

# Autism risks of the measles vaccine in children in the united states



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## Introduction & Background

The measles is a respiratory disease that is highly contagious and if it goes untreated it may cause brain damage, pneumonia and even fatality. Children are typically vaccinated between the ages of 12-15 months due to the febrile seizure risks associated with the Measles-Mumps-Rubella (MMR) vaccine. The Centers for Disease Control and Prevention (CDC) reports that the MMR vaccine is safer than getting the actual diseases (“Vaccine Safety”, 2018). In 2014, the United States saw an influx of 288 new cases of measles reported to the CDC while 90% of those cases were not vaccinated and 85% were not vaccinated due to religious or personal reasons (“CDC Newsroom”, 2014).

Often, the “personal reasons” are due to the stigma that the MMR vaccine increases the risk of autism, a developmental disorder where communication and social interaction skills are impaired.

However, the CDC clearly reports,

“Some parents might worry that the vaccine causes autism. Signs of autism typically appear around the same time that children are recommended to receive the MMR vaccine. Vaccine safety experts, including experts at CDC and the American Academy of Pediatrics (AAP), agree that MMR vaccine is not responsible for increases in the number of children with autism. Some parents might worry that the vaccine causes autism. Signs of autism typically appear around the same time that children are recommended to receive the MMR vaccine. Vaccine safety experts, including experts at CDC and the American Academy of Pediatrics (AAP), agree that MMR vaccine is not responsible for increases in the number of children with autism” (“

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Vaccine safety”, 2015). Moreover, in 2015, a study of more than 95, 000 children, 15, 000 which were unvaccinated showed that more than 13% of those children were already considered high risk for autism because they had siblings with the autism spectrum disorder (ASD). This study also concluded that there was no association between the MMR vaccine and ASD (“ Autismspeaks. org”, 2015).

### Statement of the problem

“ I don’t vaccinate my children because vaccines cause autism” is likely the most overly used reason for parents who don’t vaccinate their children. The reality of it is, many don’t vaccinate their children due to lack of knowledge of vaccines. Most parents tend to research vaccinations at home and when they take their children to the pediatrician they say “ I read that X vaccine leads to autism and I don’t wish to vaccinate” the physician is likely to respond in one of two ways, “ It’s your choice, but I would recommend you do so” or “ X vaccine does not cause autism, here’s a pamphlet”. The problem is that physicians are failing to have a crucial conversation with parents and provide them with the credible knowledge necessary to make informed decisions about vaccinating their children (Spencer et al., 2017). Parents need to be informed that the risks of not getting the vaccines are more severe than the potential adverse effects.

Moreover, it would be beneficial to inform parents that the CDC clearly states, “ vaccine ingredients do not cause autism” (“ Vaccine safety”, 2015).

According to the CDC,

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“ one vaccine ingredient that has been studied specifically is thimerosal, a mercury-based preservative used to prevent contamination of multidose vials of vaccines. Research shows that thimerosal does not cause ASD. Between 1999 and 2001, thimerosal was removed or reduced to trace amounts in all childhood vaccines except for some flu vaccines” (“ Vaccine safety”, 2015).

Thus, there are two problems: the lack of communication and misinformation that the parents receive from sources other than their providers (i. e. internet, parent forums, etc.) (Spencer et al., 2017) (Poland, 2011).

### Major Studies

Many studies arrived at the consensus that there is no negative association between the MMR vaccine and ASD. Di Pasquale et al. determined that measles cases reappear as the vaccination rates plummet. Which is plausible, given that more people refuse the vaccine, the more their risk of infection increases, and you begin to see the disease spread. Interestingly, the number of people immunized dropped by 12% from 1996-2004, which caused the number of new measles cases to increase from less than 100 cases annually to more than 1000 new cases annually after 2008, a tenfold increase (Di Pasquale et al., 2016). Although the MMR-ASD association was lacking, there is data that suggest a high association between children and adolescents who received the MMR vaccine and had febrile seizures, a well-known adverse effect of neglecting to get the vaccine between 12-15 months of age (Maglione et al., 2014). Moreover, it was shown that parents of children that experienced adverse effects (AE) following vaccination had a

significantly different perspective of immunization benefits than those that hadn't (Woo et al., 2004). In general, there seems to be a pattern of vaccination trauma, where parents who experience AEs tend to be more reluctant to vaccinate their other children in addition to advising their friends, neighbors, and others in the community to not to vaccinate their children. It is important to note that although some AEs are extremely severe, they are rare, and those AEs do not outweigh the benefits of immunizations (Maglione et al., 2014).

### Strengths & Limitations

The strength of these studies was that they consistently found no association between the vaccine and autism. One limitation is that the cause for autism is still unknown (Kaye et al., 2001). It is hard to determine whether the cases of autism are causal or coincidental. It is even more difficult to determine the onset of autistic conditions (Stratton et al., 2001). The lack of harmful association between MMR and ASD suggests children with higher risk of ASD may not get ASD if they are vaccinated (Jain et al., 2015). Moreover, the greatest limitation was that many of the studies had to submit corrections to the journals, considering Andrew Wakefield's 1998 work being retracted. He was said to have committed fraud and falsified data. This chaos helped to break the "link" between MMR and ASD. There were no longer any sufficient biologic models to link MMR to ASD, most data models were now incomplete and failed to prove the theory (Stratton et al., 2001). However, this hinders the trust among parents and the scientific community and brings into question the validity of all published findings (Poland, 2011).

## Discussion

Vaccines are widely used, and most states require vaccination before permitting children into daycare or school out of public health concern (Stratton et al., 2001). However, that does not stop parents from refusing to give them to their children. It is necessary for providers to assist parents in balancing the risks (Fitzpatrick, 2004). Most vaccines have a favorable benefit-risk profile, providers need to begin refocusing the parents' attention on the benefits of immunizations (Di Pasquale et al., 2016). Conversely, understanding the factors that contribute to the negative perception of vaccines (such as forums or publication retractions) could ultimately improve communication among providers, parents and even policymakers to help make better decisions (Woo et al., 2014).

Poland said it best in his (2011) commentary:

“ another important step is to insist on responsible and scientifically informed media reporting. Continued widespread “ hyping” of dramatic “ revelations” about MMR vaccine and autism disorders, conspiracy theories, and other misinformation is simply irresponsible and cruel to not only the public but also particularly to individuals and families who have a loved one with autism. To continue such scientifically uninformed reporting in and of itself needlessly increases fears and mistrust about vaccine safety, and leads to parental confusion and decisions to not immunize their children—with predictable and disastrous outcomes.” (Poland, 2011, p. 870-871)

The scientific community must continue to hold the principal investigators and co-authors responsible for what they are publishing. The inconsistencies  
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can only lead to more doubt and mistrust between the parents and providers which still leaves the parents uneasy and places the children and the rest of the community at risk of disease (Poland, 2011).

### Conclusion & Recommendations for Policy Changes

Vaccination hysteria won't subside just because we tell parents it should. Until parents are provided with sound knowledge and evidence, they will remain skeptical. There is a need to improve vaccine safety assessment. This would help improve and manage the risks associated with vaccination. Providers need to take a deeper look into the adverse effects of immunization and report their findings (Di Pasquale et al., 2016). It is essential that physicians reevaluate their approach to the vaccination conversation with new parents. Providing physicians with formal training in vaccine safety and risk communication may be worth looking into (Smith, 2015). Parents need more than just a pamphlet with jargon they don't understand. Showing more concern and being attentive to the parents' questions could prove vital in vaccination decisions. Additionally, fatality verification may become important to sustain vaccination coverage. By taking a closer look at the causes of death, physicians can provide more concrete reasons to vaccinate (Di Pasquale et al., 2016). Moreover, the educational gap that amongst parents should be addressed. If parents continue to worry about the safety of vaccination versus the harm and mortality that comes from the disease itself, then the number of new cases will continue to increase in addition to the mortality rate of the disease (Smith, 2015). Parents must begin redirecting their focus on the child's safety. Implementing a vaccine refusal policy may prove beneficial. If a <https://assignbuster.com/autism-risks-of-the-measles-vaccine-in-children-in-the-united-states/>

parent wishes to refuse vaccination for their child a thorough risk assessment for that child should be conducted. This assessment would look at the current mortality rate of that disease, their child's personal risk, the risk to the community, and the benefits of vaccination this would ensure that the parents fully understand the risks they're taking when refusing vaccination. This would also ensure that the parents understand their responsibilities in the prevention of spreading such diseases within their community should their children fall ill. With such changes, we can either increase vaccination coverage or prevent the spread of these diseases through stringent monitoring. We must be mindful that disease prevention is equally important as vaccine safety monitoring and it is also a shared responsibility (Di Pasquale et al., 2016).

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