ADDM

Autism and Developmental Disabilities Monitoring Network

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

CDC

CENTERS FOR DISEASE CONTROL AND PREVENTION

To read the MMWR reports in their entirety, go to www.cdc.gov/mmwr

To read more about autism, go to CDC's autism site at www.cdc.gov/autism

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Prevalence of the Autism Spectrum Disorders (ASDs) in Multiple Areas of the United States, 2004 and 2006

Community Report from the Autism and Developmental Disabilities Monitoring (ADDM) Network

Funded by the Centers for Disease Control and Prevention (CDC),
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*This report summarizes the main findings from the following published report:

Centers for Disease Control and Prevention (CDC). Prevalence of Autism Spectrum Disorders—Autism and Developmental Disabilities Monitoring Network, United States, 2006. MMWR Surveill Summ 2009;58(SS-10).[1]

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INTRODUCTION

Autism spectrum disorders (ASDs) are conditions that begin early in life and typically affect many areas of a person's daily functioning. The challenges associated with ASDs require collaboration between individuals, family members, professionals, and members of the community to meet the needs of people with ASDs. We still have much to learn about ASDs, but we do know that the number of children identified with ASDs has increased over the past 20 years. It is unclear how much this increase is due to changes in how we identify and classify ASDs and how much is due to a true increase. For the most part, the cause or causes of ASDs are still unknown. However, the heightened concern and awareness of ASDs that have occurred in recent times have accelerated the research and availability of services for people with ASDs. There is still much to do to make sure each person with an ASD has the supports and tools he or she needs to reach his or her full potential.

To get a better picture of the scope of ASDs in the United States, the Centers for Disease Control and Prevention (CDC) has established the Autism and Developmental Disabilities Monitoring (ADDM) Network. The network provides estimates of the number of children affected by ASDs, describes the population affected, and evaluates changes in ASDs over time. This report summarizes the findings from the ADDM Network's retrospective estimate of the prevalence of ASDs in the years 2004 and 2006.

In the report you will find:

- An overview of ASDs
- A discussion about the prevalence of ASDs
- An overview of the ADDM Network
- ADDM Network results to date
- Questions and answers
- A summary
- Resources for learning more about ASDs and support for families, individuals affected, and communities

This report summarizes up-to-date prevalence information from the ADDM Network's efforts. This is the second multisite report from the ADDM Network. Detailed information from the initial report of the ADDM Network can be found at www.cdc.gov/autism.[2,3]

WHAT ARE AUTISM SPECTRUM DISORDERS?

Autism spectrum disorders (ASDs) are a group of developmental disabilities that typically begin before a child is 3 years of age and last throughout a person's life. People with ASDs have substantial challenges in social interaction and communication. They handle information in their brain differently than other people, and might have unusual ways of learning, paying attention, and reacting to different sensations. ASDs are part of the broader category of pervasive developmental disorders (PDDs) and include autistic disorder, Asperger disorder, and pervasive developmental disorder-not otherwise specified (PDD-NOS).

Although everyone with an ASD has significant challenges in certain areas of his or her life, some might be gifted in other areas. Also, not everyone with an ASD has the same challenges. Some individuals might have relatively good verbal skills, but have difficulty interacting with other people. Others might not be able to talk or have very little ability or interest in communicating or interacting with others. People with ASDs often do not take part in pretend play, have a hard time starting social interactions, and engage in unusual or repetitive behaviors (e.g., flapping hands, making unusual noises, rocking from side to side, or toe walking).

There is no medical test for ASDs. Typically, a diagnosis is made after a thorough evaluation by a qualified professional. Such an evaluation might include clinical observations, parent interviews, developmental histories, psychological testing, speech and language assessments, and possibly the use of one or more autism diagnostic tests.

Children with ASDs might have other developmental disabilities, such as intellectual disability, seizure disorder, fragile X syndrome, Down syndrome, or tuberous sclerosis. Also, some children might have mental health problems, such as depression or anxiety. Some children with ASDs also might have attention problems, sensory issues, sleep problems, and digestive disorders.

Children and adults with an ASD might:

- Not play "pretend" games (for example, pretend to "feed" a doll).
- Not point at objects to show interest (for example, point at an airplane flying over).
- Not look at objects when another person points at them.
- Have trouble relating to others or not have an interest in other people at all.
- Avoid eye contact and want to be alone.
- Have trouble understanding other people's feelings or talking about their own feelings.
- Prefer not to be held or cuddled or might cuddle only when they want to.
- Appear to be unaware when other people talk to them, but respond to other sounds.
- Be very interested in people, but not know how to talk to, play with, or relate to them.
- Repeat or echo words or phrases said to them, or repeat words or phrases in place of normal language (echolalia).
- Have trouble expressing their needs using typical words or motions.
- Repeat actions over and over again.
- Have trouble adapting to changes in routine.
- Have unusual reactions to the way things smell, taste, look, feel, or sound.
- Lose skills they once had (for instance, stop saying words they were once using).

To learn more about these and other conditions, visit the National Institutes of Mental Health website at www.nimh.nih.gov/publicat/autism.cfm#intro.

HOW MANY PEOPLE HAVE AN AUTISM SPECTRUM DISORDER?

What is Prevalence?

Prevalence is the number of cases of a disease or condition among a defined group of people during a specific time period. For example, one can estimate the prevalence of ASDs among 8-year-olds in 2006 in Atlanta, Georgia, by counting all of the 8-year-olds in Atlanta who were identified with an ASD, and then dividing that number by the total number of 8-year-olds in Atlanta during 2006. By monitoring ASDs in the same way over time, we can find out whether the prevalence of autism is increasing, decreasing, or staying the same.

Each year, special education programs in the United States are required to report how many children receive services for an ASD. From 1998 to 2007, the number of 6- to 21-year-old children receiving services for an ASD in public special education programs increased from 54,064 to 258,305.[4] Those numbers likely did not include all children with ASDs, because some children received special education for a particular need, like speech therapy, and not for a diagnosis of autism.

Why has it been hard to get accurate reports of prevalence for ASDs?

Autism was described first by Leo Kanner in 1943.[5] Surveys to find the prevalence of autism started in the mid-1960s in England.[6] Diagnostic criteria for autism and related developmental disabilities came out in 1980,[7,8] and they have been revised several times. There is now an understanding that autism is a spectrum disorder, and can occur in a milder or higher functioning form, or both. In addition, it also has been recognized that ASDs can co-occur with other disabilities. Thus, one challenge in getting an accurate count of people with autism has been the change to a broader, more inclusive, definition of ASDs.[9,10] Furthermore, the fact that the diagnostic criteria of autism and related disorders must rely on behavioral observations of development makes describing the population of people with ASDs challenging, especially when the criteria for diagnosing ASDs have changed over time. Another challenge is that the United States has not had a population-based system to track the full range of ASDs over time.

One thing we do know is that more people than ever before are being diagnosed with an ASD. It is unclear how much of this increase is due to a broader definition of ASDs and how much to better efforts in diagnosis. However, a true increase in the number of people who have autism and related disorders cannot be ruled out. It is likely that the increase in the diagnosis of ASDs is due to a combination of these factors.

How can we get the most accurate information about the prevalence of ASDs?

CDC has established the only collaborative network to determine the prevalence of ASDs in the United States—the Autism and Developmental Disabilities Monitoring (ADDM) Network. To get the most accurate data possible, the ADDM Network is guided by the following principles, outlined by Rutter:[10]

- Use a large enough population so that a substantial number of individuals with autism will be included.
- Use a defined population that would contain all people likely to have autism.
- Have a systematic, standardized screening of the total population.
- Include a focus on an age group for which diagnostic assessments are known to be reliable and valid.
- Include diagnoses by trained professionals using high-quality, standardized research assessments.

What do we know today about the prevalence of ASDs in the United States?

CDC considers ASDs an urgent public health concern and recognizes that more children are being identified with an ASD than in the past. Despite the emerging concerns in the 1990s about increases in the number of children affected with an ASD, at that time there was no population-based surveillance system for ASDs in the United States. CDC began collecting data on ASD prevalence in Metropolitan Atlanta in 1996. CDC also began the ADDM Network in 2000 to collect comparable epidemiologic data in multiple areas of the United States. By 2004, CDC early prevalence results confirmed that more children with ASDs were being identified than in the past.[11] CDC partnered with the American Academy of Pediatrics to issue an Autism A.L.A.R.M. to raise awareness of ASDs.[12] In addition, CDC began the "Learn the Signs. Act Early." (www.cdc.gov/actearly) campaign to improve the early identification of children with ASDs. In 2007, the ADDM Network issued its first reports (study years 2000–2002), indicating a prevalence range of 1 in 100 to 1 in 300, with an average of 1 in 150 children affected by an ASD.[2,3]

Why is the accurate reporting of ASD prevalence important?

Accurate reporting of ASD prevalence is important for all educators, health providers, policy makers, and families. The ADDM Network provides an estimate of the number of children with ASDs in the areas included who require educational and health interventions. Only by appreciating the true scope of a condition can we make realistic plans for funding and resources (such as therapies, trained teachers, diagnosticians, health care providers, and related service professionals) needed to support children with ASDs and their families.

It has been shown that among families who have children with special health care needs, those affected with ASDs are more likely to report problems with access to coordinated care and to experience financial and time burdens. Many parents even reported having to stop work to care for their child with an ASD.[13] One study showed that individuals with an ASD had average medical expenditures that exceeded those without an ASD by $4,110 to $6,200 per year.[14] It has been estimated that, overall, economic costs associated with autism are approximately $35 billion dollars per year.[15] These costs include education for children with ASDs and treatments to help reduce the symptoms of the disorders. Families, public agencies, and some private agencies bear the responsibility of paying for these services.

WHAT IS THE ADDM NETWORK?

The Autism and Developmental Disabilities Monitoring (ADDM) Network is the largest multisite collaboration to monitor ASDs in the United States. Its mission is aimed at achieving multiple goals:

- To obtain as complete a count as possible of the number of children with ASDs in each project area.
- To report comparable, population-based ASD prevalence estimates from different sites and to determine if these rates are changing over time.
- To study whether autism is more common among some groups of children than among others.
- To provide data to characterize those among the ASD population.

The Children's Health Act of 2000 authorized CDC to create the ADDM Network. Since the network's inception, CDC has funded programs at 16 sites covering 17 states—Alabama, Arizona, Arkansas, California, Colorado, Florida, Georgia, Illinois, Maryland, Missouri, New Jersey, North Carolina, Pennsylvania, South Carolina, Utah, West Virginia, and Wisconsin.

The sites represented in this report include areas of Alabama, Arizona, Colorado, Florida, Georgia, Maryland, Missouri, North Carolina, Pennsylvania, South Carolina, and Wisconsin.

The ADDM sites work together to maintain consistent study methods based on CDC's Metropolitan Atlanta Developmental Disabilities Surveillance Program (MADDSP), which monitors the occurrence of developmental disabilities among 8-year-old children in metropolitan Atlanta. CDC has been working on the methodology for developmental disability surveillance for more than 20 years, and its application to ASDs was undertaken following concerns about increases in autism during the mid -1990s. The ADDM Network does not rely solely on a child's previous ASD diagnosis or special education eligibility category to classify a child as having ASD.

The ADDM Network issued its first reports on ASD prevalence in 2007.[2,3] These data since have been referenced as the standard for estimating ASD prevalence in the United States. As the network continues to use the same methods across additional years, more information describing the changes in ASD prevalence over time will be available.

What methods did the ADDM sites use for their study?

Although this report is being published in 2009, the data reflect prevalence estimates from 2004 and 2006 in order to go back in time and evaluate how ASDs have changed over time. Each ADDM site identified for its study area a geographic region with a large enough population and identified children who were 8 years old during the targeted study year. The methodology included screening records at multiple sources that educated, diagnosed, treated, and provided services for children with developmental disabilities, and abstracting detailed behavioral data on children who met the screening criteria. A panel of clinicians with expertise in identifying and assessing ASDs systematically reviewed the abstracted information based on the Diagnostic and Statistical Manual of Mental Disorders' (Fourth Editor, Text Revision) definition of autism,[8] and determined whether the identified children met the requirements of the monitoring program and could be considered as having an ASD. All program staff received extensive training and met ongoing quality assurance standards.

Autism and Developmental Disabilities Monitoring (ADDM) Networks

To find out more about CDC's prevalence and monitoring programs for developmental disabilities, please visit www.cdc.gov/ncbddd/dd/ddsurv.htm.

WHAT ARE THE RESULTS?

What does the ADDM Network Tell Us about Autism Spectrum Disorders?

Study Site Information

States Participating in the ADDM Network

2004 - Alabama, Arizona, Georgia (CDC), Maryland, Missouri, North Carolina, South Carolina, and Wisconsin
2006 - Alabama, Arizona, Colorado, Florida, Georgia (CDC), Maryland, Missouri, North Carolina, Pennsylvania, South Carolina, and Wisconsin

Population of 8-Year-Olds in the Study Area

2004 - 172,335 8-year-olds across 8 study areas
(Approximately 4.3% of all 8-year-olds in the United States)
2006 - 307,790 8-year-olds across 11 study areas
(Approximately 7.9% of all 8-year-olds in the United States)

Results

2004 ASD Prevalence

Number of 8-year-old children identified with an ASD: 1,376
Total prevalence of ASDs: 4.6 (about 1in 215) to 9.8 (about 1 in 100) per 1,000 8-year-old children.
Overall average prevalence of ASDs across all sites: 8.0 per 1,000 8-year-old children, or approximately 1 in 125 children.
Boys: 8.9 to 15.8 per 1,000 8-year-old children
Girls: 1.5 to 3.7 per 1,000 8-year-old children
White, non-Hispanic: 9.7 per 1,000 8-year-old children
Black or African American, non-Hispanic: 6.9 per 1,000 8-year-old children
Hispanic: 6.2 per 1,000 8-year-old children
Asian or Pacific Islander: 4.3 to 12.3 per 1,000 8-year-old children*

2006 ASD Prevalence

Number of 8-year-old children identified with an ASD: 2,757
Total prevalence of ASDs: 4.2 (about 1 in 240) to 12.1 (about 1 in 80) per 1,000 8-year-old children.
Overall average ASD prevalence: 9.0 per 1,000 children, or approximately 1 in 110 children.
Boys: 7.3 to 19.3 per 1,000 8-year-old children
Girls: 1.0 to 4.9 per 1,000 8-year-old children
White, non-Hispanic: 9.9 per 1,000 8-year-old children
Black or African American, non-Hispanic: 7.2 per 1,000 8-year-old children
Hispanic: 5.9 per 1,000 8-year-old children
Asian or Pacific Islander: 1.0 to 16.2 per 1,000 8-year-old children*

* Please see MMWR SS report[1] for additional information by race and ethnicity (American Indian or Alaska Native)

The ADDM sites do not make up a nationally representative sample, and caution is needed when generalizing rates to every community in the United States. Rates might be higher or lower in some places. However, the average estimated prevalence across all sites of 9.0 per 1,000 8-year-old children (or approximately 1 in 110) can help communities estimate for planning and identification purposes how many children in their communities might have an ASD.

Comparison between 2002 and 2006 Prevalence Estimates

Ten sites (Alabama, Arizona, Colorado, Georgia, Maryland, Missouri, North Carolina, Pennsylvania, South Carolina, and Wisconsin.) collected data in both 2002 and 2006. We compared the prevalence of ASDs at these 10 sites and found that the prevalence increased at all of the sites, from 27% in Colorado to 95% in Arizona. On average, the prevalence at all sites increased by 57% from 2002 to 2006.

Other changes from 2002 to 2006:

Prevalence among boys: Increased an average of 60%
Prevalence among girls: Increased an average of 48% expect in Wisconsin, which stayed the same, and South Carolina and Maryland, which decreased
Prevalence among White, Non-Hispanic children: Increased an average of 55% (except in Colorado, Pennsylvania, and South Carolina)
Prevalence among Black or African-American, Non-Hispanic children: Increased an average of 41% in four states (Alabama, Arizona, Georgia, and Pennsylvania)

Special Education Classifications

2004 and 2006

For all sites with access to educational records, at least 80% of children with an ASD were receiving special education services for autism.

Cognitive Functioning

2004

From 37.9% (Arizona) to 63% (Alabama) (overall average: 43.8 %) of the children identified with an ASD also had an intellectual disability (an IQ ≤70, at the sites that had test results on intellectual ability for at least 75% of the children identified).

2006

From 29.3% (Colorado) to 51.2% (South Carolina) (overall average: 41.0 %) of the children identified with an ASD also had an intellectual disability (an IQ ≤70, at the sites that had test results on intellectual ability for at least 75% of the children identified).

Early Developmental Concerns and Age of ASD Diagnosis

At all of the sites for 2004 and 2006, more than half of the children meeting surveillance criteria for ASDs 8 years of age had documented developmental concerns before 3 years of age.

2004

Median age range of earliest reported ASD diagnosis was 4 years (North Carolina) to 5 years, 7 months (Arizona).

2006

Median age range of earliest reported ASD diagnosis was 3 years, 5 months (Florida) to 5 years (Colorado); full range from 2 months (Georgia) to 8 years, 10 months (North Carolina and Wisconsin).

ADDM

Alabama

The Alabama Autism Surveillance Program (AASP)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence, 2004

Number of children identified with an ASD: 54

Total prevalence of ASDs:

4.6 per 1,000

Boys: 6.8 per 1,000

Girls: 2.3 per 1,000

White, non-Hispanic: 3.8 per 1,000

Black non-Hispanic: 6.0 per 1,000

Autism Spectrum Disorder (ASD) Prevalence, 2006

Number of children identified with an ASD: 212

Total prevalence of ASDs: 6.0 per 1,000

Boys: 9.1 per 1,000

Girls: 2.9 per 1,000

White, non-Hispanic: 5.8 per 1,000

Black non-Hispanic: 6.8 per 1,000

Hispanic: 0.6 per 1,000

Asian or Pacific Islander: 2.7 per 1,000

Median age of ASD diagnosis 4 years, 3 months

SITE INFORMATION

Part of Alabama Included in ADDM 2004

3 counties: Jefferson, Shelby, Blount

Part of Alabama Included in ADDM 2006

32 counties: Bibb, Blount, Calhoun, Cherokee, Clay, Cleburne, Colbert, Cullman, Dekalb, Etowah, Fayette, Franklin, Greene, Hale, Jackson, Jefferson, Lamar, Lauderdale, Lawrence, Limestone, Madison, Marion, Marshall, Morgan, Pickens, Shelby, St. Clair, Sumter, Talladega, Tuscaloosa, Walker, and Winston

Population of 8-Year-Old Children in Study Area, 2004 - 11,676

White, non-Hispanic: 57.9%

Black, non-Hispanic: 37.1%

Hispanic: 3.2%

Asian or Pacific Islander: 1.4%

Children in special education: 16.7%

Population of 8-Year-Old Children in Study Area, 2006 - 35,126

White, non-Hispanic: 68.2%

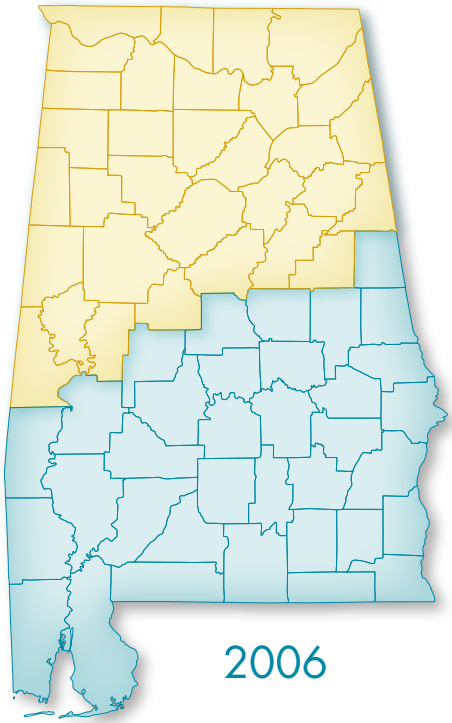
Black, non-Hispanic: 25.7%

Hispanic: 4.6%

Asian or Pacific Islander: 1.1%

Children in special education: 16.7%

2004



2006

Yellow - County in the ADDM Network

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Arizona

The Arizona Developmental Disabilities Surveillance Program (ADDSP)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence, 2004

Number of children identified with an ASD: 133

Total prevalence of ASDs: 9.8 per 1,000

Boys: 15.8 per 1,000

Girls: 3.6 per 1,000

White, non-Hispanic: 12.6 per 1,000

Black, non-Hispanic: 5.6 per 1,000

Hispanic: 7.0 per 1,000

Asian or Pacific Islander: 11.9 per 1,000

Autism Spectrum Disorder (ASD) Prevalence, 2006

Number of children identified with an ASD: 504

Total prevalence of ASDs: 12.1 per 1,000

Boys: 18.9 per 1,000

Girls: 4.9 per 1,000

White, non-Hispanic: 14.8 per 1,000

Black, non-Hispanic: 12.9 per 1,000

Hispanic: 8.3 per 1,000

Asian or Pacific Islander: 16.2 per 1,000

Median age of ASD diagnosis 4 years 11 months

SITE INFORMATION

Part of Arizona Included in ADDM

Maricopa County (metropolitan Phoenix, Arizona).

Population of 8-Year-Old Children in Study Area, 2004 - 13,620

White, non-Hispanic: 48.2%

Black, non-Hispanic: 5.2%

Hispanic: 40.9%

Asian or Pacific Islander: 3.1%

Children in special education: 10.2 %

Population of 8-Year-Old Children in Study Area, 2006 - 41,650

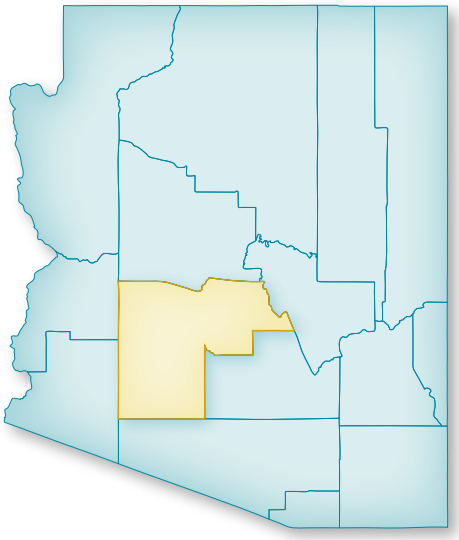
White, non-Hispanic: 47.2%

Black, non-Hispanic: 5.4%

Hispanic: 42.2%

Asian or Pacific Islander: 3%

Children in special education: 16/7%



Yellow - County in the ADDM Network

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Colorado

Colorado Autism Developmental Disabilities Monitoring Program (CO-ADDM)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence, 2006

Number of children identified with an ASD: 54

Total prevalence of ASDs: 7.5 per 1,000

Boys: 11.5 per 1,000

Girls: 3.4 per 1,000

White, non-Hispanic: 6.7 per 1,000

Black, non-Hispanic: 12.5 per 1,000

Hispanic: 4.5 per 1,000

Asian or Pacific Islander: 7.3 per 1,000

Median age of ASD diagnosis 5 years

SITE INFORMATION

Part of Colorado Included in ADDM

Arapahoe County (metropolitan Denver, Colorado)

Population of 8-Year-Old Children in the Study Area, 2006 7,184

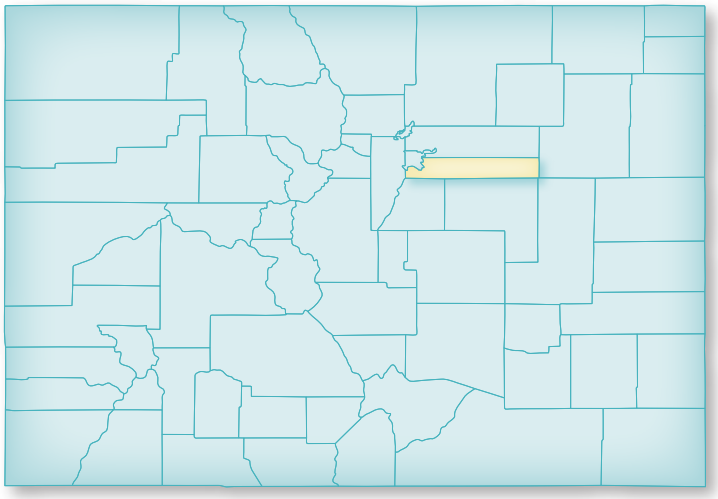
White-Non-Hispanic: 55.8%

Black-Non-Hispanic: 13.4%

Hispanic: 24.5%

Asian or Pacific Islander: 5.7%

Children in special education: 10.7%



Yellow - County in the ADDM Network

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Florida

The University of Miami Autism and Developmental Disabilities Monitoring Project (UM-ADDM)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence, 2006

Number of children identified with an ASD: 116

Total prevalence of ASDs: 4.2 per 1,000

Boys: 7.3 per 1,000

Girls: 1.0 per 1,000

White, non-Hispanic: 3.4 per 1,000

Black, non-Hispanic: 1.6 per 1,000

Hispanic: 5.2 per 1,000

Median Age of ASD diagnosis 3 years 5 months

SITE INFORMATION

Part of Florida Included in ADDM

Dade County, (Miami, Florida)

Population of 8-Year-Old Children in the Study Area, 2006 27,615

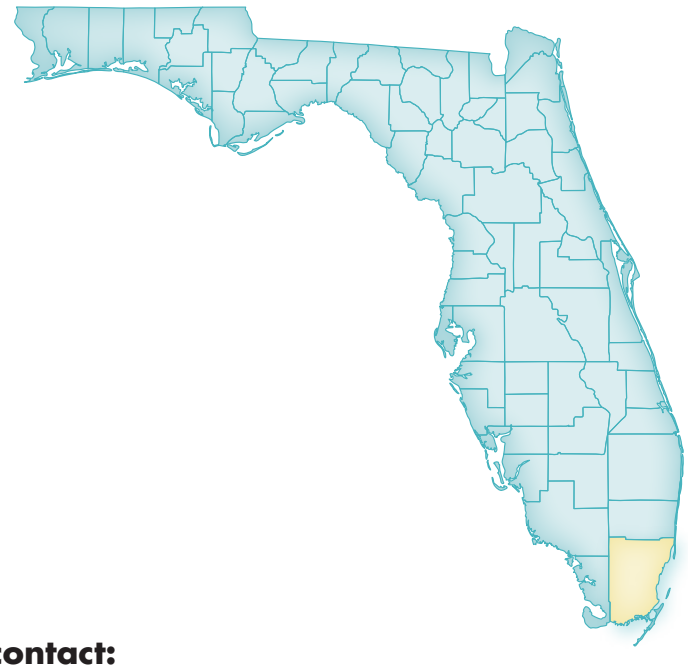
White-Non-Hispanic: 23.3%

Black-Non-Hispanic: 22.7%

Hispanic: 52.3%

Asian or Pacific Islander: 1.6%

Children in special education: 11.8%



Yellow - County in the ADDM Network

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ADDM

Georgia

Metropolitan Atlanta Developmental Disabilities Monitoring Program (MADDSP)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence, 2004

Number of children identified with an ASD: 401

Total prevalence of ASDs: 8.9 per 1,000

Boys: 14.1 per 1,000

Girls: 3.6 per 1,000

White, non-Hispanic: 9.7 per 1,000

Black, non-Hispanic: 7.9 per 1,000

Hispanic: 6.4 per 1,000

Asian or Pacific Islander: 8.1 per 1,000

Autism Spectrum Disorder (ASD) Prevalence, 2006

Number of children identified with an ASD: 474

Total prevalence of ASDs: 10.2 per 1,000

Boys: 16.6 per 1,000

Girls: 3.4 per 1,000

White, non-Hispanic: 12.0 per 1,000

Black, non-Hispanic: 9.5 per 1,000

Hispanic: 4.8 per 1,000

Asian or Pacific Islander: 7.8 per 1,000

Median Age of ASD diagnosis 4 years 5 months

SITE INFORMATION

Part of Georgia Included in ADDM

5 counties: Clayton, Cobb, DeKalb, Fulton, and Gwinnett (metropolitan Atlanta)

Population of 8-Year-Old Children in Study Area, 2004 - 45,190

White-Non-Hispanic: 40.4%Black-Non-Hispanic: 42.4%

Hispanic: 11.4%

Asian or Pacific Islander: 5.4%

Children in special education: 10.8%

Population of 8-Year-Old Children in Study Area, 2006 - 46,621

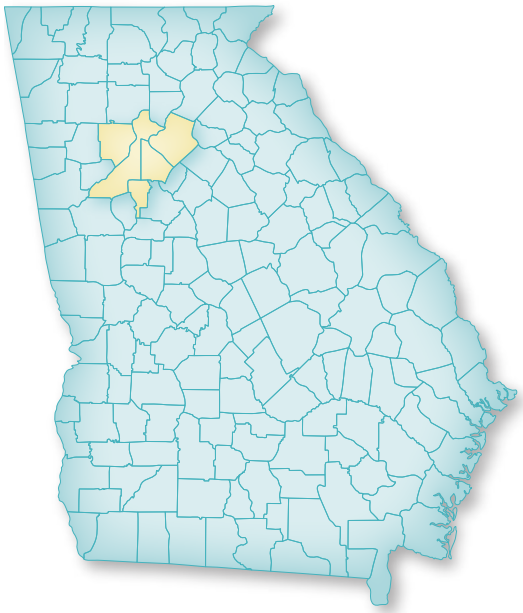
White-Non-Hispanic: 38.3%

Black-Non-Hispanic: 42.6%

Hispanic: 12.9%

Asian or Pacific Islander: 5.8%

Children in special education: 11.3%



Yellow - County in the ADDM Network

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Maryland

The Maryland Autism and Developmental Disabilities Monitoring Project (MD-ADDM)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence, 2004

Number of children identified with an ASD: 185

Total prevalence of ASDs: 8.8 per 1,000

Boys: 14.1 per 1,000

Girls: 3.2 per 1,000

White, non-Hispanic: 7.4 per 1,000

Black, non-Hispanic: 12.8 per 1,000

Hispanic: 8.8 per 1,000

Asian or Pacific Islander: 12.3 per 1,000

Autism Spectrum Disorder (ASD) Prevalence, 2006

Number of children identified with an ASD: 243

Total prevalence of ASDs: 9.2 per 1,000

Boys: 15.6 per 1,000

Girls: 2.4 per 1,000

White, non-Hispanic: 9.3 per 1,000

Black, non-Hispanic: 7.9 per 1,000

Hispanic: 6.3 per 1,000

Asian or Pacific Islander; 9.6 per 1,000

Median age of ASD diagnosis 5 years

SITE INFORMATION

Part of Maryland Included in ADDM 2004

5 counties: Baltimore, Carroll, Cecil, Harford, Howard

Part of Maryland Included in ADDM 2006

6 counties: Anne Arundel, Baltimore, Carroll, Cecil, Harford, and Howard

Population of 8-Year-Old Children in the Study Area, 2004 - 20,981

White-Non-Hispanic: 71.7%

Black-Non-Hispanic: 20.1%

Hispanic: 3.3%

Asian or Pacific Islander: 4.7%

Children in special education: 12.8%

Population of 8-Year-Old Children in the Study Area, 2006 - 26,489

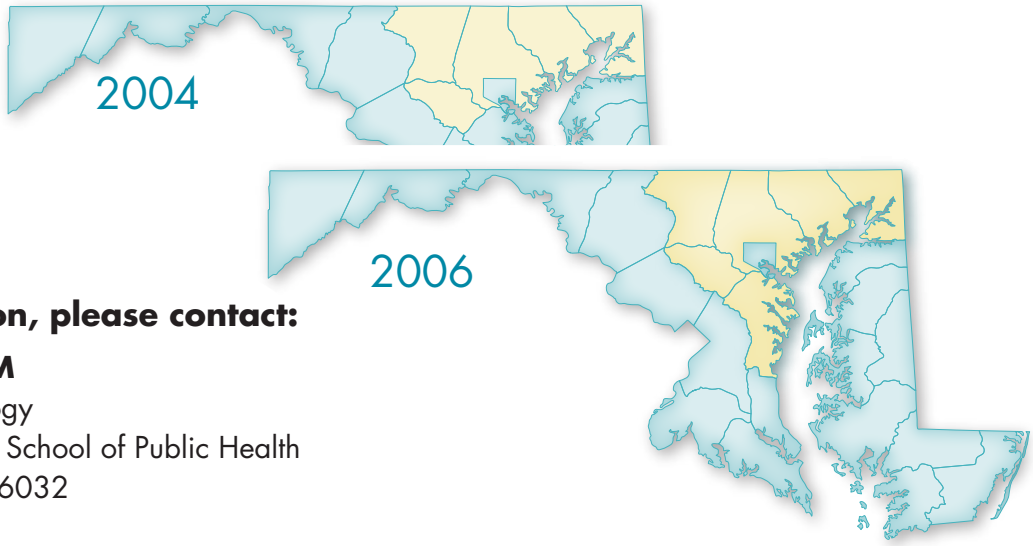
White-Non-Hispanic: 69.7%

Black-Non-Hispanic: 21.1%

Hispanic: 4.2%

Asian or Pacific Islander: 4.7%

Children in special education: 12.6%



Yellow - County in the ADDM Network

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ADDM

Missouri

The Missouri Autism and Developmental Disabilities Monitoring Project (MO ADDM)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence 2004

Number of hildren identified with an ASD: 221

Total prevalence of ASDs: 8.2 per 1,000

Boys: 13.5 per 1,000

Girls: 2.8 per 1,000

White, non-Hispanic: 8.7 per 1,000

Black, non-Hispanic: 3.2 per 1,000

Hispanic: 5.5 per 1,000

Asian or Pacific Islander: 4.3 per 1,000

Autism Spectrum Disorder (ASD) Prevalence 2006

Number of children identified with an ASD: 321

Total prevalence of ASDs: 12.1 per 1,000

Boys: 19.3 per 1,000

Girls: 4.7 per 1,000

White, non-Hispanic: 13.7 per 1,000

Black, non-Hispanic: 5.1 per 1,000

Hispanic: 2.6 per 1,000

Asian or Pacific Islander: 7.8 per 1,000

Median age of ASD diagnosis 4 years 5 months

SITE INFORMATION

Part of Missouri Included in ADDM

5 counties: St. Louis, St. Louis City, Franklin, Jefferson, St. Charles (metropolitan St. Louis, Missouri)

Population of 8-Year-Old Children in the Study Area, 2004 - 26,970

White-Non-Hispanic: 69.8%

Black-Non-Hispanic: 24.7%

Hispanic: 2.7%

Asian or Pacific Islander: 2.6%

Children in special education: 19.0%

Population of 8-Year-Old Children in the Study Area, 2006 - 26,533

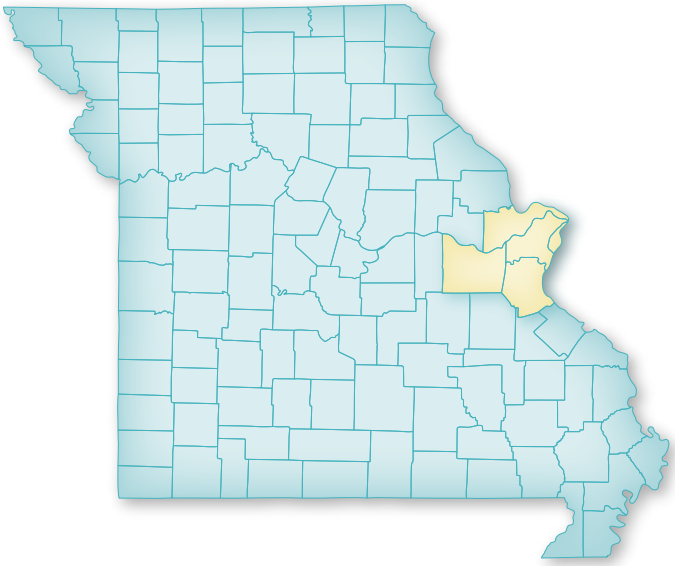
White-Non-Hispanic: 68.6%

Black-Non-Hispanic: 25.3%

Hispanic: 2.9%

Asian or Pacific Islander: 2.9%

Children in special education: 17.6%



Yellow - County in the ADDM Network

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North Carolina

The North Carolina Center for Autism and Developmental Disabilities Monitoring Project

RESULTS

Autism Spectrum Disorder (ASD) Prevalence 2004

Number of children identified with an ASD: 176

Total prevalence of ASDs: 8.7 per 1,000

Boys: 14.8 per 1,000

Girls: 2.4 per 1,000

White, non-Hispanic: 8.6 per 1,000

Black, non-Hispanic: 9.0 per 1,000

Hispanic: 6.8 per 1,000

Asian or Pacific Islander: 5.3 per 1,000

Autism Spectrum Disorder (ASD) Prevalence 2006

Number of children identified with an ASD: 230

Total prevalence of ASDs: 10.4 per 1,000

Boys: 17.0 per 1,000

Girls: 3.4 per 1,000

White, non-Hispanic: 12.2 per 1,000

Black, non-Hispanic: 7.5 per 1,000

Hispanic: 6.1 per 1,000

Asian or Pacific Islander: 4.8 per 1,000

Median age of ASD diagnosis 4 years 2 months

SITE INFORMATION

Part of North Carolina Included in ADDM 2004

8 counties: Alamance, Chatham, Davidson, Durham, Forsyth, Guilford, Orange, and Randolph

Part of North Carolina Included in ADDM 2006

10 counties: Alamance, Caswell, Chatham, Davidson, Durham, Forsyth, Guilford, Orange, Randolph and Rockingham

Population of 8-Year-Old Children in the Study Area, 2004 - 20,187

White-Non-Hispanic: 57.8%

Black-Non-Hispanic: 28.7%

Hispanic: 10.3%

Asian or Pacific Islander: 2.8%

Children in special education: 14.4%

Population of 8-Year-Old Children in the Study Area, 2006 - 22,195

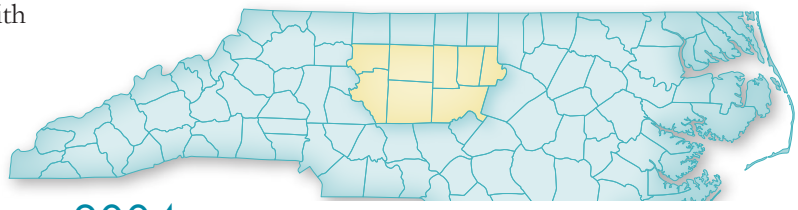
White-Non-Hispanic:57.3%

Black-Non-Hispanic: 27.8%

Hispanic: 11.8%

Asian or Pacific Islander: 2.8%

Children in special education: 13.6%



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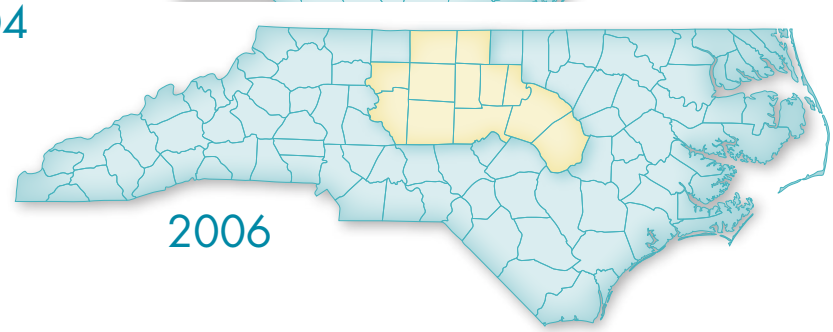

2006

Yellow - County in the ADDM Network

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ADDM

Pennsylvania

The Pennsylvania Autism and Developmental Disabilities Surveillance Program (PADDSP)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence 2006

Number of children identified with an ASD: 150

Total prevalence of ASDs: 8.4 per 1,000

Boys: 13.3 per 1,000

Girls: 3.3 per 1,000

White, non-Hispanic: 10.1 per 1,000

Black, non-Hispanic: 7.5 per 1,000

Hispanic: 7.7 per 1,000

Asian or Pacific Islander: 1.0 per 1,000

Median age of ASD diagnosis 4 years 4 months

Site Information

Part of Pennsylvania Included in ADDM

Philadelphia County

Population of 8-Year-Old Children in the Study Area, 2006 - 17,886

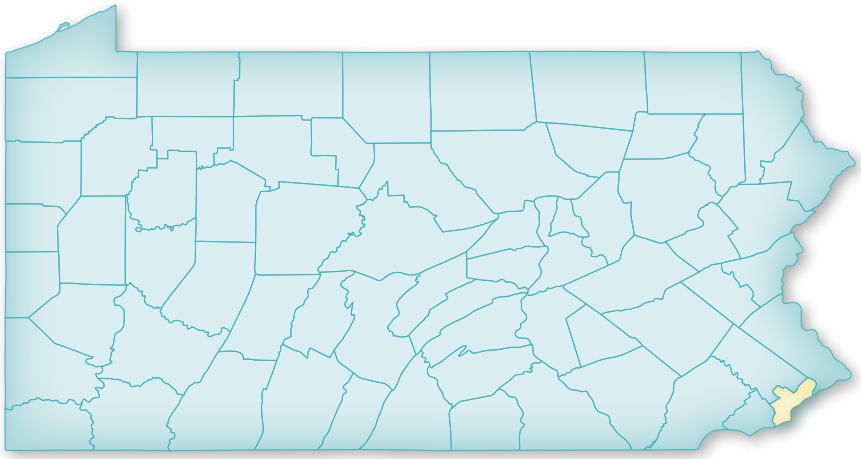
White-Non-Hispanic:28.2%

Black-Non-Hispanic: 50.1%

Hispanic: 15.9%

Asian or Pacific Islander: 5.4%

Children in special education: 13%



Yellow - County in the ADDM Network

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South Carolina

The South Carolina Autism and Developmental Disabilities Monitoring Program (SC-ADDM)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence 2004

Number of children identified with an ASD: 118

Total prevalence of ASDs: 5.3 per 1,000

Boys: 8.9 per 1,000

Girls: 1.5 per 1,000

White, non-Hispanic: 5.5 per 1,000

Black, non-Hispanic: 4.1 per 1,000

Hispanic: 2.4 per 1,000

Autism Spectrum Disorder (ASD) Prevalence 2006

Number of children identified with an ASD: 196

Total prevalence of ASDs: 8.6 per 1,000

Boys: 14.3 per 1,000

Girls: 2.6 per 1,000

White, non-Hispanic: 7.1 per 1,000

Black, non-Hispanic: 7.3 per 1,000

Hispanic: 4.8 per 1,000

Asian or Pacific Islander: 3.6 per 1,000

Median age of ASD diagnosis 4 years 6 months

Site Information

Part of South Carolina Included in ADDM

23 counties: Allendale, Bamberg, Barnwell, Beaufort, Berkeley, Charleston, Chesterfield, Clarendon, Colleton, Darlington, Dillon, Dorchester, Florence, Georgetown, Hampton, Horry, Jasper, Lee, Marion, Marlboro, Orangeburg, Sumter, Williamsburg

Population of 8-Year-Old Children in the Study Area, 2004 - 22,399

White-Non-Hispanic: 53.0%

Black-Non-Hispanic: 41.7%

Hispanic: 3.7%

Asian or Pacific Islander: 1.1%

Children in special education: 16.2%

Population of 8-Year-Old Children in the Study Area, 2006 - 22,681

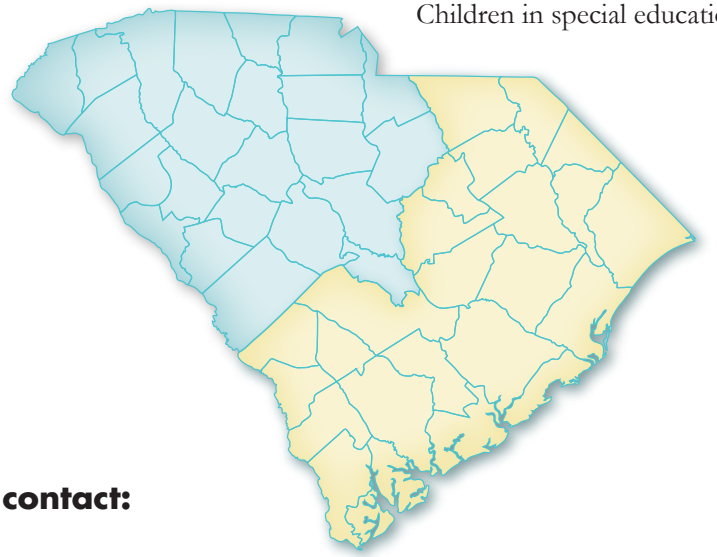
White-Non-Hispanic: 53.6%

Black-Non-Hispanic: 39.9%

Hispanic: 4.6%

Asian or Pacific Islander: 1.2%

Children in special education: 15.9%



Yellow - County in the ADDM Network

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ADDM

Wisconsin

The Wisconsin Surveillance of Autism and Other Developmental Disabilities System (WISADDS)

RESULTS

Autism Spectrum Disorder (ASD) Prevalence 2004

Number of children identified with an ASD: 88

Total prevalence of ASDs: 7.8 per 1,000

Boys: 12.0 per 1,000

Girls: 3.7 per 1,000

White, non-Hispanic: 7.4 per 1,000

Black, non-Hispanic: 3.6 per 1,000

Hispanic: 1.6 per 1,000

Asian or Pacific Islander: 6.0 per 1,000

Autism Spectrum Disorder (ASD) Prevalence 2006

Number of children identified with an ASD: 257

Total prevalence of ASDs: 7.6 per 1,000

Boys: 12.7 per 1,000

Girls: 2.3 per 1,000

White, non-Hispanic: 8.5 per 1,000

Black, non-Hispanic: 3.6 per 1,000

Hispanic: 1.7 per 1,000

Asian or Pacific Islander: 5.8 per 1,000

Median age of ASD diagnosis 4 years 5 months

Site Information

Part of Wisconsin Included in ADDM 2004

3 counties: Dane, Jefferson, and Waukesha

Part of Wisconsin Included in ADDM 2006

10 counties: Kenosha, Racine, Milwaukee, Ozaukee, Waukesha, Jefferson, Rock, Dane, Green and Walworth

Population of 8-Year-Old Children in the Study Area, 2004 - 11,312

White-Non-Hispanic: 84.8%

Black-Non-Hispanic: 4.9%

Hispanic: 5.6%

Asian or Pacific Islander: 4.4%

Children in special education: 14.4%

Population of 8-Year-Old Children in the Study Area, 2006 - 34,058

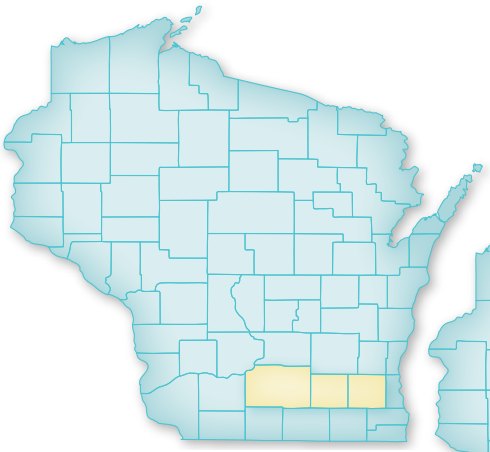
White-Non-Hispanic: 65.7%

Black-Non-Hispanic: 18.1%

Hispanic: 12.2%

Asian or Pacific Islander: 3.5%

Children in special education: 15.0%



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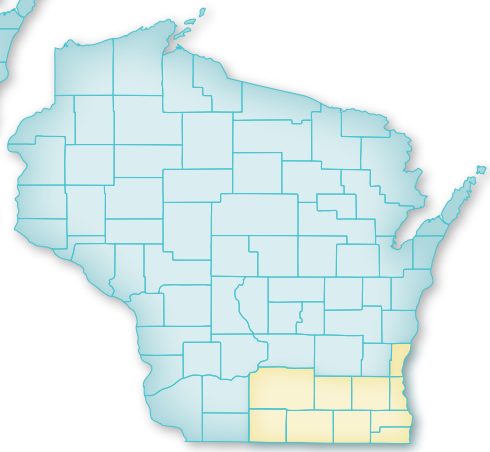

2006

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ADDAM Network

QUESTIONS AND ANSWERS

What do the ADDM Network results tell us about the prevalence of ASDs in the United States?

The most recent ADDM Network data affirm that ASDs are conditions of urgent public health concern, affecting approximately 1% of all children. In other words, from 1 in 80 to 1 in 240—with an average of 1 in 110—children have an ASD.

Does this mean that the prevalence of ASDs is 1 in 110 in every community in the United States?

It is important to remember that the estimate of 1 in 110 children with an ASD is an average based on data on 8-year-olds in specific time periods in several areas of the United States. These areas are not representative of the entire United States. It would not be expected that all 11 sites in the ADDM Network would have the same rate and, indeed, every site did not have the same prevalence rate. When the margin of error is taken into account, the prevalence estimate range is from 8.6 to 9.3 per 1,000, or 1 in 116 to 1 in 108.

How can I summarize the findings across all sites?

In 2004, the overall average prevalence was 8.0 per 1,000 children and most of the ADDM Network sites found from 7.8 to 8.9 children with ASDs per 1,000 8-year old children. The prevalences in Alabama and South Carolina were lower than those for all other sites.

For 2006, the overall average prevalence was 9.0 per 1,000 children and ranged from 4.2 (Florida) to 12.1 (Arizona and Missouri), with the majority of sites from 7.6 to 10.4. These data support that ASDs continue to be an urgent public health concern affecting approximately 1% of children overall, with about 1 in 70 boys and 1 in 310 girls affected with ASDs.

Why would rates be lower at some sites and higher in others?

The majority of sites had similar estimates; however, some variations were found. Study representatives worked closely with community providers in each given study area to ensure that all 8-year-old children with an ASD were included in the prevalence estimates. Some sites across the network partnered with both health care and education providers, while others work solely with health care providers. Sites that worked with both types of providers tended to have higher prevalence estimates because they had access to additional information to help identify children with ASDs. Overall, we know that approximately 1% of children were affected with ASDs and concerted efforts are needed to improve identification and services for all people affected.

What do we know about trends?

The ADDM Network was able to look at ASD prevalence changes at 10 sites from the years 2002 to 2006. During this time, the prevalence of ASDs increased 57% across all the sites and ranged from 27% to 95%. Identified ASD prevalence increased consistently across all sites among boys and increased at some sites among girls. By 2006, the average prevalence of ASDs was approaching 1% of 8-year-old children. These data confirm that the prevalence of children identified with ASDs has been rising, and continued monitoring is important to document and understand changes over time. Concerted efforts are needed to address the many service needs of the individuals and families affected.

What is causing the increase in children identified with ASDs?

No single factor can explain changes in the ADDM Network-identified ASD prevalence over time, and although some of the increases can be accounted for by improved identification, it also is possible that the symptoms

associated with ASDs have increased steadily among the population. The question of how much of this increase in ASD prevalence is due to a genuine increase in risk is impossible to answer fully. It also is clear that there is not a single reason for the increase. Instead, many different factors have been at play. While we are reaching a better understanding of ASD prevalence among children in the United States, we are still in the midst of a changing landscape with changes in identification, awareness, and improved understanding of the complex causes of ASDs. As more studies indicate that ASD prevalence is approaching 1% or greater, it will be essential to know if the estimated prevalence will level out or continue to change over time. Continuing to evaluate the prevalence of ASDs among children born in this millennium is very important.

What else can ADDM Network results tell us?

Beyond the prevalence of ASDs, the ADDM Network also can help us to understand some characteristics of children with ASDs. For instance, we know that most children identified with an ASD are receiving some form of special education, but that for the 2006 study year, children with ASDs who received special education services under an ASD exceptionality ranged from 34.1% in Colorado to 76% in Maryland. We also know that for 2006, the proportion of children with ASDs who also had cognitive impairment ranged from 29% in Colorado to 51% in South Carolina, with an average of 41%. Girls with ASDs were more likely to have cognitive impairment.

ADDM data also can help us to understand the developmental characteristics of children with ASDs. At all sites for both study years (2004 and 2006), more than half of the children who were identified with an ASD had documented developmental concerns before 3 years of age. The most common concern, noted by either a parent, educator, or health care provider was for language skills. The median age for earliest reported diagnosis in a child's record ranged from 41 months in Florida to 60 months in Colorado (2006). The percentage of children with ASDs who also experienced a developmental regression or loss of skills ranged from 13% in Alabama to 30% in Wisconsin (2006). From 3% (Georgia) to 10% (Missouri) of children with an ASD had documentation of experiencing a developmental plateau or leveling off of skills without continued development or regression.

How many children in the United States have ASDs?

At this time, there is not a full population count of all individuals with an ASD in the United States. However, using the prevalence data cited previously (approximately 1 in 110 children with an ASD), we can estimate that if 4 million children are born in the United States every year, approximately 36,500 children from each birth cohort eventually will be diagnosed with an ASD. Assuming the prevalence rate has been constant over the past two decades, we can estimate that about 730,000 individuals 21 years of age or younger have an ASD. However, many of these individuals might not be classified as having an ASD until school age or later. Because behaviors related to the ASDs usually are present before a child is 3 years of age, it is important to make sure children are being classified and are receiving appropriate intervention services as early as possible.

How do the rates of ASDs compare with rates of other childhood disabilities and special health care needs?

Approximately 2% of children younger than 18 years of age have a serious developmental disability (DD) and these include intellectual disability (ID), cerebral palsy, hearing loss, and vision loss.[16] Of these serious DDs, ID is the most common. A genetic disorder often associated with having an ID that many people recognize is Down syndrome. Current information indicates that Down syndrome occurs among approximately 1 out of 1,000 children.[17] Approximately 13% of children have some type of DD, including more mild conditions such

as speech and language disorders, learning disabilities, and attention-deficit/hyperactivity disorder (ADHD), which appear to be more common than ASDs.[18] For example, according to the 2007 National Survey of Children's Health (NSCH), approximately 1 in every 16 children 2 through 17 years of age has ADD/ADHD.

Many children are faced with other special health care needs. According to the American Diabetes Association, approximately 1 in every 400 to 600 children and adolescents has juvenile diabetes.[19] ASDs are more common than childhood cancer, which has a prevalence of 1.5 per 10,000 children (1 in 300 males and 1 in 333 females have a probability of developing cancer by 20 years of age according to the National Cancer Institute).[20] According to the 2007 National Survey of Children's Health, approximately 1 in every 10 children younger than 18 years of age has asthma.

How many children with ASDs are being served through public special education programs?

In 2007, 258,305 children 6 through 21 years of age and 39,434 children 3 through 5 years of age were served under the "autism" classification for special education services.[4] Not all children with an ASD receive special education services under the classification of "autism", so the education data are not meant to represent the actual number of people with an ASD. While it is clear that more children are getting special education services for autism than ever before, it is important to remember that this classification was added only in the early 1990s and the growth in the number of children classified might be due in part to the addition of this as a special education category.

How does the number of children with ASDs in special education compare with the number of children with other disabilities?

In 2007, according to Individuals with Disabilities Education Act administrative counts, 5,912,586 children 6 through 21 years of age received services through any of 13 categories in public special education programs. "Specific learning disability" was the most frequent education category identified, followed by "speech and language impairment". Together, these two categories made up nearly 64% of all special education placements. The intellectual disability classification accounted for about 8% (487,854). Autism accounted for about 4% (256,863).[4]

What is CDC's response to autism?

Providing data to describe the current prevalence of ASDs is one of CDC's roles in the public health response to ASDs. These data affirm the clear need for research investigating risk factors and causes of ASDs. CDC is currently enrolling study participants for the Study to Explore Early Development (SEED)—which is designed to help identify factors that might put children at risk for ASDs and other DDs. SEED is studying potential risk factors that might be related to genes, health conditions, and other factors that can affect a mother's pregnancy and a child's first few years of life. CDC also recognizes the importance of helping people understand developmental milestones for children through the "Learn the Signs. Act Early." campaign, (www.cdc.gov/actearly).The campaign, launched in 2005, helps to inform parents, health care professionals, and early educators about the importance of monitoring a child's developmental milestones and obtaining early intervention services. While these projects contribute to the many needs in autism research and services, they will not be sufficient by themselves and coordinated public and private partnerships are vital as well. As we move forward, we also will need to better connect new findings to practical public health guidance.

The larger federal response is coordinated by the Interagency Autism Coordinating Committee (IACC) and has both federal and public members with a range of perspectives, including advocacy groups, researchers, and individuals affected by ASDs. It was established to coordinate ASD-related activities in the U.S. Department of Health and Human Services; facilitate the exchange of information on ASD activities among the member

agencies; and increase public understanding of the member agencies' activities, programs, policies, and research by providing a public forum for discussions related to ASD research, screening, education, and interventions, In January 2009, the IACC approved the Strategic Plan for Autism Research (www.iacc.hhs.gov). The plan warns that autism is "emerging as a national health emergency" based on ADDM findings published in 2007. Ongoing surveillance using common methods provides important information when strategic plans such as this are being shaped.

WHAT ELSE DO I NEED TO KNOW?

How can I tell if my child's development is on track?

Children develop at their own pace, so it can be hard to tell exactly when a child will learn a particular skill. But, there are age-specific milestones designed to measure a child's development in the first few years of life. To learn more about developmental milestones, visit "Learn the Signs. Act Early." (www.cdc.gov/ncbddd/actearly), a campaign by CDC and national partners to educate parents, health care professionals, and child care providers about early childhood development, including potential early warning signs of autism and other developmental disabilities.

What should I do if I think my child might have an ASD?

If you are concerned about your child's development, or think that your child might have an ASD, talk with your child's health care professional or teacher, or both. Your child's health care professional can refer your child to a developmental pediatrician or psychologist for a full developmental evaluation. (For tips on how to share your concerns with your health care professional, visit the First Signs website at www.firstsigns.org.) Your child's teacher can ask the special education department of your local school district to do a psychoeducational evaluation of your child.

What services are available for children with ASDs?

The Individuals with Disabilities Education Act (IDEA)[21] is a law that ensures that all children with disabilities, from birth through 21 years of age, can get a free, appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for employment and independent living. IDEA also provides for evaluation of children who might have or be at risk for developmental disabilities. (For more information about IDEA, please visit http://idea.ed.gov.)

Children 3 through 21 years of age can receive educational assessments and programs through public schools. Programs can include direct teaching by or consultation with a special education teacher or related services (such as speech and language therapy, occupational and physical therapy, and supportive counseling), or both. Infants and toddlers can receive assessments and programs through public health departments or other state agencies. IDEA requires that all children receiving services who are younger than 3 years of age should have an Individualized Family Service Plan (IFSP). Children receiving services who are 3 or older should have an Individualized Education Program (IEP). The IEP and IFSP provide a detailed plan to meet the unique and specific educational needs of each child.

What kinds of treatments or educational interventions can help children with ASDs?

Currently, there is no cure for ASDs; however, research shows that early intervention treatment services can greatly improve a child's development. Therefore, it is important to talk to your child's health care provider as soon as possible if you think your child has an ASD or other developmental delay. According to reports by the American Academy of Pediatrics[22] and the National Research Council,[23] educational interventions that provide structure, direction, and organization for children are thought to help those with ASDs. Educational interventions must be tailored to each child and take into account his or her overall developmental status and specific strengths and needs. For guidance on choosing a treatment program, visit the Treatment Options section of the National Institute of Mental Health's autism website at http://www.nimh.nih.gov/health/publications/autism/complete-index.shtml.

Can medication help children with ASDs?

There are no medications that can cure ASDs or treat their core symptoms; however, there are medications that can help some people with related symptoms. For example, medication might help manage high energy levels, inability to focus, depression, or seizures. Also, the U.S. Food and Drug Administration has approved the use of risperidone and aripiprazole (antipsychotic drugs) to treat children with ASDs who have severe tantrums and aggression, and cause self-injury.

Medications might not affect a child with an ASD in the same way they affect other children. It is important to work with a health care professional who has experience in treating children with ASDs. Parents and health care professionals must monitor closely a child's progress and reactions while he or she is taking a medication to be sure that the side effects of the treatment do not outweigh the benefits.

To learn more about medications and ASDs, go to the National Institute of Mental Health's autism website at http://www.nimh.nih.gov/health/publications/autism/complete-index.shtml#pub4

What can I do to keep my child with an ASD healthy?

It is important to remember that children with ASDs can get sick or injured just like children without ASDs. Regular medical and dental examinations should be part of your child's intervention plan, as well as preventive measures such as routine childhood and yearly influenza vaccinations. Often, it is difficult to determine if a child's behavior is related to his or her ASD or is caused by a separate health condition. For instance, head banging could be a symptom of an ASD, or it could be a sign that the child is having headaches. In those instances, a thorough physical examination is needed.

If you are concerned, act quickly. The sooner you get a diagnosis, the sooner you can start appropriate treatment and the better the progress your child can make. Although currently there is no cure for ASDs, most people believe that recognizing the signs of a developmental delay as early as possible and immediately seeking early intervention services right away can have the greatest effect on overall improvement.

SUMMARY

These data confirm that ASDs continue to be conditions of urgent public health concern affecting approximately 1% of children in the United States. ASDs affect an average of 1 in every 110 children: approximately 1 in 70 boys and 1 in 310 girls. These data also confirm that the prevalence of ASDs increased from 2002 to 2006 and support the continued monitoring of ASDs to document and understand changes in prevalence over time.

ASDs are the second most common serious DD after ID, but are still less common than other conditions that affect children's development, such as speech and language delay, learning disabilities, and ADHD. The effect of having a DD is immense for the families affected and for the community services that provide intervention and support for these families. These prevalence estimates from the ADDM Network can be and have been used to inform policy and educational and intervention services for people with an ASD. CDC is actively engaged with other federal and private partners in a coordinated response to identify risk factors and meet the significant needs of the individuals and families affected by ASDs.

WHERE CAN I GET MORE INFORMATION?

The resources that follow will help you learn more about ASDs and find services for children with ASDs and their families.

Developmental Milestones and Warning Signs for Developmental Disabilities

Learn the Signs. Act Early. Campaign

www.cdc.gov/actearly

This site can help you find out if your child's development is on track and learn the signs of developmental delays.

General Information About Autism

CDC Autism Information Center

http://www.cdc.gov/ncbddd/autism/index.html

You can check out a full range of resources for parents, educators, researchers, and practitioners at this site. Also, learn what CDC is doing to better understand ASDs and their causes and risk factors.

Autism Speaks

www.autismspeaks.org

This site will let you read about what autism is and how to cope with it. Also, it will assist you in learning about research and efforts to raise awareness about the disorder.

American Academy of Pediatrics

http://www.aap.org/healthtopics/autism.cfm

This site provides information for parents and providers alike.

Services and Support for Children with ASDs

Autism Society of America

www.autism-society.org or 1-800-3-AUTISM

This national organization can link you with local resources. Click on the "Chapters" link to find an ASA chapter in your state.

National Early Childhood Technical Assistance Center

www.nectac.org

Use this site to find early intervention programs in your state.

Easter Seals

http://www.easterseals.com/site/PageServer?pagename=ntlc8_homepage.

Search this site to find an Easter Seals near you and learn about services for people with ASDs.

Questions Often Asked by Parents About Special Education Services

http://www.nichcy.org/pubs/ideapubs/lg1txt.htm or 1-800-695-0285

At this site, get answers to your questions about services provided under the Individuals with Disabilities Education Act (also available en Español).

Note: Your public school special education director also can help guide you with a referral to the local infant, toddler, or preschool assessment and intervention programs in your area.

Diagnosis and Treatment of ASDs

Educating Children with Autism

http://www.nap.edu/books/0309072697/html/

This site provides a review of interventions for autism by the National Academy of Sciences.

National Institute of Mental Health

http://www.nimh.nih.gov/publicat/autism.cfm

Find out about the process of diagnosing ASDs and about treatment options, including medications used to help people with ASDs, at this site.

The Pediatrician's Role in the Diagnosis and Management of Autistic Spectrum Disorder in Children

http://pediatrics.aappublications.org/cgi/content/full/107/5/e85

Learn about treatments and interventions physicians use to treat ASDs in this report from the American Academy of Pediatrics.

Research

Interagency Autism Coordinating Committee (IACC)

www.iacc.hhs.gov

Visit this site to learn about the IACC and to access the IACC approved Strategic Plan for Autism Research.

www.clinicaltrials.gov

This site is a searchable database that provides patients, family members, and the public with information about current, ongoing clinical research studies.

The Autism Science Foundation (ASF)

www.autismsciencefoundation.org

Visit this site to learn more about the ASF, which provides funding to scientists and organizations conducting, facilitating, and promoting autism research.

National Institute of Neurological Disorders and Stroke (NINDS)

http://www.ninds.nih.gov/disorders/autism/autism.htm

At this site, read (in both English and Spanish) about research being done on autism.

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Autism and Developmental Disabilities Monitoring (ADDM) Network

CDC

11 ADDM Sites 2006 - 2010 (10+CDC)

+ 16 ADDM Sites 2001 - 2006 (15 +CDC)

ADDM NET
Autism and Developmental Disabilities Monitoring Network

www.cdc.gov/autism

National Center on Birth Defects and Developmental Disabilities

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