# Unvaccinated Children and the Return of Eliminated Diseases:

Literature Review

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**Unvaccinated Children and the Return of Eliminated Diseases**

Vaccinations have been around for a long time and are an essential aspect of keeping people healthy. They prevent serious diseases that may otherwise have a potentially life-altering effect. Vaccines offer protection of illnesses, but we have seen a recurrence in some preventable diseases. The return can partly blame parents refusing to have their children vaccinated ("Importance of Vaccines," n.d.). Children who are not vaccinated are at risk, but they are also putting those around them at risk who cannot be vaccinated either for a medical reason or because they are too young. The MMR vaccine, which protects against measles, mumps, and rubella, is one some children are not receiving. Measles is of particular concern because it can make children seriously ill and even be fatal. The highest risk group is babies who are too young to be vaccinated. In 2015, there were 134, 200 deaths across the world with measles as the culprit. In 2017, Minnesota experienced a measles outbreak affecting twenty children. Of those twenty children, sixteen did not receive the vaccine (Marcus, 2017). This literature review will inquire about unvaccinated children's contribution to the spike of preventable diseases. It is important to use evidence-based practice to educate society on the importance of vaccinations.

**Measles Outbreak-Minnesota April-May 2017**

The refusal of vaccinations, specifically the MMR vaccine, contributed to the increase of measles cases seen in the United States. Measles used to be considered an eliminated illness, but the refusal of vaccinations by parents combined with international travelers has created a spike in measles cases. Unvaccinated children are in danger of getting the disease and spreading it to

people who cannot receive the vaccine (Leeds & Muscoplat, 2018). It is important people understand the implications of not vaccinating children and the effects it has on others.

**Key Points**

In 2017, the Minnesota Department of Health reported a measles outbreak and initiated an investigation. The outbreak developed in a Somali-American community with a low MMR vaccination rate, causing the illness to expose thousands of people, with sixty-five cases confirmed. (Leeds & Muscoplat, 2017). The researchers used health records combined with interviews. Public health officials interviewed patients and their guardians on the symptoms onset and exposure history twenty-one days before the start of the rash. Officials also questioned them on possible exposed contacts. The average patient age was twenty-one months old. Of the confirmed sixty-five measles cases, sixty-two were unvaccinated. Of those cases, 77% were in children under vaccination eligibility age, and 85% were children of Somali descent. Somali officials in the community provided education about the MMR vaccine and addressed the concerns parents have about it. The education showed success as the number of MMR vaccines in the district increased (Leeds & Muscoplat, 2017). An additional measles outbreak began in another Somali community in which twenty-one cases were reported, with eight being of Somali descent. In that particular community, the amount Somali children receiving the MMR was just above half. The source of the outbreak was traced back to a thirty-month old Somali child.

### Assumptions

The return of measles can be contributed to unvaccinated children. In a once vaccinated community, “the perceived increased rates of autism in the Somali-American community, and the misunderstanding that autism was related to the measles-mumps-rubella (MMR) vaccine resulted in a decline in MMR,” (Leeds & Muscoplat, 2017, p.716). The investigation into the measles outbreak in a Somali-American community supports the claim.

### Deficit/Conclusion

The number of parents not vaccinating their children is rising, and we see an increase in measles cases. The illness not only affects the child but it puts babies and immunocompromised people at risk. Parent’s concerns about the MMR vaccine causing autism shied parents away from the vaccine. More and more children do not get vaccinated because of this belief, although studies have concluded there is no connection (Leeds & Muscoplat, 2017). The prediction of Center of Disease Control (CDC) in Vaccines and Immunizations (2017), is that if vaccinations are stopped, unheard of diseases will return. There would be epidemics of diseases that are mostly eliminated by vaccinations, causing fatalities in children (Vaccines & Immunizations, 2017).

## Homeschoolers’ Vaccination Perception and Rate: A Comparison with a Public/Private School Population

School vaccination laws are critical in enforcing the United States immunization policy and helps to control communicable diseases. Outbreaks of vaccine-preventable diseases are occurring in the homeschool population because homeschooled children are less likely to be vaccinated (Troupe, Carrol, McWilliams, Swift, & Lang, 2017). “There is concern that these populations have not sustained rates high enough to achieve herd immunity” (Troupe et al., 2017, p. 46).

**Key Points**

In 2016, a cross-sectional online survey was completed by a mix of one hundred thirty-seven homeschool, public, and private school parents in Washington State. Using the Likert scale, parents answered various questions on vaccinations (Troupe et al., 2017). The survey found a significant difference between vaccination status of homeschooled children and children who attended public and private schools. There was a much lower vaccination rate among the homeschool population. Parents of homeschooled children reported strongly agreeing with statements regarding vaccines being unsafe (Troupe et al., 2017). When asked agreement rates, 57.5% of parents reportedly agreed that “certain vaccines might cause learning disabilities,” and 53.4% agreed that “certain vaccines might cause autism” (Troupe et al., 2017, p. 50). “The results of this study indicated a lower vaccination rate among homeschool children in comparison to public/private-school children” (Troupe et al., 2017 p. 53). The biggest safety concern was the association between vaccines and autism, although research has proven there is no link. Troupe et al. (2017) further explained another barrier to vaccinations is the belief that it is better for children to acquire immunity by getting sick instead of getting the vaccinations (Troupe et al., 2017). All fifty states require children to have immunizations before attending

school and daycares. Medical reasons are the only exception acceptable in all states (Barraza, Schmit, & Hoss, 2017). Only four states require proof of immunization for homeschooled children. Children who are homeschooled do not have the same requirements as children who attend public and private schools (Troupe et al., 2017). Some states do not define homeschool as "school," so they are exempt from immunizations (Homeschool Immunization Requirements, 2016). "A growing concern is that the lack of vaccination requirements for homeschoolers has contributed to recent outbreaks of vaccine-preventable diseases in the homeschool population" (Troupe et al., 2017, p. 48).

**Assumptions**

The homeschool population is less likely to be influenced by school laws, therefore, tend to have low vaccination rates. The low rates damage the prevention of communicable diseases and contribute to epidemics (Troupe et al., 2017). "The declining incidence of vaccine-preventable diseases may lead all parents to underestimate the severity of the diseases" (Troupe et al., 2017, p. 54). Vaccine requirements in schools may play a role in parent's decision to homeschool their children. As a result, 40.1% of homeschooling parents planned to seek an exemption if vaccines became mandatory for homeschoolers.

**Deficit/Conclusion**

Vaccinations are a crucial part of keeping people healthy and governmental policies regarding vaccinations aid in establishing a healthy nation. While both sides are aware of the risks associated with vaccine-preventable diseases, homeschooling parents have more negative

views on vaccines and believe there is more risk than benefits (Troupe et al., 2017). “This study validates the concern that the low vaccination rate among homeschooling children may be a threat to the herd immunity” (Troupe et al., 2017, p.55).

## Knowledge, Attitudes, and Perceptions About Routine Childhood Vaccinations Among Jewish Ultra-Orthodox Mothers Residing in Communities with Low Vaccination Coverage in the Jerusalem District

Maternal knowledge and attitudes towards childhood immunizations play a role in low vaccine coverage. Understanding the importance of vaccines is essential in implementing childhood vaccination programs (Stein & Israeli, 2017). Although clinics in Israel offer free, routine vaccinations, populations in the Jerusalem district tend to have low coverage, especially among children in the ultra-orthodox communities (Stein & Israeli, 2017).

### Key Points

Although Maternal and Child Health clinics in Israel offer routine childhood vaccinations, the ultra-orthodox Jewish population tends to have low vaccine coverage. Focused group discussions, questionnaires, and interviews among women in the Jerusalem district concluded low rates of the measles, mumps, and rubella and diphtheria-tetanus-pertussis 4$^{th}$ dose vaccines. Of the thirteen vaccines for 0-2-year olds, the average number received was four (Stein & Israeli, 2017). Among the study findings were participant’s low level of knowledge regarding the immunizations. Parents admitted they did not understand what the vaccine was for (Stein & Israeli, 2017). In 2007-2008 there were two measles outbreaks among an orthodox Jewish

community in Belgium and England that spread to Israel. Many of the children in Israel who were affected were not vaccinated (Fournet et at., 2018).

### Assumptions

Parent's knowledge and attitudes influence decisions about vaccinations. Gaining insights into parent's perspectives can aid in planning and implementing childhood vaccination programs (Stein & Israeli, 2017). "Understanding parental perspectives is fundamental in implementing childhood vaccination programs" (Stein & Israeli, 2017, p. 1010). Education can increase awareness of the dangers associated with vaccine-preventable diseases (Stein & Israeli, 2017).

### Deficit/Conclusion

Childhood vaccinations are part of primary prevention and are a critical step in eliminating diseases. Personal views, cultural factors, and parental knowledge and attitudes on vaccines all influence coverage rates. Concerns about vaccinations were apparent among the ultra-orthodox Jewish population (Stein & Israeli, 2017). The World Health Organization aims to educate on the importance of vaccinations with the most up to date information. The goal is to arm everyone to with the knowledge and attitude needed to make informed decisions about vaccines (Vaccine Education Center at the Children's Hospital of Philadelphia, 2018). "As long as pockets of low vaccination coverage remain in many European countries, outbreaks of vaccine preventable diseases will continue to occur, and elimination will be infeasible as long as there are under-vaccinated groups" (Fournet et al., 2018, p. 12).

## Conclusion

Childhood vaccinations are critical to preventing the occurrence of potentially life-threatening conditions. Unvaccinated populations contribute to epidemics of vaccine-preventable diseases. Different views on immunizations among cultures and communities along with fears about safety, influence parent's choices not to vaccinate. Researchers in Minnesota discovered a measles outbreak among a Somali American community. The MMR vaccine protects from the measles and is a preventable disease, but the fear of unsafe immunizations leads parents not to vaccinate (Leeds & Muscoplat (2018). One of the biggest reasons parents choose not to vaccinate is because of the belief of the disproven claim that vaccines cause autism (Welch, 2018). The fear of vaccine safety scares people so much that some parents choose to homeschool their children to avoid school's vaccination requirements (Troupe et al., 2017). Stein and Israeli (2017) explained that proper education and knowledge could influence vaccination coverage rates. Understanding parent's perspectives aids in forming successful childhood vaccination programs. With appropriate information and education, it is hopeful to eliminate vaccine-preventable diseases (Stein & Israeli, 2017).

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