

Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years – Autism and Developmental Disorders Monitoring Network, 11 Sites, United States, 2016

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Bottom Line Up Front:

This MMWR Surveillance Summary reports that **Autism Spectrum Disorder (ASD) prevalence** among 8-year-old children surveyed by the Autism and Developmental Disabilities Monitoring (ADDM) Network **has increased**, again. This report includes information about trends in ASD prevalence, characteristics of children with ASD, prevalence by DSM-IV and DSM-5 ASD criteria and whether progress is being made towards decreasing the age of ASD identification.

Background:

Beginning in 2000, the Centers for Disease Control and Prevention (CDC) began active, population-based, multiple source surveillance of Autism Spectrum Disorder (ASD) among 8-year-old children living in diverse communities, across the United States. The states participating in the 2016 ADDM Network were: Arizona, Arkansas, Colorado, Georgia, Maryland, Minnesota, Missouri, New Jersey, North Carolina, Tennessee and Wisconsin. All sites had access to health source records. Missouri had no access to educational source records; Arkansas, Colorado, Tennessee, Wisconsin had incomplete access to education source records. Arizona, Georgia, Maryland, Minnesota, New Jersey and North Carolina had access to education source records across their regions. A combined total of **366,483** 8-year-old children's records were reviewed in this cycle of ASD surveillance.

KEY FINDINGS

- Today, the CDC and investigators in multiple states are releasing the most recent update of Autism Spectrum Disorder (ASD) prevalence in the United States (US). These findings present a comprehensive view of autism in 8-year-old children, residing in eleven communities. These new data tell us several key things:
 - Autism prevalence continues to increase. The most recent -- **2016** estimate from the Autism and Developmental Disorders (ADDM) Network shows **1 in 54 children (1.8%)** had ASD which was **10% higher than the 2014** estimate and **175% higher than the 2000 estimate**
 - Prevalence estimates varied by state, ranging from 1 in 76 children (1.3%) in Colorado to **1 in 32 children (3.1%) in New Jersey**
 - ASD prevalence was similar between white and black children (1.85% versus 1.83%), but was significantly lower for Hispanic children (1.5%), overall
 - Fewer than half of ASD children received a professional evaluation before 36 months
 - Black children with ASD were less likely to receive a professional evaluation before 36 months than white children (40% versus 45%)
 - One out of four children with ASD had no autism diagnosis at 8 years
 - Median age of ASD diagnosis has not changed since 2010

KEY MESSAGES

- These findings provide the **highest overall US (ADDM Network: 2%)** and state-specific (**New Jersey: 3%**) ASD prevalence estimates by a multistate surveillance system

- **Autism prevalence has increased 200% since 2000**, but the reasons are not understood
- There are continued significant race-based **disparities** in identification, diagnosis and intervention

MOST IMPORTANT -- GOING FORWARD

- **Rising autism prevalence is an urgent public health concern, but the allocated resources are inadequate to understanding the phenomenon.** Ongoing surveillance by the ADDM method is indicated. Additional states should be recruited into the Network and surveillance activities should be extended to include follow-up monitoring and additional elaborations
- The drivers of ASD prevalence are likely to involve gene/environment interactions, not merely to reflect better awareness of the disorder. **Research is needed to identify autism risk factors and triggers.**
- Hispanic ASD prevalence is under-estimated, in most states. Black children are less likely to receive a professional evaluation before 36 months and more likely to go without an ASD diagnosis by 8 years. These important **disparities** may be associated with late or inadequate interventions and **can be re-dressed by promoting universal autism screening at 18, 24 and 36 months.**
- In spite of better awareness, **a quarter of children with ASD do not have an autism diagnosis** by age 8. The observed findings almost certainly underestimate autism prevalence. Longitudinal follow-up of surveillance and community defined ASD cases is indicated to develop an evidence-based understanding of the factors that promote and/or limit progress of individuals with ASD over time. Novel approaches and tools are needed to diagnose individuals more reliably.