Autism Spectrum Disorder Prevalence in Minnesota

University of Minnesota
Driven to Discover℠

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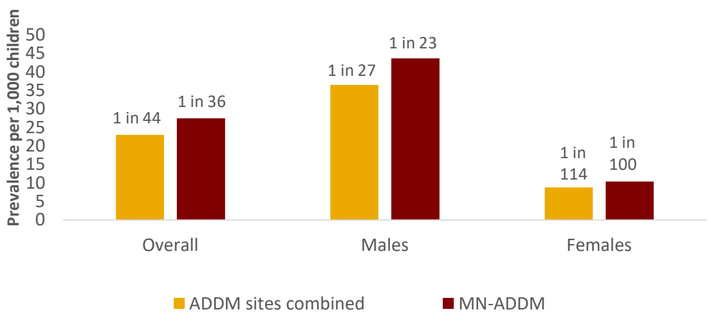
Background

- As part of the CDC Autism and Developmental Disabilities Monitoring (ADDM) Network, the University of Minnesota has monitored prevalence of autism spectrum disorder (ASD) in 4- and 8-year-old children in Anoka, Hennepin, and Ramsey Counties in Minnesota.
- Goals of the MN-ADDM project include:
  - Estimating the prevalence of ASD, with and without co-occurring ID
  - Identify important characteristics
    - Race/ethnicity
    - Co-occurring disorders including intellectual disability
    - Age of identification
  - Identify differences and disparities
  - Support community engagement
  - Share findings with our local communities for improving services

Figure 1. Prevalence of ASD in 8-year-olds in MN-ADDM and all ADDM sites combined, 2018



Methods

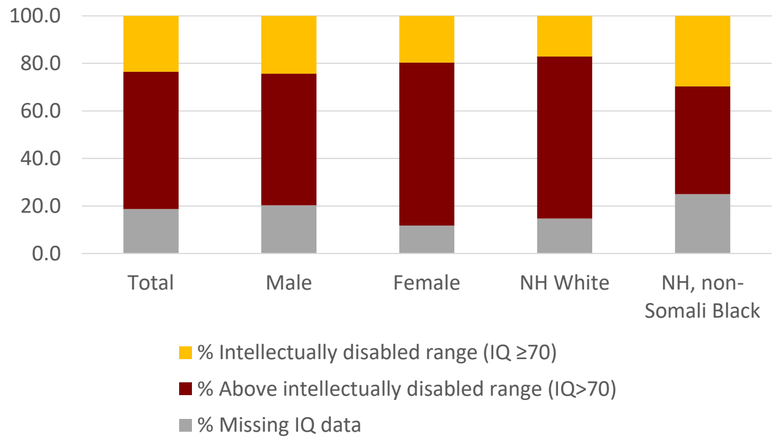
- ADDM Network estimates the number of children with ASD using a record review method to identify and abstract children who have received an ASD diagnosis, an ASD special educational eligibility, and/or an International Classification of Diseases (ICD) code, or for 4-year-old children, have a suspicion of autism noted in their records.
- Surveillance area included 9 school districts in the metro area.
- Population denominators were obtained from CDC's National Center for Health Statistics 2018 population estimates and adjusted to include only children living in the surveillance area.
- Children were classified as Somali or Hmong based on reported home language in education and health records.
- All analyses were conducted using SAS v9.4.

Results

- 2018 ASD prevalence in the MN-ADDM surveillance area was higher than the prevalence for all ADDM sites combined (27.5 per 1,000 vs. 23 per 1,000).
- Comparing across racial/ethnic subgroups, Black children were 1.3X as likely to be identified with ASD than white children in MN.
- Non-Hispanic, non-Somali Black children had greater percentages of co-occurring ID compared to white children, p<.05.

201 American Indian or Alaska Native children were included in the denominator but were not included in prevalence estimations due to low case numbers.
291 Hmong children were included in the non-Hispanic API group but were not analyzed separately due to low case numbers.

Figure 2. Co-occurring intellectual disability by sex, race/ethnicity in 8-year-olds, 2018



NH = non-Hispanic
American Indian, Somali, Hispanic, and API not included due to low ID numbers and high missing IQ
**p<.05*

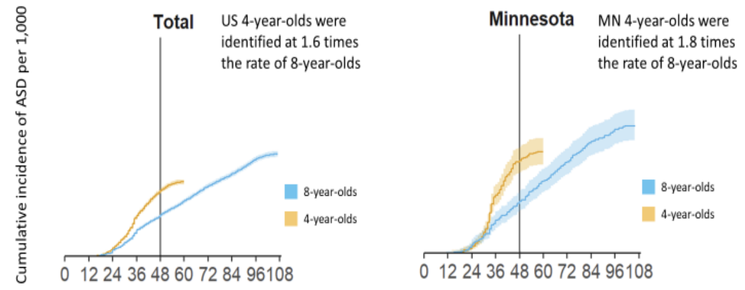
Table 1. Prevalence of ASD in 8-year-olds by sex and race/ethnicity, MN-ADDM 2018

MN Analysis	Population Size	ASD Cases DSM-5	Prevalence (per 1,000) 95% CI	
Overall	10,081	277	27.5 (24.5-30.9)	1 in 36
Males	5,166	226	43.7 (38.5–49.7)	1 in 23
Females	4,915	51	10.4 (7.9–13.6)	1 in 100
Non-Hispanic white	5,150	129	25.0 (21.1-29.7)	1 in 40
Non-Hispanic, non-Somali Black	1,973	64	32.4 (25.5-41.2)	1 in 31
Non-Hispanic API	838	14	21.5 (13.6-33.7)	1 in 47
Hispanic	1,438	26	18.1 (12.4-26.4)	1 in 55
Somali	515	18	35.0 (22.2-54.6)	1 in 29

Figure 3. Age of identification of 4- and 8-year-olds, 2018

Cumulative incidence = Rate of identification over time

4-year-olds had a higher cumulative incidence than 8-year-olds, meaning ASD identification is happening in the younger age group than the older age group.



Conclusions

- About 1 in 36 (2.8%) of 8-year-olds were identified with ASD by MN ADDM
- MN had the third highest prevalence in the ADDM network and higher than the prevalence for all ADDM sites combined.
- More children are being identified as having ASD by 4 years of age.
- MN Boys were 4.2X as likely to be identified with ASD than girls.
- Expansion of surveillance area and increasing the number of children will permit additional meaningful comparisons of ASD prevalence.
- Data reveals we may be making progress in identification across racial/ethnic groups. We need to continue to address access barriers and develop culturally sensitive methods for outreach and diagnosis.
- It is important to continue to build ASD workforce capacity and ASD providers in culturally and linguistically diverse communities.

ADDM
Minnesota Autism Developmental Disabilities Monitoring Network

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