries, *supra* note 144; *Mothers Say No To The Attenuated Polio Vaccine*, FACEBOOK (Oct. 21, 2013), <https://www.facebook.com/groups/224882174329609/?fref=ts> (Isr.); Idit Shapran-Gitelman, *Why I Still Didn't Vaccinate My Children*, HAARETZ (Aug. 22, 2013), (Isr.), <http://www.haaretz.co.il/opinions/1.2103948>(last visited Apr. 3, 2016)

150. Gesser-Edelsburg et al., *supra* note 17, at 4.

from 30% to 45%.¹⁵¹ While different factors may be responsible for these vaccination rates, these data cast doubt on the effectiveness of the communication strategy adopted by the Ministry of Health. Fifth, in their research, Gesser-Edelsburg, Shir-Raz and Green found that parents who normally give their children routine vaccinations decided not to administer bOPV to their children during the 2013 Polio crisis. They also found that the communication strategy adopted by the Ministry of Health negatively affected parents' decisions and attitudes with respect to the vaccine. Conflicting and unsatisfactory explanations about the vaccine, including the reasons for giving it to IPV-vaccinated children, were found to be a major barrier to child vaccination with bOPV.¹⁵² Another barrier to child vaccination identified in Gesser-Edelsburg, Shir-Raz and Green research was distrust of health authorities, which was partly ascribed to the Ministry of Health's communication strategy.¹⁵³ Indeed, according to another survey conducted by the Ministry of Health in early July 2013, the level of public trust in health authorities was high overall and had increased over time. This survey found that 75% of the respondent thought that the Ministry of Health had handled the event properly. One month later, this figure rose to 79%.¹⁵⁴ However, these findings do not refute the claim that the Ministry of Health's communication strategy likely damaged public trust. First, while 79% of the respondent reported that they trust the Ministry of Health, 21% did not share this feeling. These findings raise the question (which

151. See *Vaccination Rates Against Polio in "Two Drops" Campaign*, STATE OF ISR. MINISTRY OF HEALTH (last visited Apr. 8, 2015) (Isr.), http://www.health.gov.il/Subjects/vaccines/two_drops/Pages/VaccinationCoverage.aspx.

152. See Gesser-Edelsburg et al., *supra* note 17, at 10, 12–13.

153. *Id.* at 14. Distrust in the Ministry of Health was expressed during the Polio campaign by several speakers. See, e.g., Gideon Caner, *An Instructor for Mind-Body Health*, FACEBOOK (Aug. 24, 2013), <https://www.facebook.com/gidon.kenar>; Gideon Caner, *An Instructor for Mind-Body Health*, FACEBOOK (Sept. 5, 2013), <https://www.facebook.com/gidon.kenar>; *Mothers Say No to the Attenuated Polio Vaccine*, *supra* note 149; Shapran-Gitelman, *supra* note 149; *The Polio Vaccine: The Ministry of Health Forgot Several People on the Way*, (Aug. 20, 2013) (Isr.), <http://www.2bmommy.com> (posting by a mother).

154. See Kaliner et al., *supra* note 1, at 5, 7.

was not addressed by this survey) whether a different communication strategy would have resulted in a higher level of trust. Second, the survey was conducted during the Polio campaign. Therefore, its findings do not reflect the long-term effect of the communication strategy adopted by the Ministry of Health on public trust.

The above discussion leads to the conclusion that the existence of a “rational connection” between withholding information from the public about vaccinations and public health is questionable both generally and specifically with regard to the 2013 Polio crisis.

Moreover, the harm to parents’ constitutional right for autonomy from withholding information from parents about the purpose and benefits of bOPV is claimed to exceed the expected benefit of withholding such information to public health. This claim needs some explanation. For the sake of argument, I will assume that withholding such information from the public was expected, at adequate level of probability, to increase vaccination rates. However, according to the proportionality test, the damage to parents’ constitutional right should be proportionate to the expected benefit to public health.¹⁵⁵ I believe that in this case, the expected damage to parents’ constitutional right was severe and certain and was thus disproportionate to the expected benefit to public health. As I claimed above, the fact that parents received an extensive amount of information and were not directly misled through the presentation of false information does not attenuate the severity of the infringement of their right to make autonomous decisions, nor does the fact that some parents learned about the real purpose of the vaccine from other resources. Parents were deprived of material information regarding the vaccine—namely, that the benefit to IPV-vaccinated children was marginal and that the real purpose was to protect others. This information was basic and essential for making an intelligent decision regarding vaccination. In the absence of this information, parents’ ability to understand the nature and consequences of vaccinating their child was severely damaged,

155. See HCJ 7245/10 Adalah v. Ministry of Welfare and Soc. Affairs ¶¶ 59–60 (Arbel, J.), 63–67 (Erez, J.), (2013) (Isr.). Nevo Legal Database (by subscription).

and thus, their right to make autonomous decisions was severely damaged. At the same time, even if we assume that withholding such information from the public was expected, at adequate level of probability, to increase vaccination rates, the exact scope of this increase was unknown. It follows that even if withholding information from parents was expected to increase vaccination rates, any expected benefit was not proportional to the severity of the infringement of parents' right to make an autonomous decision regarding the vaccination of their child.

Indeed, providing parents with accurate and full information regarding the real purpose of the vaccine may have carried the risk of reducing parents' willingness to vaccinate their children and thus vaccination rates.¹⁵⁶ As a result paralytic Polio cases may have occurred. Moreover, using informational manipulation seems to be the least injurious measure that the Ministry of Health could have adopted, considering that measures that were more coercive could have been used. However, neither of these facts justifies the informational manipulation used by the Ministry of Health in this case.

First, when informational manipulation deprives an individual of the ability to make an autonomous decision, it seriously infringes his right to autonomy. Thus, although "only" using framing affects- no mistake should be made- informational manipulation might severely damage an individual right to autonomy. In fact, in these cases the difference between using informational manipulation with a voluntary vaccination policy and applying a mandatory vaccination policy is diminished. In a way, explicitly adopting

156. This claim is supported by empirical findings. According to the research conducted by Gesser-Edelsburg, Shir-Raz and Green, the main argument found in the responses of parents who decided not to vaccinate their children was that the vaccine was not intended to prevent vaccinated children from becoming sick but was for the "greater good." Gesser-Edelsburg et al., *supra* note 17, at 15. Moreover, only a small number of the parents that decided to give their children bOPV indicated social responsibility and the desire to protect the environment as a reason for their decision. Gesser-Edelsburg et al., *supra* note 17, at 9, 15. While some parents appreciate the role of childhood vaccination in building herd immunity, parents' decision to vaccinate their child is largely based on the perceived benefit to their own child. See Dubé et al., *supra* note 119, at 1770; Pywell, *supra* note 10, at 235.

a mandatory vaccination policy is preferable. Indeed, its transparency makes it more accountable to public criticism and it shows more respect to parents by not manipulating them.

Second, other less injurious measures could and should have been used. For example, explanations as to the possible economic and political consequences of declaring Israel as a 'State infected with wild poliovirus' could have been provided to the public.¹⁵⁷ Moreover, the public could have been informed about the expected financial costs of treating individuals infected with the disease in a case of an epidemic outbreak. As a result people would have become aware to the indirect but personal benefit of vaccinating their children. Considering the fact that personal benefit is an important consideration in making decisions regarding vaccines, this information might have motivated parents to vaccinate their children.

In addition, the Ministry of Health could have presented public stories of disease-affected children and descriptions of the disease, its severity, and its previous harm, as well as the importance of the vaccine as a measure for its eradication.¹⁵⁸ Many vaccine-preventable diseases—including Polio—are not well-known to the public because of their successful eradication. As a result, most parents do not perceive these diseases as posing a concrete or a serious risk to health, and they do not know the harm that these diseases may cause.¹⁵⁹ Refreshing public memory as to the severity of the disease and its implications and attaching specific faces and names to children who are at special risk and other individuals whom

157. See e.g., *WHO Statement on the Meeting of the International Health Regulations Emergency Committee Concerning the International Spread of Wild Poliovirus*, WORLD HEALTH ORG. (May 5, 2014), <http://www.who.int/mediacentre/news/statements/2014/polio-20140505/en/>.

158. See *What Maintains Parental Support*, *supra* note 121, at 7244. Research suggests that a lack of knowledge about communicable disease and the value of vaccines is associated with low vaccination rates. See Whyte et al., *supra* note 119, at 205.

160. See Emma L. Giles et al., *The Effectiveness of Financial Incentives for Health Behavior Change: Systematic Review and Meta-Analysis*, 9 PLOS ONE 1, 14 (2014), <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0090347>; Christine Parkins, *Protecting the Herd: A Public Health, Economics, and Legal Argument for Taxing Parents Who Opt-Out of Mandatory Childhood Vaccinations*, 21 S. CAL. INTERDISC. L.J. 437, 464–65 (2011), <http://weblaw.usc.edu/why/students/orgs/ilj/assets/docs/21-2%20Parkins.pdf>.

the vaccine was intended to protect could have increased parents' willingness to vaccinate their children despite the marginal benefit of the vaccine to their children. Alternatively, adopting cash or cash-like rewards could have increased parents' willingness to vaccinate their children. For example, the Ministry of Health could have granted a "vaccination bonus" or other benefits to parents who vaccinated their children.¹⁶⁰ Finally, and most important, the potential impact of altruistic considerations and ideas of social responsibility as motivations for vaccination should be further explored. While there is evidence that some parents consider the benefit to others and social responsibility when deciding to vaccinate their children, the potential influence of these considerations on parents' vaccination decisions is largely unknown.¹⁶¹ Health authorities should explore the role and strength of the social benefit of vaccination as a motivational factor in parents' decision-making process regarding vaccinations, the ways in which this consideration should be presented to the public and the ways in which altruism can be nurtured as a motivation for vaccination.¹⁶²

Indeed, nurturing altruism as a motivation for vaccination

160. See Emma L. Giles et al., *The Effectiveness of Financial Incentives for Health Behavior Change: Systematic Review and Meta-Analysis*, 9 PLOS ONE 1, 14 (2014), <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0090347>; Christine Parkins, *Protecting the Herd: A Public Health, Economics, and Legal Argument for Taxing Parents Who Opt-Out of Mandatory Childhood Vaccinations*, 21 S. CAL. INTERDISC. L.J. 437, 464–65 (2011), <http://weblaw.usc.edu/why/students/orgs/ilj/assets/docs/21-2%20Parkins.pdf>.

161. See Rachel Casiday, *Risk and Trust in Vaccine Decision Making*, 13 DURHAM ANTHROPOLOGY J. ¶¶ 5.9–5.10 (2005), <https://community.dur.ac.uk/anthropology.journal/vol13/iss1/casiday/casiday.pdf>; Dubé et al., *supra* note 119, at 1770; Maheen Quadri-Sheriff et al., *The Role of Herd Immunity in Parents' Decision to Vaccinate Children: A Systematic Review*, 130 PEDIATRICS 522, 528-29 (2012), <http://pediatrics.aappublications.org/content/130/3/522.long>; *What Maintains Parental Support*, *supra* note 121, at 7243.

162. See Parmet, *supra* note 9, at 101; Quadri-Sheriff et al., *supra* note 161, at 529. Regarding the claims that presenting vaccinations as a social good might be a worthwhile and possibly overlooked strategy and that health authorities should highlight individuals' obligation toward others and the importance of vaccinations for the wider community, see *What Maintains Parental Support*, *supra* note 121, at 7243; Yaqub et al., *supra* note 121, at 7.

and educating parents to consider social responsibility when deciding to vaccinate their children is an ongoing and long process. Therefore, using this strategy during the 2013 Polio crisis may have had poor results so far as it concerns vaccination rates. Nevertheless, it does not contradict the conclusion that less injurious measures- in the form of nurturing altruism and social responsibility- could and should have been used. The process of nurturing altruism and social responsibility, as well as exploring the ways in which these considerations should be presented to the public and nurtured, is a process that should have been started years ago. The Ministry of Health failure to do so should not lead to the conclusion that informational manipulations were the “less injurious measures” in the 2013 Polio crisis. Any other conclusion would permit the Ministry of Health to continue and violate parents’ right to make autonomous decision, in times of crisis, in the name of public health interests. It follows that the question whether other less injurious measures could have been used should not focus only on the measures that were available during the crisis itself. It should be considered in the broad and ongoing context of public health policy. In this broad and ongoing context, nurturing altruism and social responsibility were the less injurious measures that could have been used.

The conclusion from this analysis is that although the information that was provided to parents was wide in scope and although parents were not directly misled, the Minister of Health’s communication strategy unconstitutionality infringed parents’ right to make autonomous decisions for their children and as such was not consistent with Israeli law.

The implications of this conclusion extend the boundaries of a theoretical or critical discussion. Infringement of parents’ right to make an autonomous decision about vaccination may result in legal sanctions. As in other legal systems,¹⁶³ in the

163. In the United States, tort actions against health care providers may be filed by individuals who suffered an injury as a result of vaccination. Such an individual may claim that he or she was not sufficiently informed about the vaccine, provided that procedures are followed according to the National Childhood Vaccination Injury Act of 1986 (NCVIA). 42 U.S.C. § 300aa-1 (1986). According to the NCVIA, no person may bring a civil action for

Israeli legal systems,¹⁶⁴ if it is found that the duty of disclosure was infringed and if a causal connection is proved both between the breach of this duty and the decision to accept medical treatment (“decision causation”) and between the medical treatment and the plaintiff’s physical injury (“injury causation”), the plaintiff is entitled to compensation for his physical injury.¹⁶⁵ Moreover, according to Israeli law, infringement of the right for autonomy, in itself, entitles the plaintiff to compensation, regardless whether he suffered

damages in an amount greater than \$1,000 against a vaccine administrator unless a petition has been filed in accordance with the act. *See* 42 U.S.C. §§ 300aa-1-300aa-34, 300aa-11, 300aa-21 (1986). After a judgment has been entered by the court, the petitioner may choose whether to accept it or to file a civil action. *Id.* Australia has not adopted a vaccine compensation scheme, and providers may be liable through negligence because of a failure to deliver information about vaccines. *See* Clare Looker & Heath Kelly, *No-fault Compensation Following Adverse Events Attributed to Vaccination: A Review of International Programs*, 89 *WORLD HEALTH ORG.* 371, 371–78 (2011), <http://www.who.int/bulletin/volumes/89/5/10-081901/en/>; Bill Madden, *Vaccine Injury Compensation*, 14 *AUSTL. HEALTH L. BULL.* 41, 43 (2006). In Canada, individuals injured by a vaccine can file an action claiming a failure to secure informed consent. *See* Public Health Act, C.Q.L.R. 2001, c S-2.2, ch. VI, div. III, § 74 (Can.); *Reibl v. Hughes*, 2 S.C.R. 880 (Can. 1980); JENNIFER KEELAN & KUMANAN WILSON, *DESIGNING A NO-FAULT VACCINE-INJURY COMPENSATION PROGRAM FOR CANADA: LESSONS LEARNED FROM AN INTERNATIONAL*, 6, 8 (2011), http://munkschool.utoronto.ca/cphs/wp-content/uploads/2012/11/keelan_workingpaper_feb20112.pdf. Quebec is the only province that has established a public compensation program for those injured from vaccination, but an individual is not barred by the program from filing civil proceedings. *Id.* This is also the law in the U.K. Filing a claim within the vaccine damage payment scheme does not prejudice any person from filing a tort claim alleging that he was not sufficiently informed. *See* Vaccine Damage Payments Act 1979, c. 17, § 6(4) (Eng.).

164. Vaccine Injuries Insurance Law (1989) and Polio Injuries Compensation Law (2007) adopted a no-fault compensation system for vaccine injuries. However, according to both laws, the injured individual can choose whether to receive a no-fault compensation or to file a negligence claim. *See* Vaccine Injuries Insurance Law, (1989) art. 7 (Eng.) and Polio Injuries Compensation Law, (2007) art. 10 (a) (Eng.). It follows that an injured individual can file a negligence claim if he believes that his right for autonomy was infringed.

165. *See* CA 1303/09 *Kadosh v. Bikur Holim Hosp.* ¶ 26–27 (Rivlin, J.) (2012) (Isr.); CA 2781/93 *Ali Da’aka v. Carmel Hosp.* 53(4) PD 526, 564 (1999) (Isr.). Nevo Legal Database (by subscription)

physical injury as a result such infringement.¹⁶⁶ The compensation for infringement on the right of autonomy is substantial, potentially reaching approximately \$100,000.¹⁶⁷

VI. Conclusions

As with other public health interventions, vaccinations often create an ethical and legal conflict between the community interest in health and individual human rights. The 2013 Polio crisis in Israel provides an example of such a conflict. In fact, the unique circumstances of the event intensified the conflict. Once findings from the sewage system in Israel showed a continuous circulation of WPV1, the need to stop the spreading of the virus and to protect special risk groups became evident, and high vaccination rates with bOPV were thus needed. Because the target population was already vaccinated with IPV, bOPV was mainly intended to benefit others, while providing only a marginal benefit to vaccinated children. At the same time, applying the principle of autonomy required that full and accurate information regarding the vaccine be provided to parents in an understandable manner. Therefore, parents should have been clearly and explicitly informed that the vaccine provided, at best, a marginal benefit to vaccinated children and that it was primarily intended to protect others. However, expressly uncovering this fact carried the risk of reducing parents' willingness to vaccinate their children and consequently reducing vaccination rates. Thus, full application of the principle of autonomy seemed to be at odds with the goal of public health.

The present empirical analysis of the Israeli Ministry of Health's communication campaign indicates that this conflict was decided in favor of the interest of public health. Thus, while extensive information was provided to the public, this

166. This doctrine is of considerable importance in the context of vaccinations because of the difficulty of proving "decision causation" as well as "injury causation" in these types of claims.

167. See CA 1303/09 Kadosh v. Bikur Holim Hosp. ¶ 48 (Rivlin, J) (2012) (Isr.).

strategy primarily aimed to achieve a high level of public cooperation and thus high vaccination rates. By contrast, enhancing parents' ability to make autonomous decisions was not the purpose of this strategy. In addition, the campaign did not call on the public to demonstrate "social responsibility" or altruism, although each of these ideas better described the nature of the behavior that was expected from parents. Moreover, although the information provided to the public was not directly misleading, informational manipulation—mainly concealing fundamental information and using framing to mask the real purpose of administering bOPV—was used to increase vaccination rates.

Addressing the question whether the Ministry of Health's communication strategy was consistent with Israeli law posed an interpretive challenge. In the search for an answer, two issues were considered: First, did the communication strategy adopted by the Israeli Ministry of Health during the 2013 Polio crisis infringe upon a constitutional human right? Second, if so, was such infringement for a worthy purpose, and was it proportionate to the expected benefit of withholding information from parents?

I conclude that providing parents with partial information and using other forms of informational manipulation infringed upon their right to make autonomous decisions, which is considered a constitutional right according to Israeli law. This conclusion, it should be emphasized, holds even though some parents may have understood that the vaccine provided only a marginal benefit to vaccinated children, even though an extensive amount of information was provided to parents, and even though parents were not directly misled through the presentation of false information. The social nature of the vaccine and its mere marginal benefit to vaccinated children compose part of the information that described the nature of bOPV and its purpose. As such, this information was substantial, and providing this information fully, clearly and understandably to parents was crucial for their ability to make an autonomous decision regarding the vaccination of their children.

The final part of the paper addressed the question whether restricting the information provided to the public regarding

bOPV was for a worthy purpose and whether any such restriction was proportionate to the expected benefit of withholding this information. While I acknowledge that protecting public health is a worthy purpose according to Israeli law, I claim that the communication strategy used by the Israeli Ministry of Health does not fulfill the proportionality test. Considerable doubts arise as to the existence of a “rational connection” between withholding information from the public and increasing vaccination rates both generally and specifically with regard to the 2013 Polio crisis. Generally, the causal connection between parents’ level of knowledge and vaccination rates is far more complicated than the simple characterization that full knowledge about the benefits and risks of vaccines makes vaccines less desirable for parents. Parents’ decision-making process regarding vaccination is complex, and thus, it is difficult to predict how a change in the scope or presentation of information would affect parents’ decisions in this regard. Moreover, evidence supports the claim that full and correct information about vaccination not only does not deter parents from vaccinating their children but renders them more supportive of vaccination. Finally, for the long run, informational manipulation may decrease vaccination rates by reducing the public’s trust in health authorities and negatively influencing parental attitudes toward vaccination. While the existing data cannot provide an indication of the influence of informational manipulation on parents’ decision making regarding vaccination or the level of public trust in health authorities during the 2013 Polio crisis and over the long run, they nevertheless cast serious doubts as to the existence of a “rational connection” between the adopted communication strategy and the protection of public health.

I have also claimed that even if withholding information from parents about the purpose and benefits of administering bOPV was expected to benefit public health, any such benefit was disproportionate to the expected harm to parents’ constitutional right to make autonomous decisions. Depriving parents of material information regarding the social nature of the vaccine and its marginal benefit to IPV-vaccinated children severely hindered parents’ ability to understand the nature and consequences of vaccinating their child, and thus, their right to

make an autonomous decision was severely restricted. Such harm was greater in scope than the expected benefit to public health.

Finally, I have suggested that less injurious measures could and should have been used by the Ministry of Health for the protection of public health. For instance, the Ministry of Health could have used another theme for the vaccination campaign, or explored the role and strength of altruism as a motivation in the decision-making process regarding vaccinations and the ways in which such a motivation can be nurtured.

The conclusion from this analysis is that although the information provided to parents was wide in scope and although parents were not directly misled, the Ministry of Health's communication strategy during the 2013 Polio Crisis was not consistent with Israeli law.

As I already claimed in the beginning of the paper, this conclusion applies to contexts beyond the 2013 Israeli Polio crisis. Most childhood vaccinations against infectious diseases have both an individual and a social benefit, and it is the opinion of some scholars that childhood vaccinations are in fact altruistic actions. One way or another, all childhood vaccinations against infectious diseases raise the same questions regarding the issue of disclosure: (1) whether full and accurate information as to the social nature of a vaccine should be provided to parents given the possible negative implications of such information for parents' willingness to vaccinate their children and (2) whether the law permits to the withholding of such information from parents based on public health considerations. Central to these questions is the existence (or absence) of a "rational connection" between withholding information from the public and increasing vaccination rates both generally and specifically with regard to a specific event. Challenging the assumption that such a connection exists, describing the severe damage to parents' constitutional right to make autonomous decisions involved in informational manipulation and presenting less injurious measures are expected to contribute to future discussions regarding the issue of disclosure in the context of vaccinations and the communication strategy that should be adopted in crisis

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