

Children's Health and Environment Fact Sheet



Developmental Disabilities

NATIONAL CONFERENCE of STATE LEGISLATURES

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Summary

Developmental disabilities, the name given to a broad group of conditions caused by learning or physical impairments, affect around 17 percent of U.S. children under age 18.¹ Mental retardation, autism, cerebral palsy and attention deficit hyperactivity disorder (ADHD) are included in this group of disorders. The rates for some of these conditions, such as autism and ADHD, have been climbing. Although the cause of many developmental disabilities is unknown, a combination of genetic and environmental factors is thought to play a major role. The majority of the social and economic costs that these conditions create falls on the states, which are faced with a growing number of children who require special education and care.

The number of children who qualify for special education has grown nearly 40 percent in the past 10 years, making it the fastest growing expenditure for schools. Of the \$50 billion that is spent annually on special education, states contribute more than 80 percent.²

Key Issues

Research has found that some widespread contaminants, such as lead and mercury, can damage a child's developing brain and nervous system. State governments have been working to reduce childhood lead exposure for years, and many are beginning to address the mercury problem. The role that the environment plays in developmental disorders is still unknown in many cases, although one-quarter to one-half of all developmental disabilities are thought to result from interactions between genes and the environment.³

Attention deficit hyperactivity disorder (ADHD)

Rates for ADHD, a disorder characterized by inattention, impulsiveness and hyperactive behavior, have risen during the past few decades—nearly 7 percent of children ages 5 to 17 have been diagnosed with the disease. Although some of the increase is probably attributable to disease awareness and diagnosis, some portion of the in-

crease may be due to environmental factors.

Autism

Autism is a brain disorder that causes children to have difficulty communicating and socializing. Rates are climbing throughout the United States and in many other countries, including Australia, Japan and the United Kingdom.⁴ In California, the state Department of Developmental Services reports that autism cases have soared—doubling between 1987 and 1998 and doubling again in the four-year period between 1999 and 2003.⁵ According to the Autism Society of America, the annual cost for autism treatment is approximately \$90 billion, a number that is expected to increase significantly during the coming decade.

Birth defects

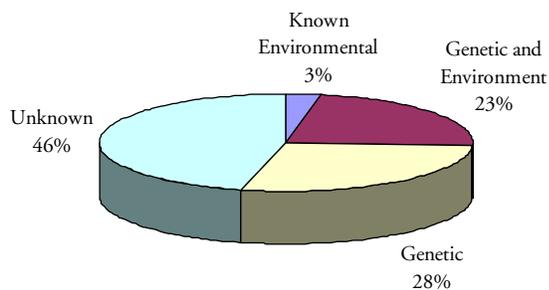
One of every 28 babies born in the United States has a birth defect, the primary killer of children under age 1.⁶ Although scientists know that some birth

defects are genetic and some are environmental—exposure to medications or alcohol during pregnancy is a known risk factor—the cause of 70 percent of birth defects remains unknown.⁷

A Legislator's View

In California, an increasing caseload of children who need special assistance has caught the eye of state policymakers. California Senator Deborah Ortiz says that the increase in developmental disabilities is particularly serious “given the challenged capacity of the infrastructure that serves the developmentally disabled.” To help identify and prevent potential causes of these conditions, Ortiz has focused on biomonitoring. “This effort continues, and I am hopeful that we will be able to create a California-customized data resource on toxics in humans, one that will complement other scientific research, such as investigations currently sponsored by the CDC.”

Figure 1. Causes of Developmental Disabilities



Source: National Academy of Sciences, National Academy Press, 2000.

The Role of Environment

Public health researchers have long been aware that childhood exposure to lead or mercury can have permanent, adverse effects on intelligence and that high levels of mercury can cause mental retardation.⁸ Research suggests that other common environmental chemicals—PCBs and possibly some pesticides—may cause developmental disabilities as well.¹⁰

Childhood exposures to environmental factors also may contribute to neurological disorders that occur later in life, such as Parkinson's and Alzheimer's disease. Scientists postulate that the result of these exposures may not appear until later in life, when the damage hinders the brain's ability to cope with the aging process.¹¹

State Concerns

A rise in the number of children designated with ADHD, autism and learning disabilities has placed increasing pressure on state resources.

Concern about developmental disabilities has been especially strong in California, due to a documented increase in autism cases. The California Department of Developmental Services (DDS) reports that autism is the fastest growing caseload; it has quickly outpaced the growth of the general population—in 20 years autism went from 3 percent of the caseload to more than 30 percent. DDS estimates an additional \$2 million in lifetime care costs for each additional case.

State Action

States have passed nearly 200 bills in the last five years to prevent children from being exposed to chemicals—such as mercury, lead and some pesticides—that cause or are suspected of causing developmental disabilities. These bills range from eliminating

mercury in consumer products to reducing pesticide use in schools and daycare facilities.

In May 2004, Senator Deborah Ortiz introduced Senate Bill 1168, the Healthy Californians Biomonitoring Project. The legislation, which passed the Senate but not the House, would have created a pilot program to monitor breast milk for environmental contaminants. It also creates pilot projects that monitor blood and urine for environmental exposures. Researchers would use the data to help determine whether certain contaminants influence disease.

Legislation to reduce children's exposure to chemicals that may disrupt

development includes Michigan H.B. 5154, enacted in March 2004, which requires that schools to adopt an integrated pest management program (an approach that focuses on non pesticide pest prevention) before pesticides can be used on the property. Rhode Island H.B. 5113, enacted in 2001, requires schools and daycare centers to notify parents before pesticides are used on school grounds.

Both the California and Washington legislatures are involved with phasing out brominated flame retardants, which may interfere with childhood development, according to some studies. While other states are considering the elimination of these flame retardants, EPA is working with chemical manufacturers to phase them out voluntarily.

On the Horizon

One area that is likely to assume importance in the future is environmental public health tracking. More states are likely to develop the practice of monitoring the population for exposure to chemicals and to improve the tracking of developmental disabilities. Tracking and exposure information will help researchers to better understand the causes of developmental disabilities.

Resources

For more information about developmental disabilities and other environmental health issues, visit NCSL online. Resources include a new video and book on children's health and the environment and many other publications. Visit www.ncsl.org/programs/esnr/toxics.htm or call (303) 364-7700, ext. 1341.

Notes

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