

Additional testimony from William Raszka

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Autism Occurrence by MMR Vaccine Status Among US Children With Older Siblings With and Without Autism

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References

ABSTRACT.

ABSTRACT | INTRODUCTION | METHODS | RESULTS | DISCUSSION | CONCLUSIONS | ARTICLE INFORMATION | REFERENCES

[Abstract only]

Importance Despite research showing no link between the measles-mumps-rubella (MMR) vaccine and autism spectrum disorders (ASD), beliefs that the vaccine causes autism persist, leading to lower vaccination levels. Parents who already have a child with ASD may be especially wary of vaccinations.

Objective To report ASD occurrence by MMR vaccine status in a large sample of US children who have older siblings with and without ASD.

Design, Setting, and Participants A retrospective cohort study using an administrative claims database associated with a large commercial health plan. Participants included children continuously enrolled in the health plan from birth to at least 5 years of age during 2001-2012 who also had an older sibling continuously enrolled for at least 6 months between 1997 and 2012.

Exposures MMR vaccine receipt (0, 1, 2 doses) between birth and 5 years of age.

Main Outcomes and Measures ASD status defined as 2 claims with a diagnosis code in any position for autistic disorder or other specified pervasive developmental disorder

(PDD) including Asperger syndrome, or unspecified PDD (International Classification of Diseases, Ninth Revision, Clinical Modification 299.0x, 299.8x, 299.9x).

Results Of 95 727 children with older siblings, 994 (1.04%) were diagnosed with ASD and 1929 (2.01%) had an older sibling with ASD. Of those with older siblings with ASD, 134 (6.9%) had ASD, vs 860 (0.9%) children with unaffected siblings ($P < .001$). MMR vaccination rates (≥ 1 dose) were 84% ($n = 78\ 564$) at age 2 years and 92% ($n = 86\ 063$) at age 5 years for children with unaffected older siblings, vs 73% ($n = 1409$) at age 2 years and 86% ($n = 1660$) at age 5 years for children with affected siblings. MMR vaccine receipt was not associated with an increased risk of ASD at any age. For children with older siblings with ASD, at age 2, the adjusted relative risk (RR) of ASD for 1 dose of MMR vaccine vs no vaccine was 0.76 (95% CI, 0.49-1.18; $P = .22$), and at age 5, the RR of ASD for 2 doses compared with no vaccine was 0.56 (95% CI, 0.31-1.01; $P = .052$). For children whose older siblings did not have ASD, at age 2, the adjusted RR of ASD for 1 dose was 0.91 (95% CI, 0.67-1.20; $P = .50$) and at age 5, the RR of ASD for 2 doses was 1.12 (95% CI, 0.78-1.59; $P = .55$).

Conclusions and Relevance In this large sample of privately insured children with older siblings, receipt of the MMR vaccine was not associated with increased risk of ASD, regardless of whether older siblings had ASD. These findings indicate no harmful association between MMR vaccine receipt and ASD even among children already at higher risk for ASD.