

# Autism Spectrum Disorder and Co-Occurring Conditions

**Daniel L. Cury, MD, FAAP**

Professor of Pediatrics and Psychiatry  
The Ohio State University  
Nationwide Children's Hospital

Director, Clinical Coordinating Center,  
Autism Speaks Autism Treatment Network

Medical Director, Autism Intervention Research  
Network on Physical Health (AIR-P)



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# Autism Speaks

## Autism Treatment Network

- 14 sites in North America
- Dedicated to improving care for children with ASD and their families
- Emphasis on medical conditions among children with ASD
- Serves as the HRSA funded Autism Intervention Research Network on Physical Health (AIR-P)
  - Clinical intervention research on physical health
  - Efforts to improve care and disseminate findings



# AIR-P Research and AS ATN Registry Data

- Much reported in November 2012 supplement to Pediatrics (open access at [www.pediatrics.org](http://www.pediatrics.org))
- Registry – currently >6,300 children with data
- Supplement also includes clinical practice guidelines and network research reports



# Co-occurring Conditions and Symptoms

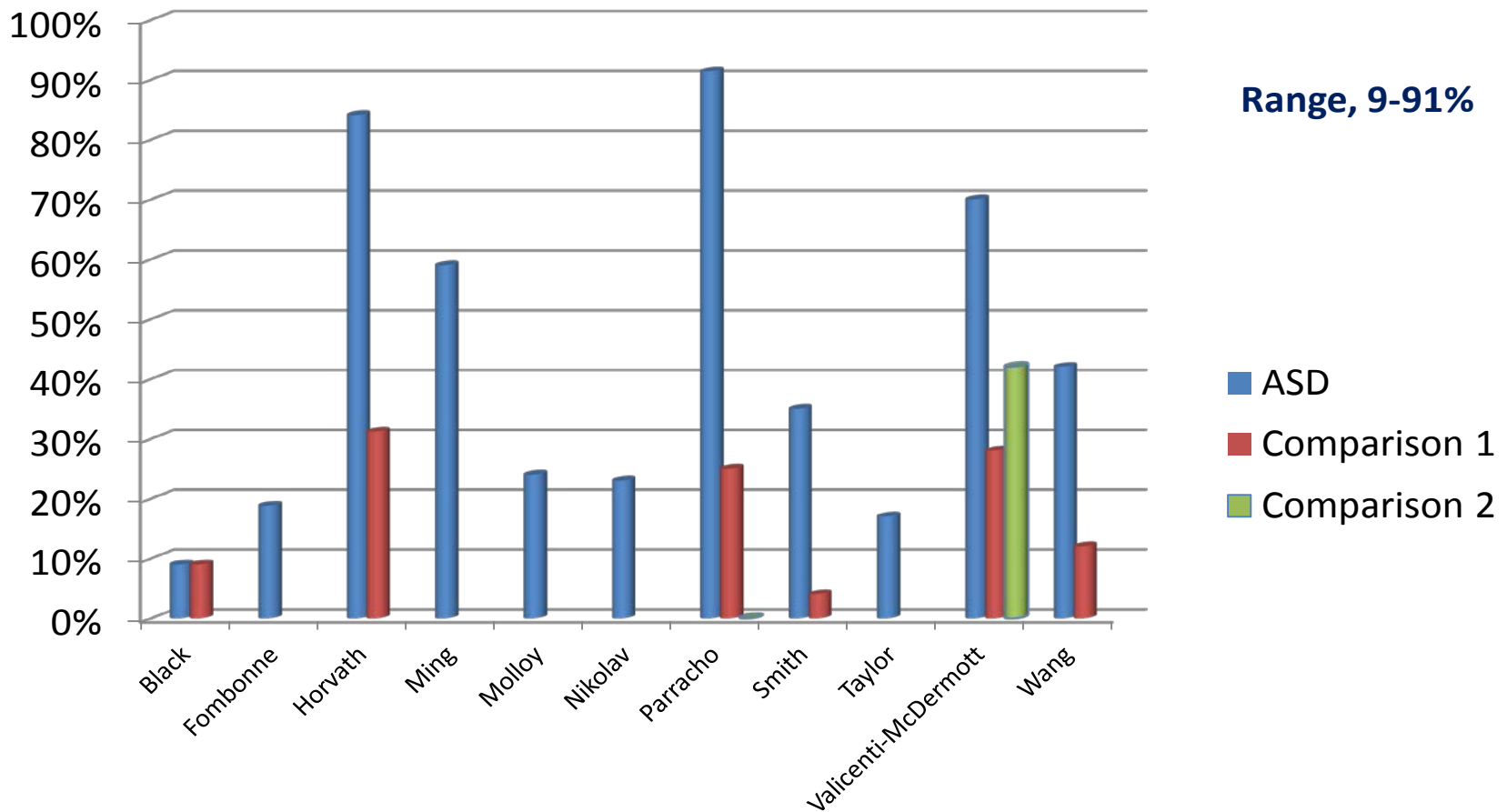
- Gastrointestinal and nutrition symptoms and disorders
  - Variations in diet preferences and supplements
  - Motility
  - Microbiome
- Epilepsy
- Sleep disorders
- Immune conditions
- Other mental health conditions



# GI Disorders

<i>GI problem</i>	Any past 3 months	Chronic past 3 months
Constipation	34.2%	23.9%
Diarrhea	29.4%	14.7%
Abdominal pain	26.2%	13.0%
Other GI	14.9%	11.4%
Nausea	13.6%	8.8%
Bloating	11.6%	5.2%
<b>Any GI problem</b>	<b>52%</b>	

# Reported Prevalence of GI Disorders in Children with ASD



# Seizure Disorders in Children with ASD (n=2,569)

- 420 with seizures (16%)
- No differences by ASD diagnoses or gender
- Higher rates among White ( $p=0.01$ ) and Latino populations ( $p=0.04$ )
- IQ difference ( $p=0.04$ )
  - Children with seizures: IQ <70 40%
  - Children without seizures: IQ <70 35%
- Parent report of skill loss ( $p<0.001$ )
  - Children with seizures: 21%
  - Children without seizures: 13%

# Seizure Disorders and Associated Findings

- Higher rates of GI problems ( $p < 0.001$ ) and sleep problems ( $p < 0.001$ ) compared to those without seizures
- Lower Vineland adaptive scores and certain CBCL scales



# Sleep Disorders

- Previous reports: 53-78% of children with ASD; 26-32% in children without ASD
- Sikora et al. (Pediatrics, 2012)
  - 1,193 children ages 4-10 years
    - Good sleepers – 340 (28.5%)
    - Mild sleep problems – 638 (53.5%)
    - Moderate-severe sleep problems – 215 (18.0%)
  - Lower rates in older children
  - Sleep problems associated with problems in daytime behaviors

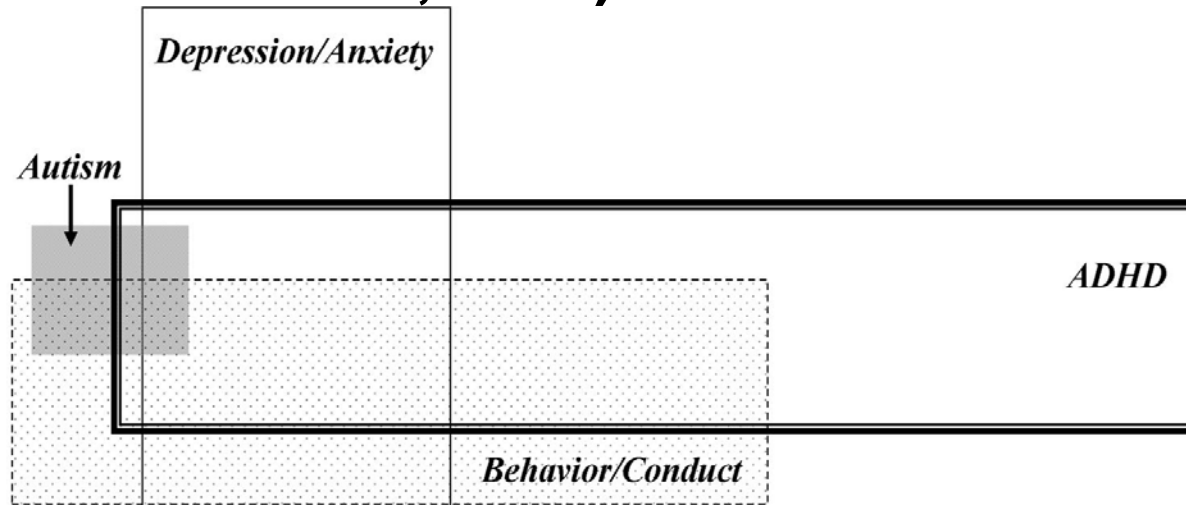


# Psychiatric Symptoms

- Previous reports
  - ADHD in 41-78% of children with ASD
- Symptom reports from Registry (from Child Behavior Checklist)
  - 37% high scores on attention subscale
  - 14% on aggressive subscale
  - 22% on hyperactivity subscale



# Overlapping Conditions (National Survey of Children's Health, 2007)



	Prevalence	% w/comorbid behavioral condition	% w/comorbid physical health condition
ADHD	6.8%	50.2%	31.3%
Behavior/Conduct Problem	5.3%	67.0%	36.0%
Depression/Anxiety	4.2%	63.1%	38.6%
Autism	0.5%	76.7%	39.0%

From Sheldrick and Perrin (EC), JDBP, 2010



# Psychotropic Medication Use (AS-ATN Registry, n=2741)

Age	Number of children in registry	Percent using any psychotropic
<6 yo	1514	10
6-11 yo	951	44
12-17 yo	276	66

# Medications Used

- Stimulants 35.6% of total
- SSRI 22.7%
- Atypical antipsychotics 22.5%
- Alpha-agonists 19.3%

# Co-existing Psychiatric Diagnoses

- Depression 2.5%
  - Bipolar 1.5%
  - ADHD 19%
  - OCD 5.4%
  - Anxiety 7.5%
- 
- i.e., many children are treated without additional diagnosis

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