



# CDC Activities with Autism Spectrum Disorders

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and Developmental Disabilities

*The findings and conclusions in this presentation have not been formally disseminated by the Centers for Disease Control and Prevention.  
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# **The National Center on Birth Defects and Developmental Disabilities**



Promoting the health of babies, children, and adults,  
and enhancing the potential for full, productive living



**Identifying the causes of birth defects  
and developmental disabilities**

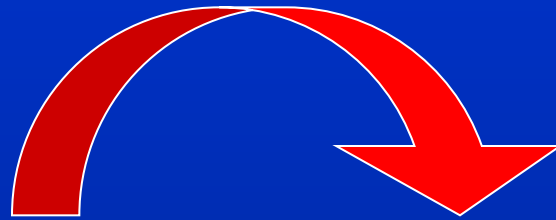
**Helping children to develop and reach  
their full potential**

**Promoting health and well-being among people  
of all ages with disabilities**



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# Public Health Model

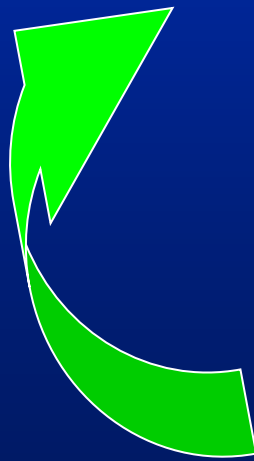


**Surveillance**

**Research**

**Who is affected?**

**Who is at risk?**



**Prevention/  
Health Promotion**  
**What can we do?**



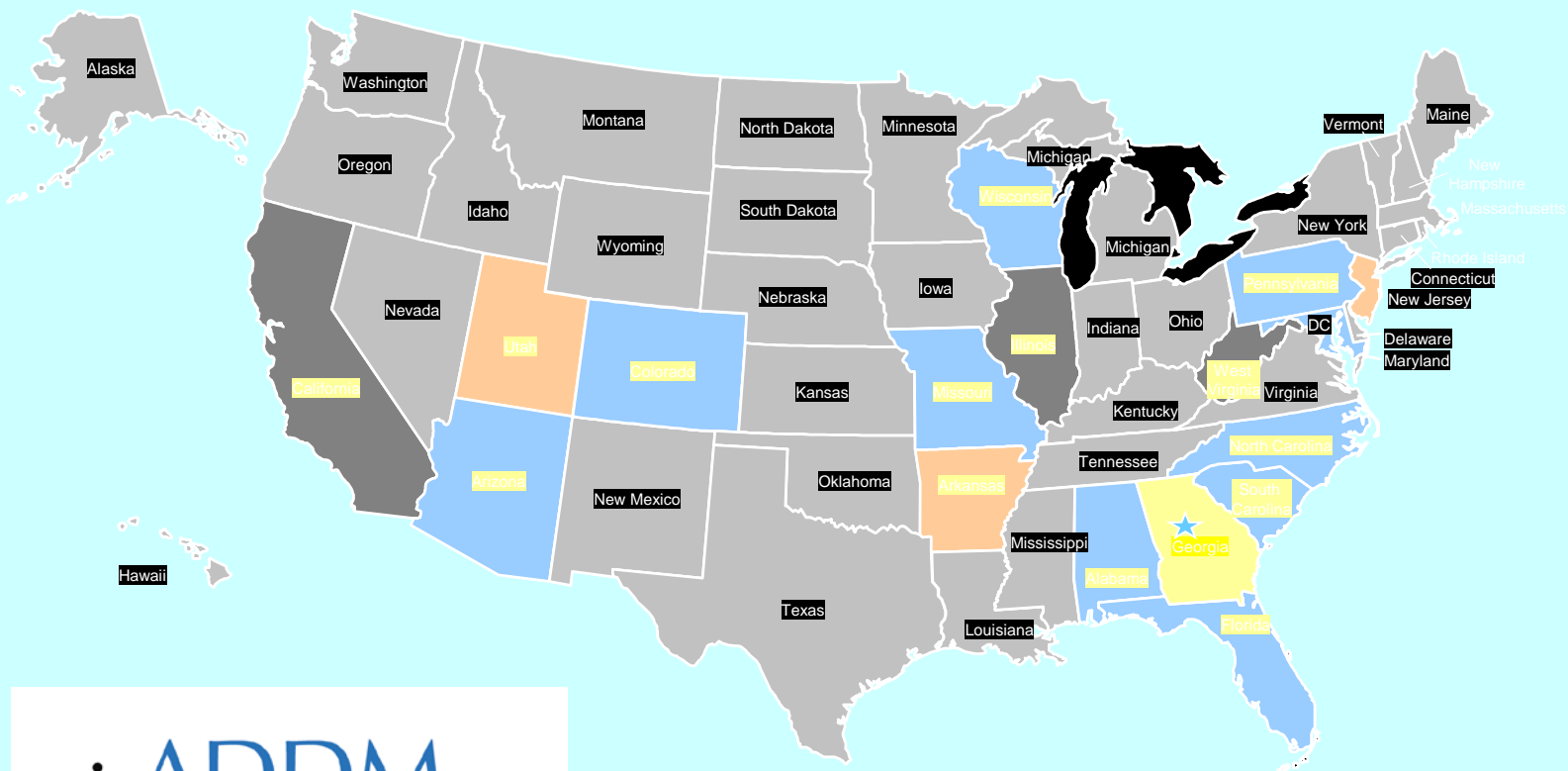
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# CDC Programs Specific to ASDs

- Surveillance/Monitoring
  - How many children are affected – helping plan for services and policies
- Epidemiologic Research
  - Examine risk/protective factors
- Prevention
  - Improving early identification



# Autism and Developmental Disabilities Monitoring (ADDM) Network



- CDC**
- ADDM Phase 1 (2000-2006): 16 Sites (15+CDC)**
- ADDM Phase 2 (2006-2010): 11 Sites (10+CDC)**
- ADDM Phase 1 re-instated (2009-2010): 3 Sites**

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# Surveillance Year 2002 (8-year-olds born in 1994)

- Sites represented approximately 10% of US 8-year-old children - 2,685 children were identified with an ASD.
- The average prevalence across all sites was very similar to 2000 at 6.6 per 1,000.
- There was also a range 3.3 (AL) to 10.6 (NJ) per 1,000 children

Between 1:100 and 1:300 with an average of 1:150 children with ASD.



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# Epidemiology and Research

- What are the risk and protective factors?



# Study to Explore Early Development (SEED)

Multi-state collaborative study to help identify factors that may put children at risk for autism spectrum disorders and other developmental disabilities.

California, Colorado, Georgia, Maryland, North Carolina, Pennsylvania

Approximately 2,700 children, ages 2 to 5, and their parents will be part of this study.



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# SEED: Research Areas Included

- Infection and immune function, including autoimmunity
- Reproductive and hormonal features
- Gastrointestinal features
- Genetic features
- Investigation of the broader ASD phenotype
- Sociodemographic characteristics
- Substance use, hospitalizations and injuries, sleep disorders, and mercury exposure



# Parent Education Campaign

Developmental milestones and early warning signs of delay

Learn the Signs.  
Act Early.



Every child should meet their full potential.



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# Communication Objectives

- Raise *awareness* of developmental milestones and early warning signs of developmental delay.
- Increase *knowledge* about the benefits of early action and early intervention.
- Increase parent-provider *dialogue* on the topic of developmental milestones and disorders.
- Increase *early action* for developmental disorders.



# Learn the Signs

Learn the Signs. Act Early. NCBDDBD - Microsoft Internet Explorer provided by Porter Novelli

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Address http://www.cdc.gov/ncbddd/actearly/

CDC Home Search Health Topics A-Z

NATIONAL CENTER ON BIRTH DEFECTS AND DEVELOPMENTAL DISABILITIES

## Learn the Signs. Act Early.

NCBDDBD Home Act Early Home For More Information by Phone: 1-800-CDC-INFO

Act Early en español

Topics in the News

Vision Research Month

Developmental Milestones

3 Months  
6 Months  
1 Year  
2 Years  
3 Years  
4 Years  
5 Years

Interactive Tools for Parents

Learn More About Child Development

Fact Sheets

Developmental Screening

Autism Spectrum Disorders

Cerebral Palsy

Vision Loss

Done

It's time to change how we view a child's growth. Do you know all the ways you should measure your child's growth? We naturally think of height and weight, but from birth to 5 years, your child should reach milestones in how he plays, learns, speaks and acts. A delay in any of these areas could be a sign of a developmental problem, even autism. The good news is, the earlier it's recognized the more you can do to help your child reach her full potential.

Download free materials for parents, health care professionals, and partners.

This chart will help you look for important developmental milestones. Just move your mouse over your child's age.

<p><b>3 Months</b></p> <ul style="list-style-type: none"> <li> Begins to develop a social smile.</li> <li> Raises head and chest when lying on stomach.</li> <li> Watches faces intently.</li> <li> Smiles at the sound of your voice.</li> </ul>	<p><b>4 years</b></p> <ul style="list-style-type: none"> <li> Plays with other children.</li> <li> Understands simple instructions.</li> <li> Talks about things that interest him.</li> <li> Understands simple questions.</li> <li> Understands simple instructions.</li> </ul>
<p><b>5 years</b></p> <ul style="list-style-type: none"> <li> Understands simple instructions.</li> <li> Talks about things that interest him.</li> <li> Understands simple questions.</li> <li> Understands simple instructions.</li> </ul>	<p><b>3 months</b></p> <ul style="list-style-type: none"> <li> Begins to develop a social smile.</li> <li> Raises head and chest when lying on stomach.</li> <li> Watches faces intently.</li> <li> Smiles at the sound of your voice.</li> </ul>

Health care professional? [Click here for more information.](#)

Es hora de ver el crecimiento de los niños de una manera diferente.

Es normal que mida la estatura y el peso de su hijo, pero también debe medir otros tipos de crecimiento. Hable con su doctor o enfermera acerca de todos los aspectos del desarrollo su hijo.

1-800-CDC-INFO www.cdc.gov/pronto

Aprenda los signos. Reacciones pronto.

4 años  
Juega imaginándose que es mamá o papá.  
colabora con otros niños.

3 años  
imita a adultos y compañeros de juego.  
dice oraciones de 4 a 5 palabras.

2 años  
señala un objeto o imagen si se le nombra.  
interesa más en otros niños.  
imita cosas sencillas que hacen los grandes (bailar en un televisor de juguete).  
señala objetos que le interesan.

Some are not so obvious. Algunas no son tan obvias.

It's time to change how we view a child's growth.

As they grow, children are always learning new things. These are just some of the things you should be looking for in your child's growth. Because every child develops at his or her own pace, your child may reach these milestones slightly before or after other children the same age. Use this as a guide, not if you have any concerns, talk with your child's doctor or nurse.

By the end of 17 months, many children are able to:

- use hand when name is called
- walk back of another person
- respond to sound with sounds
- enjoy social play (such as peek-a-boo)

By the end of 1 year (12 months), many children are able to:

- use simple gestures (such as "bye-bye")
- make sounds such as "m" and "d"
- make noises in their play (such as you drop)
- respond when told "no"

By the end of 15 months (18 months), many children are able to:

- do simple pretend play ("talk" on a toy phone)
- point to interesting objects
- look at object when you point at it and tell them to "look"
- use several single words (unrelated)

By the end of 2 years (24 months), many children are able to:

- show affection for playmates
- use 4 to 5 word sentences
- make skills and playmates (as when children eat)
- play independently with dolls, animals, and people ("feed" a teddy bear)

By the end of 3 years (36 months), many children are able to:

- use 5 to 6 word sentences
- follow 2 step commands ("Get dressed. Comb your hair and wash your face.")
- cooperate with other children

By the end of 4 years (48 months), many children are able to:

- what you do to keep track of my child's development?
- what should I do if I'm worried about my child's progress?
- Where can I go to get more information?
- Can you refer me to a specialist for more information?

www.cdc.gov/actearly | 1-800-CDC-INFO

Learn the Signs. Act Early.

It's time to change how we view a child's growth.

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4 feet

5 years

4 years

3 years

2 years

18 months

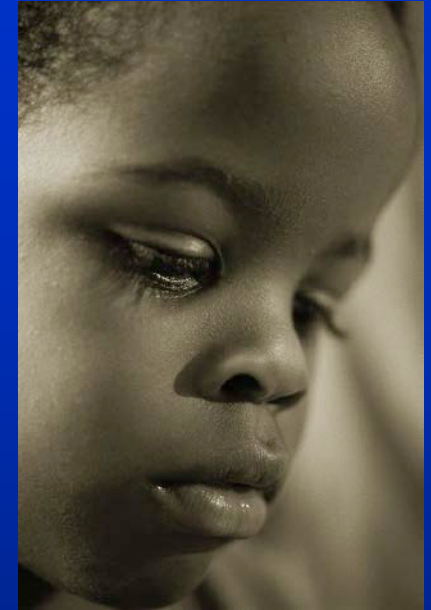
2 feet

1 foot

1-800-CDC-INFO www.cdc.gov/actearly

Learn the Signs. Act Early.





# Thank You!

[www.cdc.gov/ncbddd](http://www.cdc.gov/ncbddd)  
sme1@cdc.gov

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