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*This article appeared originally in The Internet Journal of Catholic Bioethics (Spring 2015).*

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# Ethics of Mandatory Measles Vaccination & Herd Mentality

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**Abstract:** *with the creation of the first vaccination, scientists held the hope that the eradication of many vaccine-preventable diseases was on the horizon. However, years later, we are still facing outbreaks of diseases like measles, which were previously considered “eliminated” from the United States over a decade ago. Policies allowing parents to refuse vaccinations for their children due to religious and personal belief exemptions in nearly all states have contributed to lower vaccination rates and made more children susceptible to the measles. Herd immunity in many areas has, therefore, been compromised, creating a public health problem that must urgently be addressed. Through examination of the medical, social, legal, and ethical issues surrounding vaccination policies and the reasons prompting refusal of the MMR vaccination, this paper determines, using the objective norm of principlism, that it is ethical to mandate vaccination against the measles in order to protect the health of the general public.*

**Keywords:** *vaccination, herd immunity, principlism, public health.*

## INTRODUCTION

Advancements in science and public health initiatives over the years have created advantageous benefits for most humans, namely longer life spans and fewer incidences of infectious diseases, leading to pandemics/epidemics.<sup>1</sup> Vaccinations undoubtedly helped prevent the spread of infectious diseases, and in some cases, even eradicated some from various countries around the world.<sup>2</sup> Over time, the public view of vaccinations has shifted from seeing these vaccines as life-saving technology, to seeing them as chemicals injected into our children that cause permanent damage and produce side effects as severe as autism or death.<sup>3</sup> Because of this change in public opinion, the positive effects of childhood vaccination that had been observed in the past are now beginning to dwindle.<sup>4</sup> Outbreaks of vaccine-preventable diseases, such as the measles, are occurring more now in the United States than they were several years ago<sup>5</sup> and health professionals and public policy makers must find a way to address the issue.

One suggestion is mandating vaccinations for preventable diseases among children, just as many health care entities have mandated influenza vaccinations among their employees.<sup>6</sup> This presents the issue of what a mandate is and what, if any, sanctions

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<sup>1</sup> Centers for Disease Control and Prevention, “Ten Great Public Health Achievements—Worldwide: 2001-2010,” accessed June 24, 2011, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6024a4.htm>.

<sup>2</sup> Ibid.

<sup>3</sup> Liza Gross, “A Broken Trust: Lessons from the Vaccine-Autism Wars.” *PLoS Biology* 7 no. 5 (2009): 1-7.

<sup>4</sup> Colleen Walsh, “An Opening for Measles,” *Harvard Gazette*, February 27, 2015, accessed March 15, 2015, <http://news.harvard.edu/gazette/story/2015/02/an-opening-for-measles/>.

<sup>5</sup> Centers for Disease Control and Prevention. “Measles Cases and Outbreaks,” accessed February 23, 2015, <https://www.cdc.gov/measles/cases-outbreaks.html>

<sup>6</sup> AL Ottenberg, JT Wu, GA Poland, RM Jacobson, BA Koenig, and JC Tilburt. “Vaccinating Health Care Workers Against Influenza: The Ethical and Legal Rationale of a Mandate.” *American Journal of Public Health* 101 no. 2 (2011): 212-216.

there are to it. The word “mandate” originates from the Latin *manus*, meaning ‘hand’ and dare, meaning ‘give,’ and can be defined as a command, order, or law given by a superior.<sup>7</sup> However, mandates can have exceptions, or sanctions<sup>8</sup> that enable people to not follow a given mandate. This paper will focus on the ethical implications of mandating measles vaccinations and will analyze the two major exemptions: religious exemptions and personal belief exemptions.

The focus of this paper will be developed through an exploration of the history of the measles vaccination, as well as current medical, legal, social, financial, and ethical issues surrounding the vaccination itself and the mandatory vaccination policies. Positions of significant bioethicists such as George Annas and Richard McCormick will serve as the basis for an ethical analysis of the topic and aid in the determination of whether or not mandating vaccination against measles is ethical. Finally, several recommendations will be made as to how health care professionals can move forward in their attempts to stop the spread of infectious diseases.

## CASE

Lisa and Tom have two children, Allie, age 5, and Tommy, age 2, and live in Orange County, California. Lisa and Tom decided not to vaccinate their children against vaccine-preventable diseases, including the measles. Although they were vaccinated as children, Lisa and Tom have become fearful about the safety of the MMR (measles, mumps, and rubella) vaccine after hearing both celebrities and other parents question the side effects and consequences of vaccines. Now that Allie is entering kindergarten, Lisa and Tom have obtained a personal belief exemption from Allie’s school, which allows her to attend school without the normally required vaccinations. To receive the exemption, parents must submit a letter stating that the required immunizations are against their beliefs, and a statement signed by a health care practitioner indicating that the parents have received information regarding the risks and benefits of immunization and the risks of vaccine-preventable diseases.

During the school’s spring break, Lisa and Tom take their children on a vacation outside of the United States. Upon return from the trip, they all seem healthy, and Allie goes back to school. Several days later, Allie becomes ill, and it is discovered that she contracted the measles. Allie recovers from her illness; however, Lisa soon discovers that another child in Allie’s class contracted the virus. The young boy, Max, was in remission from leukemia; chemotherapy had weakened his immune system and wiped out the protection he had from vaccinations when he was a toddler. His parents planned to vaccinate him again once they were able to do so. Max’s parents have gone to school officials and have petitioned to ban personal belief exemptions in California schools in order to protect other children like Max who cannot be vaccinated for medical reasons.

This case study brings to the forefront the real implications of personal actions on public health. Should parents have the right to choose whether or not to vaccinate their children? Is it ethical to require mandatory vaccination for preventable diseases such as measles?

## DISCUSSION

The debate over mandatory vaccination for measles and other vaccine-preventable diseases is a complex issue encompassing medical, legal, social, financial, and ethical issues. This issue is of great concern in the medical community. Years of scientific advancements in the development of safe and reliable vaccines and the near eradication of many diseases from the United States are being compromised by those who are concerned about negative consequences, either real or perceived, being associated with vaccination, and therefore are refusing vaccination for their children.<sup>9</sup>

Measles is a highly contagious disease with a reproductive rate of 12-18, meaning that a person with measles could potentially infect 12 to 18 other susceptible contacts.<sup>10</sup> However, the measles vaccine, created in 1963, provided the opportunity to prevent further spread of the disease in the United States. The effectiveness of current vaccine, 94% for a single dose administered within the second year of life, could continue to keep measles out of circulation in the American public.<sup>11</sup> Despite this, the United States saw a high resurgence of measles in 2014, with 644 cases reported to the Centers for Disease Control’s National Center for

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<sup>7</sup> Matthew K. Wynia, “Mandating Vaccination: What Counts as a ‘Mandate’ in Public Health and When Should They Be Used?” *The American Journal of Bioethics* 7 no. 12 (2007): 2-6.

<sup>8</sup> Sanction is defined as explicit or official approval, permission, or ratification, and can refer to either a permission or restriction. “sanction.” Merriam-Webster.com. Merriam-Webster (2011) accessed Mar 25, 2015.

<sup>9</sup> SB Omer, DA Salmon, WA Orenstein, MP deHart, and N Halsey, “Vaccine Refusal, Mandatory Immunization, and the Risks of Vaccine-Preventable Diseases.” *The New England Journal of Medicine* 360 no. 19 (2009): 1981-1988.

<sup>10</sup> Walter Orenstein and Katherine Seib, “Mounting a Good Offense against Measles.” *The New England Journal of Medicine* 371 no. 18 (2014): 1661-1663.

<sup>11</sup> Ibid., 1662.

Immunization and Respiratory Diseases (NCIRD), the highest number reported since 2000 when measles elimination was recognized in the United States.<sup>12</sup> This reappearance of measles in 27 states across the United States<sup>13</sup> raises questions regarding how this can occur when measles was seemingly “eliminated” from the United States years ago.

There are two major reasons for this resurgence. First, though significant progress has been made in reducing global measles incidence, there is still substantial circulation of the virus in other countries. ... Second, an increasing number of parents in this country are hesitant to have their children vaccinated, and such hesitancy has resulted in an accumulation of unvaccinated populations who can become infected and maintain transmission.<sup>14</sup> The aforementioned case exemplifies these trends, as one U.S. outbreak occurred among unvaccinated Amish communities in Ohio, while many other cases were linked to measles cases

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<sup>12</sup> Centers for Disease Control and Prevention, “Measles Cases and Outbreaks.”

<sup>13</sup> Centers for Disease Control and Prevention, “Measles Cases and Outbreaks.”

<sup>14</sup> Orenstein and Seib, 1661.