

Vaccines and Autism

Statement of

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Before the

Subcommittee on Labor, Health and Human Services, Education, and
Related Agencies
Committee on Appropriations
US House of Representatives

October 5, 2004

Hello, Mr. Chairman and members of the subcommittee. Thank you for inviting me here today. My name is Marie McCormick and I am the Sumner and Esther Feldberg Professor of Maternal and Child Health at Harvard's School of Public Health. I am a pediatrician by training. I am speaking to you today in my role as the Chair of the Immunization Safety Review committee of the Institute of Medicine (IOM), a component of The National Academies.

The committee was convened by the IOM at the request of its two federal sponsors, the National Immunization Program of the Centers for Disease Control and Prevention and the National Institute of Allergy and Infectious Diseases of the National Institutes of Health. The committee, which was chosen solely by the IOM and the National Academies, was asked to review and report on a series of important vaccine safety concerns. The committee released eight reports over three-and-a-half years.

The most recent report, and the main reason I am speaking to you today, was released in May of this year. It addressed the complicated and difficult question of whether vaccines cause autism. Although that report addressed both the MMR vaccine and thimerosal, I am going to focus on the findings related to thimerosal, which I believe is the interest of the committee today. I won't review the history of the use of thimerosal in vaccines; other witnesses have covered that material.

The committee reviewed epidemiological studies that assessed the relationship between receipt of thimerosal containing vaccines in infancy and the subsequent development of autism. Five studies found no association between vaccination and autism. These studies used different study designs and different exposure levels, and were conducted in different populations. The committee reviewed these papers in depth and judged them to be of scientific merit. The committee reviewed other papers that reported an association between thimerosal-containing vaccines and autism. The committee reviewed these papers in depth and concluded that they had sufficient methodological flaws, which rendered the findings uninterpretable. Therefore, these studies could not weigh against the better-conducted studies that found no association. The committee concluded that the evidence favors rejection of a causal association between thimerosal-containing vaccines and autism. The committee did not, in this report, review health outcomes other than autism.

The committee also reviewed research in animals and cell culture, some of which have been described today by other panelists. The committee found that although these studies provided evidence of biological effects of thimerosal on laboratory animals or cells in tissue culture (that is, cells isolated in a laboratory dish), the effects are not known to be directly related to a cause of autism. That mercury, including ethylmercury, - at some doses - interacts with animal and human tissue is well-established. That mercury - at some doses - adversely affects the developing nervous system, is well-established. That these interactions are causally related to autism is not established.

The committee also reviewed studies of mercury metabolism in children with autism. These studies showed differences in some aspects of the way these children's bodies

handled mercury. Unfortunately, these studies do not and cannot tell us whether the mercury abnormalities were present at birth and caused the autism, whether the autism caused the mercury abnormalities, or whether they are independent or coincidental abnormalities.

The committee thus concluded that the hypothesis that thimerosal acts on biological mechanisms that are known to be related to the cause of autism is only theoretical. The committee further concluded that a significant investment in further studies investigating the link between thimerosal and vaccines is unlikely to be fruitful and recommended directing research funds to other more promising areas. The committee further recommended that those who are considering whether or not thimerosal should remain in any specific biological and pharmaceutical product, whether here or in other countries, should not consider autism as a risk of thimerosal in those considerations of trade-off.

Thank you for giving me this time to speak with you. I'd be happy to answer questions. The full report of the committee has been submitted as part of my testimony for the record.