



# Autism Spectrum Disorders Among Children



The Autism Spectrum Disorders (ASDs) are a group of life-long developmental disabilities that are defined by patterns of unusual social interaction, communication, and behaviors/interests. ASD includes autistic disorder, pervasive developmental disorder -not otherwise specified, and Asperger=s disorder. ASD is more common in boys, and occurs in all regions, cultures, and socioeconomic classes. Until recently, there has been little information on how many children in the United States may be affected with an ASD, and many parents and others are concerned that the rates may be rising. Current estimates indicate that between two and six of every 1,000 children born may have an ASD.



There is a wide range of impairment associated with ASD, which can range from mild to severe. Families of children with an ASD face many significant challenges, and long-term support services are usually required. Special education costs for a child with an ASD are over \$8,000 per year, with some specially structured programs costing about \$30,000 per year, and care in a residential school costs \$80,000 - \$100,000 per year.

Although it is known that ASD is the result of some abnormality in brain development, little is known about what causes ASD. However, specific genetic and environmental factors have been suggested and are being investigated by other experts in the field. There is no cure for ASD, but early and intensive education can help children develop many important skills and some medications may reduce symptoms of the disorders.

## HOW IS CDC INVOLVED?

- In 1998, CDC initiated one of the few programs in the world that conducts active, ongoing monitoring of the prevalence rate of ASD in children in Atlanta, Georgia.
- In 2000, CDC funded six states -- Arizona, New Jersey, Delaware/Maryland, South Carolina, and West Virginia B to monitor the prevalence of ASD. Approximately three new states will be added to the surveillance program in 2002. It will require several years to collect good quality data, but by 2004 these new programs will be able to provide state prevalence data.
- In 2001, CDC funded four new centers of excellence for autism and other related developmental disabilities to conduct collaborative studies on the number, incidence, and causes of autism and related developmental disabilities. These centers are in California, Colorado, Maryland/Delaware, and Pennsylvania.

## Related CDC Activities

- Completed a community-based prevalence study designed in response to the concern of parents regarding a possibly larger than expected number of children with ASD (Brick Township, New Jersey). The study found 6.7 cases ASD per 1000 children, a rate high compared to European studies. It is not known how many children in the U.S. have ASD and studies to provide comparison data are needed.
- Funded a prevention project conducted by the Marshall University Autism Training Center, West Virginia, to prevent secondary conditions among children with autism and reduce stress in their families. This project also conducts a prevalence study of ASD in six counties.
- Using the CDC autism monitoring program in Atlanta, initiated a study to evaluate the possible association between MMR vaccination and autism by comparing the vaccination histories of children with autism and children without autism, matched on school system, age, and gender.
- Began study with Danish scientists to investigate the possible relation between exposure to the MMR vaccine and the risk for autism, using biomarkers present at birth to examine high-risk children.
- Began development of a large-scale study across the Centers to better understand risk factors that may result in a child developing an ASD.