

**ADDRESSING THE GROWING CONFIDENCE GAP IN PUBLIC
ACCEPTANCE OF VACCINES IN THE UNITED STATES**

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ABSTRACT:

The public health community has gotten markedly better at distributing effective vaccines to the children who need them. But researchers are noticing an increase in mistrust of vaccines around the world, and they're concerned that unfounded suspicions could derail immunization programs essential to saving lives.

One in eight American parents has refused at least one vaccine recommended for their children by their family doctor, according to a study published in *Journal of Pediatrics*. Therefore, even if only ten of 100 people refuse vaccines but most of them live in the same neighborhood, the likelihood of outbreaks increases due to local breakdown of herd immunity.

Fears and suspicions around vaccine safety have already contributed to a slight decline in vaccination rates in the U.S.

Vaccine distrust can evolve out of cultural, religious, ethical or sometimes economic or political reasons.

Suspicion and apprehension about vaccination is fairly common, particularly among several specific disenfranchised communities in the United States and internationally. For these communities, the suspicion is best understood in a social and historical context of inequality and mistrust. For example, several studies have found that the legacy of racism in medicine and the Tuskegee Syphilis Study, a clinical trial conducted with African Americans who were denied appropriate treatment opportunities, are key factors underlying African Americans' distrust of medical and public health interventions, including vaccination.

Through a historical and cultural overview, the focus of this presentation will be on solutions to building and sustaining trust with those who accept and support vaccines, while working to understand and address the growing confidence gap.

Addressing mothers' concerns about immunization is important both from an ethical perspective, in assuring that they are fully informed of the risks and benefits of immunizations, as well as from a practical one, in reducing the possibility that people will decide not to immunize themselves or their child. Changes, particularly, in the childhood immunization process should be made to reduce parental concern about vaccine safety. Some changes that may be considered include improved provider communication about immunizations and additional tailored information about the necessity and safety of vaccines.

Vaccination is a complex social act that effects [sic] both direct perceived self-interest, the interest of one's children, and the broader community. The decision leading to immunization remains a personal summation of each individual's perception of the complexity of information they receive and their trust in the institutions that produce, legislate, and deliver vaccines. For vaccines to realize their full potential in protection of health, public and private health practices need to take into account the range of social and political factors that affect the public's willingness to accept vaccines.

The immunization community, including scientists, policy makers, and health providers, needs to come to terms with the reality that individuals and groups will continue to question and refuse vaccines. Extremist antivaccination groups whose minds will not change will exist. Many people—the majority—who accept vaccines could change their mind. The focus should be on building and sustaining trust with those who accept and support vaccines, while working to understand and address the growing confidence gap.

-Heidi Larson, a researcher and lecturer at the London School of Hygiene and Tropical Medicine-

The public health community has gotten markedly better at distributing effective vaccines to the children who need them. But researchers are noticing an increase in mistrust of vaccines around the world, and they're concerned that unfounded suspicions could derail immunization programs essential to saving lives.

Cultural Perspectives on Vaccination

Public opinions about vaccination include varied and deep-seated beliefs, a result of the

tension between divergent cultural viewpoints and value systems. Several key cultural perspectives on vaccination stem from (1) individual rights and public health stances toward vaccination, (2) various religious standpoints and vaccine objections, and (3) suspicion and mistrust of vaccines among different U.S. and global cultures and communities.

Individual versus Public Health Stances

Many countries require their citizens to receive certain immunizations. In the United States, state laws dictate mandatory vaccinations, such as those required for children to enter school.^[1] Controversies over the efficacy, safety, and morality of compulsory immunization stem from the longstanding tension between two, sometimes divergent, goals: protecting individual liberties and safeguarding the public's health.^[2]

Individual versus public health priorities were first argued in the U.S. Supreme Court more than 100 years ago. In *Jacobson versus Massachusetts*, a resident of the city of Cambridge refused to be vaccinated for smallpox, because he believed that the law violated his right to care for his own body how he knew best. The Court rejected Jacobson's challenge. This seminal 1905 ruling has served as the foundation for state actions to limit individual liberties in order to protect the public's health.^[3]

The tension exists because public health regulations aim to protect as many people as possible, but they sometimes privilege group needs over individual preferences. In the case of vaccination, mandates sacrifice individual autonomy to protect communities from disease. Unvaccinated individuals pose risks to children or people with medical contraindications who can't be vaccinated, as well as vaccinated individuals (vaccines are not 100% effective).^[4]

Yet all public health interventions, including vaccination, include health risks. In addition, individualism is a strong tenet of U.S. citizens' ideals and values. Thus, individuals want to exercise their right to protect themselves and/or their children if they do not accept existing medical evidence about the relative safety of vaccines, or if their ideological beliefs do not support vaccination.^[2] ^[4]

Good public health policies balance both individual rights and community needs. Therefore, public health officials must recognize and respect diverse social and cultural perspectives toward immunization policies, to help support their success and acceptance.^[3]

Religious Perspectives and Vaccine Objections

Certain religions and belief systems promote alternative perspectives toward vaccination. Religious objections to vaccines are based generally on (1) the ethical dilemmas

associated with using human tissue cells to create vaccines, and (2) beliefs that the body is sacred, should not receive certain chemicals or blood or tissues from animals, and should be healed by God or natural means.

For example, the Catholic Church recognizes the value of vaccines and the importance of protecting individual and community health. It asserts, however, that its members should seek alternatives, when available, to vaccines that are made using cell lines derived from aborted fetuses.[5] Christian Scientists do not have a formal policy against vaccines, but rely generally on prayer for healing. They believe that medical interventions, which could include vaccines, are unnecessary.^[6]

Most U.S. states, with the exception of West Virginia and Mississippi, allow individuals to apply for religious exemptions to mandatory vaccines based on their religious beliefs and objections.^[1] Religious vaccine exemptions have risen in recent years.[11] Although adults and children with these exemptions comprise a small part of the overall population, they are often the center of controversy and media attention. Infections can spread quickly through small unvaccinated social and/or geographic church communities.^[7]

For example, in Philadelphia in 1990, a major measles outbreak occurred among unvaccinated school children who were members of two fundamentalist churches that relied on prayer for healing, and opposed vaccines.[8] In 1994, a measles outbreak occurred in a Christian Science community that objected to vaccination. The outbreak originated with a teenager who lived in Illinois, and attended a Christian Science boarding school in Missouri. Her illness contributed to significant outbreaks across both states.[9] More recently, in 2005, a measles outbreak occurred among members of a religious community that opposed vaccination in Indiana, when an unvaccinated teenager returned ill from a trip overseas and infected others at a church gathering.^[10]

Because of these outbreaks and the increasing number of religious vaccine exemptions, the CDC and other medical and public health officials warn parents that unvaccinated children are at a higher risk for acquiring vaccine preventable infections.^[12]

Suspicion and Mistrust of Vaccines

Suspicion and apprehension about vaccination is fairly common, particularly among several specific disenfranchised communities in the United States and internationally. For these communities, the suspicion is best understood in a social and historical context of inequality and mistrust. For example, several studies have found that the legacy of racism in medicine and the Tuskegee Syphilis Study, a clinical trial conducted with African Americans who were denied appropriate treatment opportunities, are key factors underlying African Americans' distrust of medical and public health interventions, including vaccination.[13] [14] [15] [16]

Internationally, in parts of Asia and Africa, mistrust of vaccines is often tied to “Western plot” theories, which suggest that vaccines are ploys to sterilize or infect non-Western communities.^[17] Suspicion has existed for different infections and vaccines over the past 20 years. For example, in Cameroon in 1990, rumors and fears that public health officials were administering a range of childhood vaccines to sterilize women thwarted the country’s immunization efforts.^[18] Similarly, in Tanzania in the mid 1990s, a missionary raised concerns about tetanus immunizations, sparking sterilization rumors and halting the campaign.^[17] And in 2005, measles vaccine suspicions led to decreased vaccination rates and increased infections in Nigeria.^[19]

One of the most striking instances of vaccine suspicion in Africa has concerned the polio vaccine. In 1999, British journalist Edward Hooper wrote *The River: A Journey to the Source of HIV/AIDS*. He speculated that the virus that causes AIDS transitioned from monkeys to humans via a polio vaccine. He argued that the polio vaccine was made from the cells of chimpanzees infected with the primate form of HIV (Simian immunodeficiency virus, or SIV), which adapted in humans and caused disease; and that there were coincidences in the sites where the polio vaccine was first administered and where the first cases of HIV originated.^[20] Although scientists and medical scholars have provided plentiful evidence to discount Hooper’s ideas, media attention has sparked conspiracy theories and concerns globally.^[21]

Religious objections by Muslim fundamentalists have driven suspicions about the polio vaccine in three different countries in which polio is still endemic: Pakistan, Afghanistan, and Nigeria. For example, the local Taliban in Southern Afghanistan have called polio vaccination an American ploy to sterilize Muslim populations and an attempt to avert Allah’s will. Resistance to vaccination has even resulted in violent beatings and kidnappings.^[22] Similar objections halted polio vaccination campaigns in Nigeria. In 2003, religious leaders in three different Nigerian states claimed that the vaccines were contaminated with the virus that causes AIDS and sterilization and cancer-causing agents, despite tests confirming the vaccine’s safety. The standoff was eventually resolved through dialogue among religious and political leaders, WHO, and UNICEF.^[23]

Divergent cultural perspectives and opinions toward vaccination, including libertarian and religious objections, as well as vaccine suspicions, signal the need for continued communication and collaboration between medical and public health officials and the public regarding acceptable and effective immunization policies.

Sources

1. Centers for Disease Control and Prevention (CDC). [National Vaccine Program Office: Immunization Laws](#). Accessed May 13, 2010.
2. Blum JD. Balancing individual rights versus collective good in public health

- enforcement. *Medicine and Law*. 2006;25:273-281.
3. Parmet WE, Goodman RA, Farber A. Individual rights versus the public's health - 100 years after *Jacobson v. Massachusetts*. *N Engl J Med*. 2005;352:652-653.
 4. Salmon DA, Omar SB. Individual freedoms versus collective responsibility: Immunization decision making in the face of occasionally repeating values. *Emerging Themes in Epidemiology*. 2006;3:1-3.
 5. Moral reflections on vaccines derived from cells derived from aborted fetuses. *The National Catholic Bioethics Quarterly*. 2006;6:541-549.
 6. Christian Science. [Frequently asked questions about Christian Science](#). Accessed May 13, 2010.
 7. Aspinwall TJ. Religious exemptions to childhood immunization statutes: Reaching for a more optimal balance between religious freedom and public health. *Loyola Univ Chicago Law J*. 1997;29:109-39.
 8. Rodgers DV, Gindler JS, Atkinson WL, Markowitz LE. High attack rates and case fatality during a measles outbreak in groups with religious exemption to vaccination. *Pediatr Infect Dis J*. 1993;12:288-92.
 9. [Outbreak of measles among Christian Science students: Missouri and Illinois, 1994](#). *MMWR*. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 1994;43(25):463-465. Accessed May 10, 2010.
 10. [Import-associated measles outbreak --- Indiana, May--June 2005](#). *MMWR*. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2005;54(42):1073-1075. Accessed May 10, 2010.
 11. LeBlanc S. [Parents use religion to avoid vaccines](#). *USA Today*. 10/18/2007 2007;Health and Behavior. Accessed May 13, 2010.
 12. Salmon DA, Siegel AW. Religious and philosophical exemptions from vaccine requirements and lessons learned from conscientious objectors from conscription. *Public Health Reports*. 2001;116:289-295.
 13. Gamble VN. Under the shadow of Tuskegee: African Americans and health care. *American Journal of Public Health*. 1997;87:1773-1778.
 14. Freimuth VS, Quinn SC, Thomas SB, Colea G, Zook E, Duncan T. African Americans' views on research and the Tuskegee syphilis study. *Social Science & Medicine*. 2001;52:797-808.
 15. Moutsiaakis DL, Chin NP. Why blacks do not take part in HIV vaccine trials. *Journal of the National Medical Association*. 2007;99:254-257.
 16. Newman PA, Naihua D, Roberts KJ, et al. HIV vaccine trial participation among ethnic minority communities: Barriers, motivators, and implications for recruitment. *JAIDS*. 2006;41:210-217.
 17. UNICEF. [Combating anti-vaccination rumors: Lessons learned from case studies in Africa](#). Nairobi, Kenya: UNICEF; 1997:1-68. Accessed May 10, 2010.
 18. Savelsberg PF, Ndonko FT, Schmidt-Ehry B. Sterilizing vaccines or the politics of the womb: Retrospective study of a rumor in the Cameroon. *Medical Anthropology Quarterly*. 2000;14:159-179.
 19. Clements CJ, Greenough P, Shull D. How vaccine safety can become political - the example of polio in Nigeria. *Current Drug Safety*. 2006;1:117-119.
 20. Hooper E. *The River : A Journey to the Source of HIV and AIDS* New York:

- Little, Brown, and Company; 1999.
21. Plotkin S. CHAT polio vaccine was not the source of human immunodeficiency virus type 1 for humans. *Vaccines*. 2001;32:1068-1084.
 22. Warraich HJ. Religious opposition to polio vaccine. *Emerging Infectious Diseases*. 2009;15:978.
- Jegede AS. What led to the Nigerian boycott of the polio vaccination campaign? *PLOS Medicine*. 2007;4:0417-0422.