Autism Spectrum Disorders in Medicaid

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Autism Spectrum Disorders (ASD)

(Pervasive Developmental Disorders)

Asperger's Disorder	PDD/NOS ("atypical autism")	Autism

299 Pervasive developmental disorders

- **299.0 Autistic disorder**
  - Childhood autism
  - Infantile psychosis
  - Kanner's syndrome
- **299.1 Childhood disintegrative disorder**
  - Heller's syndrome or "regressive autism"
- **299.8 Other specified pervasive developmental disorders**
  - Asperger's disorder
  - Atypical childhood psychosis
  - Borderline psychosis of childhood
- **299.9 Unspecified pervasive developmental disorder**
  - Child psychosis NOS
  - Pervasive developmental disorder NOS
  - Schizophrenia, childhood type NOS
  - Schizophrenic syndrome of childhood NOS

Autism Spectrum Disorders

- Verbal & Non-verbal communication
- Social interaction
- Repetitive behavior or interests

Possible Indicators*

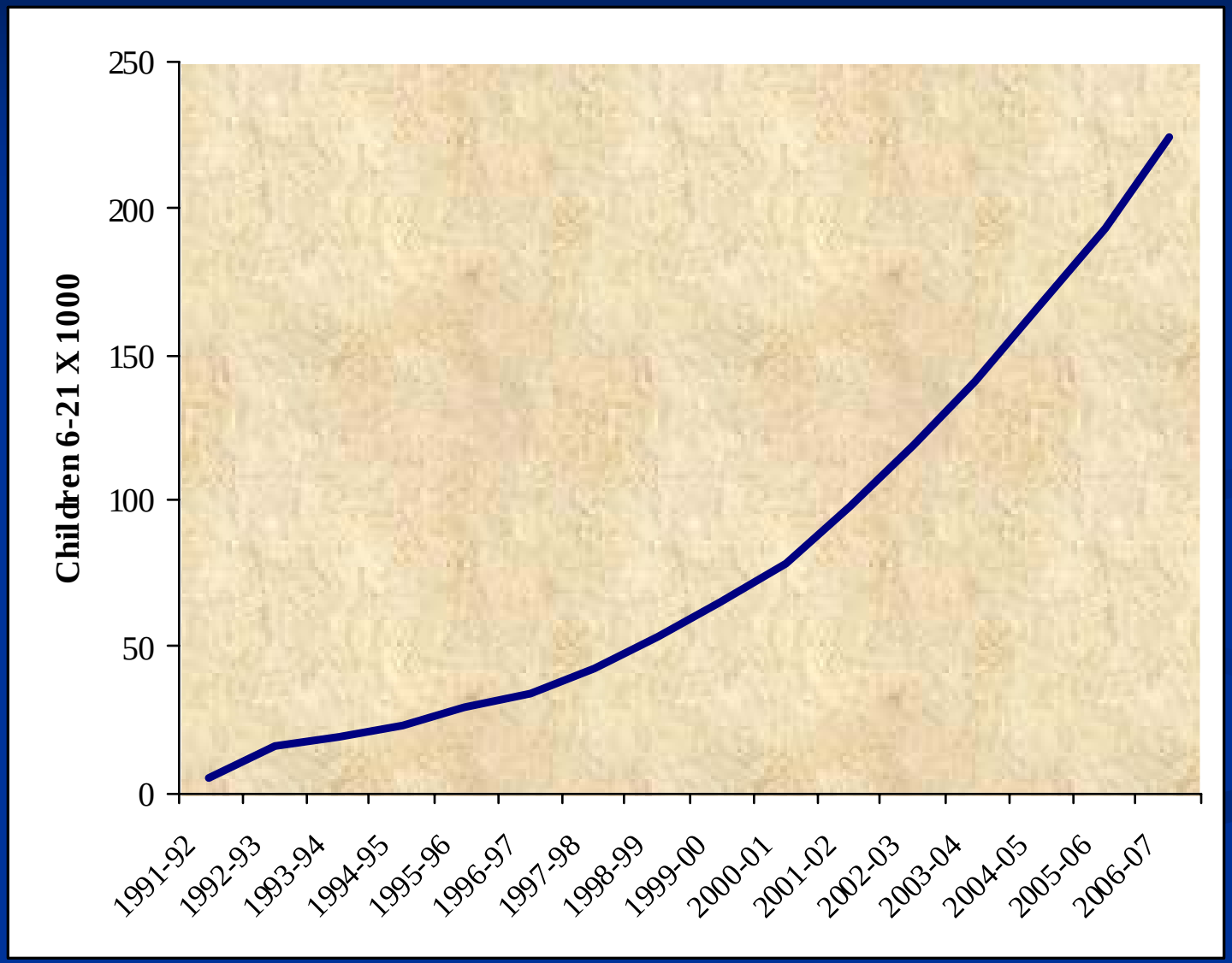
- *By 12 months:* does not babble or make meaningful gestures
- *By 16 months:* Does not speak 1 word
- *By 2 years:* Does not combine 2 words, respond to name, smile, seem to know how to play with toys
- *Other indicators:* Looses language or social skills, Poor eye contact; Excessively lines up toys/objects; Seems attached to 1 particular object; And at times seems hearing impaired.

***Identified by the Public Health Training Network Webcast "Autism Among Us".**
http://www.publichealthgrandrounds.unc.edu/autism/index.htm

Increasing Prevalence Over Time

- Fombonne (1999, 2005)
  - 1960s: 0.2 per 1000
  - 1990s: 3 per 1000
  - 2000s: 6 per 1000
- Mandell et al. (2006)
  - 1994: 1.1 per 1,000
  - 1999: 2.8 per 1,000
- CDC Study (Rice, 2007)
  - 2002: 6.6 (age 8)

Autism/ASD increase over the last 15 years in U.S. schools Age 6-21 (source: U.S. Department of Education)



Why the Increase?

- True Autism Epidemic?
  - Environmental causes?
  - Vaccine exposure?
  - Genetics?
- Increased Awareness & Detection?
- Effect of the broadened scope of definition in 1987?

Study Objective

To investigate whether the prevalence of ASDs in the Medicaid population is also increasing over time and whether the findings vary by age, race and sex categories.

The Importance of Tracking Prevalence over Time

- Allows proper planning by public health and education systems
- Allows down-stream planning for adults with disabilities (public health, assisted living, employment…)
- Encourages scientists to work on determining preventive strategies and effective treatments

The Importance of Tracking Prevalence over Time (Cont.)

- Helps increase awareness and early intervention
  - According to NIMH, it is estimated that only 50% of all ASD cases are diagnosed before kindergarten.
- Helps reduce stigma and foster greater understanding

This Study:
Medicaid Analytic eXtract (MAX) Files

- All states + DC
- Calendar Year (1999 - 2003 currently available)
- 5 Files Per State Per Year:
  - Person Summary (Eligibility)
  - Prescription Drug (RX)
  - Inpatient
  - Long Term Care
  - Other (including outpatient)

Medicaid Analytic eXtract (MAX) Files

- **Strengths:** MAX has:
  - *All* Medicaid fee-for-service (FFS) claims information for all individuals with 1+ Medicaid claim in a given year
- **Weaknesses:** MAX does not have:
  - *Complete* service information on Medicaid enrollees enrolled in Medicaid managed care or pre-paid plans
  - *Any* claims information that is non-Medicaid (private health insurance, VA, other state/federal programs, etc.)
- Therefore, MAX provides a *complete* picture of Medicaid FFS service utilization, but it can be an *incomplete* picture of total service utilization.

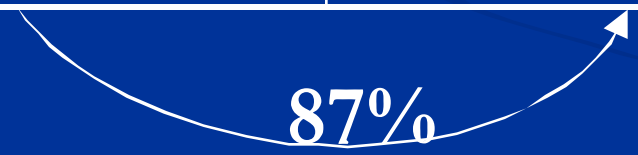
This Study

- Period Prevalence estimates of ASDs *in the Medicaid population* were compared over a 5-Year Time Frame (1999 → 2003)

- All persons with 2+ claims of 299.xx from any of the files with diagnostic information (IP, LT, OT)

Overall Change over 5 Years

	CY 1999	CY 2003
TOTAL	**49,835**	**88,992**



5 Year Change in Proportions, By Sex

	1999		2003	
	Number with ASD	Proportion	Number with ASD	Proportion
FEMALE	**12,304**	**25%**	**19,893**	**22%**
MALE	**37,365**	**75%**	**68,709**	**78%**

5 Year Change in Proportions, By Race

	1999		2003	
	Number with ASD	Proportion	Number with ASD	Proportion
White or Caucasian	**25,367**	**51%**	**46,182**	**52%**
Black or African American	**11,346**	**23%**	**18,148**	**20%**
Hispanic or Latino	**1531**	**3%**	**3519**	**4%**
Asian, Native American or Pacific Islander	**2487**	**5%**	**5520**	**6%**
Multiracial, unknown or missing race	**9104**	**18%**	**15,623**	**18%**

5 Year Change in Proportions, By Age

	1999		2003	
	Number with ASD	Proportion	Number with ASD	Proportion
0-4	**3726**	**8%**	**7662**	**9%**
5-9	**14,303**	**30%**	**24,470**	**28%**
10-14	**11,929**	**25%**	**23,019**	**27%**
15-20	**7897**	**16%**	**14,033**	**16%**
21-25	**3217**	**7%**	**6086**	**7%**
26+	**7310**	**15%**	**11,058**	**13%**

5 Year Change in Prevalence, within Medicaid

	1999		2003	
	Number with ASD	Prevalence per 1,000 Medicaid Enrollees	Number with ASD	Prevalence per 1,000 Medicaid Enrollees
TOTAL	**49,835**	**1.17**	**88,992**	**1.60**

5 Year Change in Prevalence, By Sex

	1999		2003	
	Number with ASD	Prevalence per 1,000 Medicaid Enrollees	Number with ASD	Prevalence per 1,000 Medicaid Enrollees
FEMALE	**12,304**	**0.48**	**19,893**	**0.6**
MALE	**37,365**	**2.2**	**68,709**	**3.05**

5 Year Change in Prevalence, By Race

	1999		2003	
	Number with ASD	Prevalence per 1,000 Medicaid Enrollees	Number with ASD	Prevalence per 1,000 Medicaid Enrollees
White or Caucasian	**25,367**	**1.35**	**46,182**	**1.90**
Black or African American	**11,346**	**1.03**	**18,148**	**1.40**
Hispanic or Latino	**1531**	**0.19**	**3519**	**4.31**
Asian, Native American or Pacific Islander	**2487**	**1.14**	**5520**	**3.83**
Multiracial, unknown or missing race	**9104**	**3.09**	**15,623**	**1.30**

5 Year Change in Prevalence, By Age

	1999		2003	
	Number with ASD	Prevalence per 1,000 Medicaid Enrollees	Number with ASD	Prevalence per 1,000 Medicaid Enrollees
0-4	**3726**	**0.48**	**7662**	**0.49**
5-9	**14,303**	**2.30**	**24,470**	**3.64**
10-14	**11,929**	**2.48**	**23,019**	**3.94**
15-20	**7897**	**1.69**	**14,033**	**2.69**
21-25	**3217**	**1.18**	**6086**	**1.80**
26+	**7310**	**0.45**	**11,058**	**0.58**

Conclusions

- Increasing rates of ASDs may have serious and long-term cost implications for Medicaid, currently the #1 payer for those with ASDs.
- Lower income (Medicaid) families may be at particularly high risk of poorer prognosis (& higher long-term costs) because they may lack awareness and community resources necessary for early detection and intervention.
- Next steps: examine ASD cost of care in Medicaid