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# Autism Research Review

## INTERNATIONAL

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## Three major reports confirm massive increase in prevalence of autism in U.S.

A new federal study reports more strong evidence of an autism epidemic—a finding also supported by two recent statistical reports released by government agencies (see related articles in ARRI 16/3, 15/3, 15/2).

The study, conducted by Marshalyn Yeargin-Allsopp et al. of the U. S. Centers for Disease Control and Prevention, investigated the prevalence of autism among children between the ages of 3 and 10 in five counties in metropolitan Atlanta, George, in 1996. Using strict diagnostic criteria, the researchers identified 987 children with autism, Asperger syndrome, or pervasive developmental disorder in the group of 289,456 children, a rate of 34 cases per 10,000.

Yeargin-Allsopp et al. note that this rate is close to that found in a recent study in Brick Township, New Jersey, which reported a prevalence of 40 per 10,000 for autism and 67 per 10,000 for autistic spectrum disorders. It is also comparable to rates reported in several recent European studies. Studies of children born prior to the mid-1980s showed an autism rate of only about 4 or 5 per 10,000.

Moreover, the CDC researchers say, their new study most likely underestimates the number of children with PDD-NOS (pervasive developmental disorder not otherwise specified), high functioning autism, and Asperger syndrome, since these children are less likely to receive special education services and to be identified by medical professionals.

The researchers found an autism rate of 47 per 10,000 in eight-year-olds and 19 per 10,000 in three-year-olds, which they say is not surprising since many younger children with autism have not yet been diagnosed. However, they say they have no clear explanation for the lower prevalence rates at age 9 (27 per 10,000) and age 10 (20 per 10,000).

Yeargin-Allsopp suggest that heightened awareness of autism, changing diagnostic criteria, and better educational services may have contributed in part to the increase in identified cases of autism, but say, "it remains unclear wither specific environmental, immunologic, genetic, or unidentified factors also have contributed to these higher reported prevalence rates."

Two new sets of statistics, one released by the U.S. Office of Education and the other by the California Department of Developmental Services (DDS), also provide clear evidence of an autism epidemic. The federal statistics, based on the number of children ages 6-21 who receive services under the Individuals With Disabilities Education Act (IDEA), show an average 700 percent increase nationwide in the incidence of autism in less than ten years. The California figures reveal a 31 percent jump in the number of autistic children in the DDS system in just one year, from 2001 to 2002. Of the autistic children identified by DDS, eight out of 10 were born after 1980.

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"Prevalence of autism in a U.S. metropolitan area," M. Yeargin-Allsopp, C. Rice, T. Karapurkar, N. Doernberg, C. Boyle, and C. Murphy, *Journal of the American Medical Association*, Vol. 289, No. 1, 2003, 49-55. Address: Marshalyn Yeargin-Allsopp, Centers for Disease Control and Prevention (F-15), 4770 Buford Hwy. NE, Atlanta, GA 30341.

—and—

IDEA statistics, www.ideadata.org.

## Safe Minds: Pichichero mercury study badly flawed, researcher's data 'do not support' thimerosal safety

A recent study by Michael Pichichero and colleagues concludes that vaccines containing thimerosal do not contribute to unsafe mercury levels in infants. However, Safe Minds, a nonprofit organization established to investigate the risks of vaccines, questions both the findings of the study and the financial ties of the lead investigator.

Pichichero et al. measured concentrations of mercury in blood, urine, and stools of 40 full-term infants, six months of age or younger, given thimerosal-containing vaccines. (Thimerosal, a vaccine preservative, is nearly 50 percent mercury.) The infants were compared to 21 infants who received thimerosal-free vaccines. The researchers concluded, "Ethylmercury seems to be eliminated from blood rapidly via the stools after parenteral administration of thimerosal in vaccines." D. C. Henderson, commenting in an accompanying editorial, says, "This study gives comforting reassurance about the safety of ethyl mercury as a preservative in childhood vaccines."

However, Sally Bernard, Executive Director of Safe Minds, charges that "the design and results of the study do not support these statements. In fact, the results suggest that thimerosal exposure from vaccines may have caused neurological damage in some children." Bernard notes that:

- The small sample size greatly reduced the chance of the study group including children who are especially sensitive to the effects of mercury, or who have difficulty detoxifying the heavy metal.
- Nearly all blood draws were performed after the time period during which concentrations of ethylmercury would peak. "It is evident that earlier peaks existed," Bernard says, "because the feces contained high mercury values, and feces reflect earlier blood levels."
- The infants in the study received significantly less mercury than typical infants during the 1990s received from vaccinations.
- Pichichero et al. compared the infants' ethylmercury blood levels with levels from methylmercury risk assessments. However, ethylmercury and methylmercury have different molecular structures, and there has never been a complete safety assessment of ethylmercury-containing thimerosal.
- Calculations of the subjects' mercury exposure apparently included vaccinations given months before the study period. Also, blood collection times varied from 3 to 27 days. In addition, the study model did not allow for calculations of mercury distribution into tissue, and particularly the brain.
- The Environmental Protection Agency recently expressed concern at findings that 10 percent of U.S. women of childbearing age have blood mercury levels higher than 6 parts per billion (ppb). "In the Pichichero study," Bernard notes, "there is one infant blood level out of the 17 two-month-old samples which was... 4.1 ppb." She notes that because this infant's blood was drawn five days following vaccination, which is past the peak time for mercury values, "at days one

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