

Dramatic rise in autism prevalence parallels research explosion

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Autism Speaks Chief Science Officer Geraldine Dawson, Ph.D. describes how the dramatic progress in autism research has paralleled increased recognition of autism's prevalence and financial impact in the December issue of the *Archives of General Psychiatry* published online today. "This issue of the journal features three articles on autism," she writes in her editorial. "A decade ago, the journal published about the same number of autism articles per year."

Dr. Dawson also notes that, while the funding for [autism research](#) has dramatically increased over the last decade, it hasn't kept pace with the increasing scale of the public health challenges posed by autism. Despite an increase in research and funding, "we have not yet fully described the causes of ASD or developed effective medical treatments for it," Dr. Dawson writes. "[This issue's] articles point to an urgent need for more autism funding. We especially need more research on prenatal and early postnatal [brain development](#) in autism, with a focus on how genes and [environmental risk factors](#) combine to increase risk for ASD." Dawson also noted that research on treatment and adults with autism have been neglected and more research on these topics is needed.

Research presented in this issue reports a three-fold increase in autism risk associated with exposure to high levels of traffic-related [air pollution](#) during pregnancy and the first year of life. The study's lead author, Heather Volk, Ph.D., M.P.H., is the recipient of an Autism Speaks research grant to study autism risk and gene-environment interactions involving air pollution.

Two studies in this issue involve novel neuroimaging approaches. One confirms an association between autism and changes in immune function. This study is the first to use new brain imaging techniques to demonstrate immune function changes in adults with autism. Specifically,

it documented higher than normal levels of microglial activation in the brain in adults with [autism spectrum disorders](#). Microglial cells are the brain's first and primary immune defense. Another utilizes novel magnetic resonance imaging (MRI) data to examine the role of cortical volume in ASD, comparing young adult males on the spectrum to neurotypical control adults. The key finding is that differences in brain volume are determined by surface area, not cortical thickness, shedding light on mechanisms that might account for early brain overgrowth in individuals with ASD.

"More research is needed to develop strategies for preventing or reducing the disabling symptoms associated with this highly prevalent and costly neurodevelopmental disorder," Dr. Dawson concludes.

Provided by Autism Speaks

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