

# Autism Spectrum Disorder Series: An Overview and Introduction to the Series

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# Disclosure

- Today's presenters have no financial relationship to this program.

# Introduction to the series

# Nomenclature

- Autism
- Autism Spectrum Disorder (ASD)
- Asperger's
- Pervasive Developmental Disorder
- High functioning autism
- Autistic
- Intellectual Disability (ID)

# Objectives

At the end of this presentation, participants will be able to:

- Define Autism Spectrum Disorder (ASD)
- Identify the current prevalence rate for ASD
- Describe the two Diagnostic and Statistical Manual, Fifth Edition (DSM-5) diagnostic categories for ASD
- Recognize the impact of ASD in individuals and society

# Introduction to Autism Spectrum Disorder (ASD)

- What is ASD?
  - A complex neurodevelopmental condition
    - Neurologically based- underlying genetic and neurobiological origins
    - Developmental- evident early in life and impacts social development
      - Lifelong- no known cure
  - Core characteristics
    - Impairments in social interaction and social communication
    - Presence of restricted behavior, interests and activities
  - Wide variations in presentation



# History

- 1910 Blueler
  - First use of the word autistic
  - From “autos”, Greek word meaning “self”
- 1943 Leo Kanner
  - “Autistic disturbances of affective contact”
- 1944 Hans Asperger
  - Four boys in Austria
  - “Little professors”

# Multiple Choice Question #1

- Autism Spectrum Disorder is
  - A neurological condition
  - A neurobiological condition
  - A developmental, lifelong condition
  - B and C

“When my brother trained at Children's Hospital at Harvard in the 1970s, they admitted a child with autism, and the head of the hospital brought all of the residents through to see. He said, 'You've got to see this case; you'll never see it again.'”

--Thomas Insel, director of National Institute of Mental Health  
May 7, 2006, Time Magazine

# ASD Prevalence

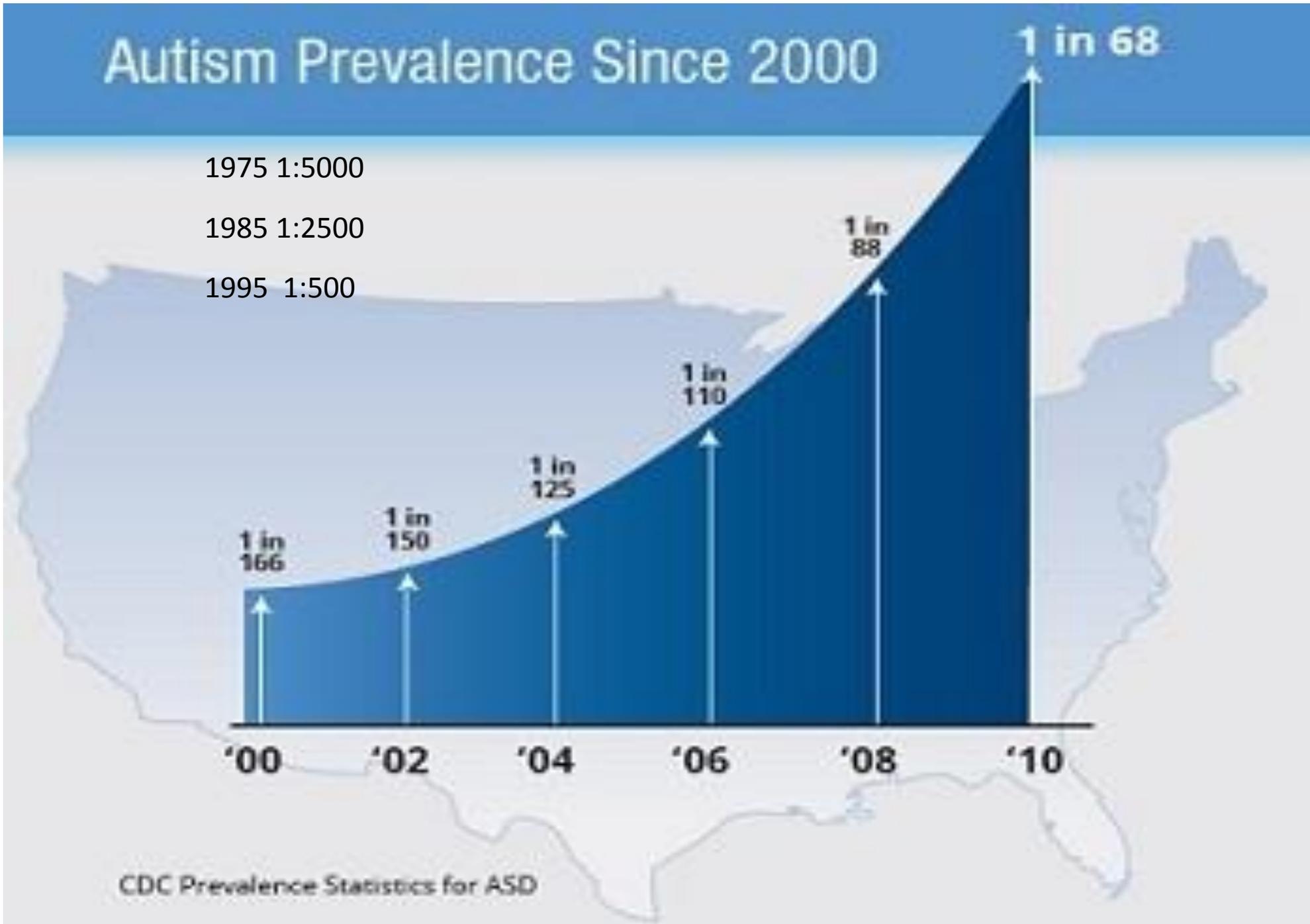
- ASD occurs worldwide in all ethnic and societal groups

# Autism Prevalence Since 2000

1975 1:5000

1985 1:2500

1995 1:500



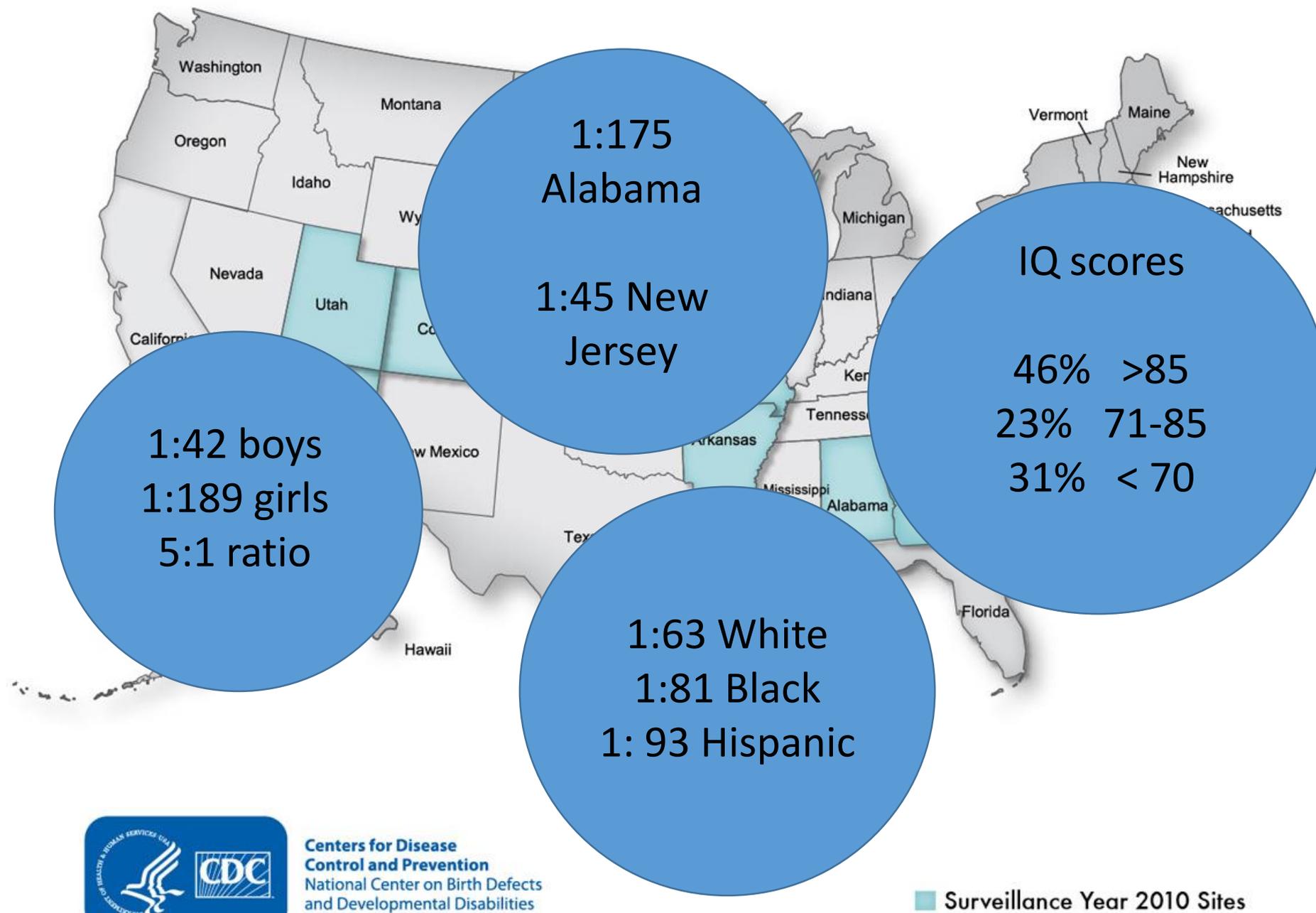
CDC Prevalence Statistics for ASD

# Autism and Developmental Disabilities Monitoring (ADDM) Network

- Part of Centers for Disease Control (CDC)
- Monitors the number of 4- and 8-year-old children with ASDs living throughout the United States at 11 sites
- Systematic Record Review of health and educational records (2010)



# Autism and Developmental Disabilities Monitoring (ADDM) Network Sites



# Autism and Developmental Disabilities Monitoring (ADDM) Network

Site	Total	Total no. with ASD	Prevalence
Alabama	21,833	125	5.7
Arizona	33,768	530	15.7
Arkansas	38,956	605	15.5
Colorado	38,806	384	9.9
Georgia	48,529	754	15.5
Maryland	27,605	458	16.6
Missouri	25,367	359	14.2
New Jersey	31,723	696	21.9
North Carolina	37,783	655	17.3
Utah	23,756	442	18.6
Wisconsin	35,623	330	9.3
<b>Total</b>	<b>363,749</b>	<b>5,338</b>	<b>14.7</b>



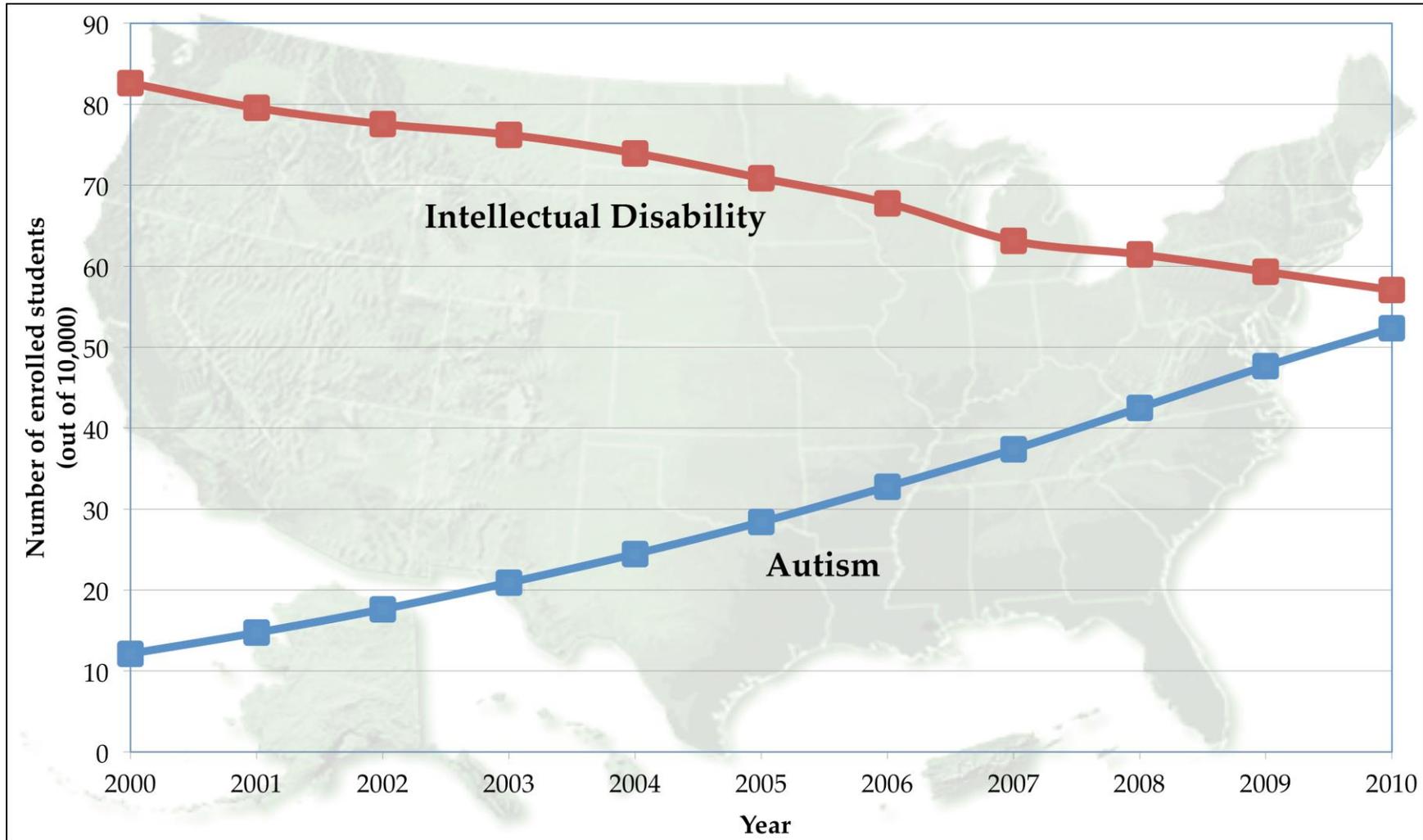
# Multiple Choice Question #2

- What is the current prevalence rate for ASD in the United States, based on the CDC?
  - a) 1 in 54
  - b) 1 in 148
  - c) 1 in 68
  - d) 1 in 250

# Why is the Prevalence Increasing?

- Broadening of diagnostic criteria
- Diagnostic substitution
- Public awareness
- Unknown

# Diagnostic Substitution



DSM-5

# DSM-5 Diagnostic Criteria

- Deficits in social communication and social interaction (3)
  - Social approach/interaction
  - Nonverbal communication
  - Relationships
- Presence of restricted, repetitive patterns of behavior, interests, or activities (2)
  - Stereotyped or repetitive motor movements, objects, speech
  - Routines
  - Restricted interests
  - Sensory\*

# DSM-5 Social Communication

Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history:

- Social-emotional reciprocity
- Nonverbal communication behaviors
- Developing, maintaining and understanding relationships

# DSM-5 Restricted and Repetitive Behaviors

Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following:

- Stereotyped or repetitive motor movements, use of objects, or speech
- Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior
- Highly restricted, fixated interests that are abnormal in intensity or focus
- Hyper- or hyporactivity to sensory input or unusual interest in sensory aspects of the environment

# Additional DSM-5 Criteria

- Symptoms must be present in the early developmental period (might not manifest or be noted until later)
- Symptoms cause significant impairment in social, occupational, or other important areas of current functioning
- Disturbances are not better explained by intellectual disability or global developmental delay (note comorbid diagnosis)

# Diagnostic Specifiers

## DSM-5 299.0 Autism Spectrum Disorder

- Level of Support required (i.e., Severity)
- *With or Without* intellectual impairment
- *With or Without* language impairment
- *Associated* with known medical or genetic condition or environmental factor
- *Associated* with another neurodevelopmental, mental or behavioral disorder (e.g., ADHD)
- *With* catatonia

# Severity Level: Social-Communication

Level 1: requiring support

- Without supports, deficits in social communication cause noticeable impairments; e.g., atypical or unsuccessful responses to social overtures

Level 2: requiring substantial support

- Marked deficits in verbal and nonverbal social communication, apparent even with supports

Level 3: requiring very substantial support

- Limited initiation and minimal response to social overtures

# Severity Level:

## Restricted, repetitive behaviors

- Level 1: requiring support
  - Causes significant interference with functioning in one or more contexts
- Level 2: requiring substantial support
  - Appear frequently and interfere with functioning across a variety of contexts
- Level 3: requiring very substantial support
  - Extreme difficulty with change, markedly interfere with functioning in all spheres

# Multiple Choice Question #3

What are the two DSM-5 diagnostic categories for ASD?

- a. Social Communication and Restricted and Repetitive Patterns of Behaviors
- b. Language and Communication
- c. Social and Communication
- d. Repetitive Behaviors and Repetitive Interests

# Additional Changes

- Can now have comorbid diagnoses:
  - Language Disorders
  - Global Developmental Delay (under 5 years old)
  - Attention-Deficit/Hyperactivity Disorder
  - Anxiety and Mood Disorders
  - Medical Comorbidities

Family and Economic Impact

# Economic Impact

- Lifetime cost estimates average \$1.4 million to \$2.4 million
- Costs include health care, education, ASD-related therapy, family-coordinated services, and parental productivity loss
- Also: residential care or supportive living, personal productivity loss, medical expenses.
- Taken together, it is estimated that total societal costs of caring for children with ASD were over \$11.5 billion in 2011

# Family Impact

- Parents of children with ASD have reported high levels of stress
  - Access to needed services and quality of care compared to parents of children with other developmental disabilities or mental health conditions.
- Some parents also report having to stop work to care for their child with ASD
  - Mothers who maintain employment end up working about 7 hours less per week and
  - Earn 56% less than mothers of children with no major health issues

# Multiple Choice Question #4

What is the lifetime cost of ASD?

- a. \$4 billion
- b. \$1.4 billion
- c. \$11.5 million
- d. \$100,000

# Resources: Helpful links

- Autism Speaks – <http://autismspeaks.org>
  - Adult toolkit
- Association for Science in Autism Treatment - <http://www.asaonline.org/for-parents/learn-more-about-specific-treatments/>
- Centers for Disease Control and Prevention, Learn the Signs. Act Early: <http://www.cdc.gov/ncbddd/actearly/index.html>
- American Academy of Pediatrics Policy Page: <http://pediatrics.aappublications.org/site/aappolicy/index.xhtml>