Promoting the health of babies, children, and adults throughout the lifespan.

# Fiscal Year 2013 Annual Report National Center on Birth Defects and Developmental Disabilities

National Center on Birth Defects and Developmental Disabilities Office of the Director



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Welcome to the National Center on Birth Defects and Developmental Disabilities (NCBDDD) fiscal year 2013 annual report. 2013 was a very productive year for NCBDDD and we have many exciting accomplishments to share.

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### Message from the Director

It is my pleasure to present the 5<sup>th</sup> annual report for the National Center on Birth Defects and Developmental Disabilities (NCBDDD) at the Centers for Disease Control and Prevention (CDC). The 2013 Annual Report provides a snapshot of our activities and major accomplishments. I am excited to highlight some of the achievements that moved us closer to the Center's goal to promote the health of babies, children and adults, and enhance the potential for full, productive living.

We have many achievements to report on our path to save babies through birth defects research and prevention. One such achievement was discovering



that nearly all of the medications most commonly used by pregnant women lack sufficient evidence to determine fetal safety or risk. To address this issue, we expanded our support of Treating for Two, an initiative on safer use of medications in pregnancy.

We continued to make advances in our endeavor to better <u>understand autism to help</u> <u>children live to the fullest</u>. For example, NCBDDD reported on the research methods of the Study to Explore Early Development (SEED), the largest epidemiologic study of autism. This is a first step in releasing results of this important study, which will help us learn more about factors that may put children at risk for autism spectrum disorder and other developmental disabilities.

In addition, an important milestone this year was publishing the first ever comprehensive <u>report on children's mental health</u> in the United States. The report, released in collaboration with Mrs. Rosalyn Carter and the Carter Center, describes federal efforts on monitoring mental disorders and presents estimates of the number of children with these conditions. We hope to build on these efforts in the coming years.

One of our successes this past year in the effort to protect people and prevent complications of hemophilia was working with partners to launch a surveillance program

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that will capture, among other data, information on inhibitors, a significant and costly complication of treatment for hemophilia. The surveillance will result in the first estimates of the incidence and prevalence of inhibitors among people with hemophilia in the United States.

All of us, including people with disabilities, need health programs and services to live the healthiest life possible. NCBDDD strives to <u>improve the health of people with</u> <u>disabilities</u> and we made great progress in 2013. For example, we increased public health capacity in 18 states using the Disability and Health Network to plan, prepare and include people with disabilities in health-protecting programs and services.

As I reflect on our many accomplishments, I also want to take this opportunity to acknowledge one person who we lost this year, Dr. Tom Bartenfeld, Associate Director for Public Health Practice. Tom was beloved by his peers because of his remarkable wit and strategic thinking. His presence and contribution to complex public health problems will be sorely missed.

I am grateful to, and inspired by, the commitment of the people who work at NCBDDD and our partners and champions across the country with whom we work every day. Although our work ahead will be challenging, I know together we will continue to make a difference in the lives of the millions of Americans we serve.

Sincerely,

Chen Bayle

Coleen A. Boyle, PhD, MS(Hyg) Director of the National Center on Birth Defects and Developmental Disabilities (NCBDDD)





## Saving Babies through Birth Defects Research and Prevention

Birth defects are common, costly, and critical conditions that are a leading cause of death in the first year of life. CDC's National Center on Birth Defects and Developmental Disabilities (NCBDDD) works to identify causes of birth defects, find opportunities to prevent them, and improve the health of those living with birth defects. Together with states, academic centers, healthcare providers, global organizations, and other partners, we strive

#### Video: The Story of Folic Acid Fortification



<u>This video</u> documents the compelling story of folic acid fortification.

for a day when all babies are born with the best health possible and every child thrives.

#### Budget

Learn more about budget Learn more about state funding

#### Accomplishments

 Addressed safer medication use during pregnancy to help prevent birth defects through partnerships and research. NCBDDD expanded support for and collaboration on its <u>Treating for Two initiative</u> by convening key stakeholders on strategies for safer medication use in pregnancy. NCBDDD's research 1) identified the medicines most commonly used by women during the first trimester of pregnancy, 2) found that there is limited information on the safety or risks of medicines listed as safe on many Web sites

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used by women, and 3) confirmed a previous finding that women who used opioids in early pregnancy had an increased risk of having a baby with spina bifida.

- Advanced strategies to increase folic acid (a B vitamin) intake among women of reproductive age to prevent neural tube defects (serious birth defects of the brain and spine) in low- and middleresource countries through NCBDDD's Birth Defects COUNT. Specifically, NCBDDD collaborated with the World Health Organization (WHO) to develop tools and strategies for birth defects tracking and prevention in South-East Asia. NCBDDD also provided analytical support to WHO and other partners to help determine the level of folate that should be in a woman's blood, which is associated with the lowest risk for neural tube defects. This information will help guide countries in setting national prevention goals for neural tube defects.
- Worked to prevent alcohol use during pregnancy and reduce <u>fetal alcohol spectrum disorders</u> (FASDs) by characterizing the problem, implementing and disseminating evidence-based interventions, and strengthening partnerships to advance practice change. NCBDDD contributed to a <u>CDC Vital Signs report</u> which highlighted binge drinking as a serious, under-recognized problem among adolescent and adult women, and found 1 in 8 women aged 18 years and older binge drink.



In the U.S. each year, the total costs for hospital care of children with birth defects exceed



Universal screening for critical congenital heart defects in all states can

#### REDUCE THE RISK OF DEATH AND DISABILITY



for about 1200 babies each year

NCBDDD supported 3 of its <u>Regional Training Centers</u> to integrate alcohol screening and brief intervention into clinical practice. NCBDDD supported the American Academy of Pediatrics (AAP) in the production of an <u>FASD Toolkit for providers</u>.





Leveraged NCBDDD's birth defects tracking expertise to better understand <u>congenital</u>
<u>heart defects</u> (CHD) and newborn screening for critical congenital heart defects

(CCHD). NCBDDD launched an innovative new program to monitor CHD among adolescents and adults in 3 sites to understand health issues and needs across the lifespan. NCBDDD also demonstrated that newborn screening for CCHD appears to be a lifesaving and cost-effective way to find some babies with these conditions early so that they can get care and treatment to live and thrive.

 Released important findings about birth defects that will help prioritize future research, improve health outcomes, and plan for services for families affected by birth defects: <u>gastroschisis</u> prevalence doubled from 1995-2005; trisomy conditions, including <u>Down syndrome</u>, increased from

#### Did You Know?

- In the U.S., a baby is born with a birth defect every 4.5 minutes.<sup>1</sup>
- In the U.S., birth defects account for more than 1 of every 5 infant deaths each year.<sup>2</sup>
- Worldwide, more than 300,000 babies are born with birth defects of the brain and spine (neural tube defects) each year.<sup>3</sup>
- Birth defects affect us all. See the impact of these common, costly, critical conditions in NCBDDD's <u>infographic</u>.

2005-2010 and survival among people with Down syndrome has improved over time; 18% of babies with <u>spina bifida</u> had more than 3 hospital stays initiated in their first year of life; and if women who were obese attained a healthy weight before pregnancy, nearly 3,000 <u>congenital heart defects</u> could be prevented each year in the U.S.

#### Looking to the Future

Our ongoing state-based birth defects tracking system and public health research continue to identify and frame important opportunities to prevent birth defects and help children thrive and improve timely referral to services. By building on these core activities, we're developing more effective public health strategies to address safer medication use during pregnancy, increase folic acid intake among women of reproductive age, and prevent alcohol use during pregnancy. And by linking surveillance data with other existing





data systems, we're learning more about longer-term health outcomes and costs of medical care for individuals born with birth defects.

#### Notable 2013 Scientific Publications

CDC. <u>Vital Signs: Binge drinking among women and high school girls – United States, 2011</u>. MMWR Morbidity and Mortality Weekly Report. 2013 Jan;62(1):9-13.

CDC. <u>Notes from the Field: Investigation of a cluster of neural tube defects — central</u> <u>Washington, 2010–2013</u>. MMWR Morbidity and Mortality Weekly Report. 2013 Sept; 62(35);728-728.

Crider KS, et al. <u>Prenatal folic acid and risk of asthma in children: a systematic review and</u> <u>meta-analysis.</u> American Journal of Clinical Nutrition. 2013 Nov;98(5):1272-1281.

Elek E, et al. <u>Women's knowledge, views and experiences regarding alcohol use and</u> <u>pregnancy: Opportunities to improve health messages</u>. American Journal of Health Education. 2013 June;44(4):177-190.

Hamner HC, et al. <u>Modeling fortification of corn masa flour with folic acid: The potential</u> <u>impact on exceeding the tolerable upper intake level for folic acid, NHANES 2001-2008</u>. Food Nutrition Research. 2013; Epub 2013 Jan 9.

Honein MA, et al. <u>Modeling the potential public health impact of prepregnancy obesity on</u> <u>adverse fetal and infant outcomes</u>. <u>Obesity</u>. 2013 June; 21(6):1276-1283.

Kucik JE, et al. <u>Trends in survival among children with Down syndrome in 10 regions of the</u> <u>United States</u>. Pediatrics. 2013 Jan;131(1):e27-e36.

Peterson C, et al. <u>Cost-effectiveness of routine screening for critical congenital heart</u> <u>disease in US newborns.</u> <u>Pediatrics.</u> 2013 Sept;132(2):e595-e603.

Skogerbø Å, et al. <u>The effects of low to moderate alcohol consumption and binge drinking</u> <u>in early pregnancy on behaviour in 5-year-old children: a prospective cohort study on</u> <u>1628 children.</u> BJOG: An International Journal of Obstetrics & Gynaecology 2013 Aug;120(9):1042-1050.





Thorpe, PG, et al. <u>Medications in the first trimester of pregnancy: most common exposures</u> <u>and critical gaps in understanding fetal risk.</u> Pharmacoepidemiology and Drug Safety. 2013 Sept; 22(9): 1013-1018.

Yazdy MM, et al. <u>Periconceptional use of opioids and the risk of neural tube defects</u>. Obstetrics & Gynecology. 2013 Oct;122(4):838–844.

#### References

- 1. Centers for Disease Control and Prevention. Update on Overall Prevalence of Major Birth Defects--Atlanta, Georgia, 1978-2005. MMWR Morb Mortal Wkly Rep. 2008;57(1):1-5.
- 2. Mathews TJ, et al. Infant mortality statistics from the 2008 period linked birth/infant death data set. National vital statistics reports; vol 60 no 5. Hyattsville, MD: National Center for Health Statistics. 2012.
- 3. Christianson A, Modell, Bernadette, Howson, Christopher. March of Dimes Global Report on Birth Defects: The Hidden Toll of Dying and Disabled Children. White Plains: March of Dimes, 2006.





# Understanding Autism to Help Children Live to the Fullest

Autism spectrum disorder and other developmental disabilities are some of the most significant child health issues facing families and our nation today. CDC's National Center on Birth Defects and Developmental Disabilities (NCBDDD) has accelerated the search for causes and ways to address the needs of families and communities. Better tracking, research, and improved early identification are leading us to a better understanding of autism spectrum disorder and better results for children.

#### Video: Baby Steps



Watch this video in <u>English</u> or <u>Spanish</u> to learn about developmental milestones and what to do if you're worried about your child's development.

#### Budget

Learn more about budget Learn more about state funding

#### Accomplishments

- Worked with the Health Resources and Services Administration to release <u>data from a</u> <u>survey of parents</u> estimating that in 2011-2012, approximately 1 in 50 school-aged children had autism spectrum disorder. These data help us understand what families are experiencing and are further evidence that the estimated number of school-aged children with autism has increased.
- Released data and a <u>Community Report</u> from the <u>Autism and Developmental Disabilities</u> <u>Monitoring (ADDM)</u> Cerebral Palsy Network. NCBDDD's report showed that the prevalence of autism spectrum disorder among children with <u>cerebral palsy</u> was higher

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than among their peers without cerebral palsy—about 7% vs. 1%. These data also showed that cerebral palsy remains the most common motor disability in childhood,

estimating that 1 in 323 children has cerebral palsy. Information about the co-occurrence of autism spectrum disorder and other conditions like cerebral palsy can help direct research into shared risk factors and causes.

- Reported on the methods of the <u>Study to Explore Early</u> <u>Development</u> (SEED): a first step in releasing results of this important study which will help us learn more about factors that may put children at risk for autism spectrum disorder and other developmental disabilities.
- Supported the Autism Society and the Arc of the United States to work with diverse communities across the country to conduct a series of community engagement activities focused on the reduction of disparities in autism spectrum disorder identification and services.
- Promoted integration of <u>"Learn the Signs. Act Early."</u> messages and materials into national-level programs such as Early Head Start, Women, Infants, and Children (WIC), and YMCA. A pilot project in St. Louis, Missouri WIC clinics successfully incorporated developmental monitoring using "Learn the Signs. Act Early." materials into daily operations; a larger demonstration project built on this model is currently being replicated in four counties in Missouri. NCBDDD also updated and launched new <u>"Learn the Signs. Act Early."</u> developmental milestone checklists for parents.



HELPING CHILDREN LIVE TO THE FULLEST BY UNDERSTANDING AUTISM

IN 68 HAS AUTISM SPECTRUM DISORDER

Medical costs for children with autism are estimated to be

SIX TIMES HIGHER than for children without autism

Early, intensive behavioral intervention can result in positive outcomes for children with developmental disabilities and might save more than

\$650,000 per child with autism over their lifetime

#### Looking to the Future

Autism spectrum disorder and other developmental disabilities are important public health concerns, and NCBDDD's Division of Birth Defects and Developmental Disabilities

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works to understand these conditions to help children live to the fullest. In 2014, NCBDDD will release new data from the ADDM Network on the number and characteristics of children with autism spectrum disorder to inform service needs and document progress towards early identification goals. Through SEED, we will learn more about factors that may put children at risk for autism spectrum disorder and other developmental disabilities. Through "Learn the Signs. Act Early." we will continue to promote developmental monitoring, screening, and follow-up to improve early identification of children with autism and other developmental

#### Did You Know?

- About 1 in 6 children aged 3 through 17 years have 1 or more developmental disabilities.<sup>1</sup>
- In addition to medical costs, intensive behavioral interventions for children with autism spectrum disorder cost \$40,000 to \$60,000 per child per year.<sup>3</sup>

disabilities so children and families can get the services and support they need.

#### Notable 2013 Scientific Publications

Anderson C, et al. <u>Occurrence and family impact of elopement in children with autism</u> <u>spectrum disorders</u>. Pediatrics. 2012 Nov;130(5):870-877.

Atladóttir HÓ, et al. <u>Autism after infection, febrile episodes, and antibiotic use during</u> pregnancy: an exploratory study. Pediatrics. 2012 Dec;130(6):e1447-e1454.

Berry RJ, et al. <u>Periconceptional folic acid and risk of autism spectrum disorders</u>. Journal of the American Medical Association. 2013 Feb;309(6):611-613.

Blumberg SJ, et al. <u>Changes in prevalence of parent-reported autism spectrum disorder in</u> <u>school-aged U.S. children: 2007 to 2011–2012</u>. National Health Statistics Reports. 2013 Mar 20;65.

Christensen D, et al. <u>Prevalence of cerebral palsy, co-occurring autism spectrum disorders,</u> and motor functioning - Autism and Developmental Disabilities Monitoring Network, USA, <u>2008</u>. Developmental Medicine and Child Neurology. 2013 Oct;56(1):59-65.





Christensen J, et al. <u>Prenatal valproate exposure and risk of autism spectrum disorders and</u> <u>childhood autism: a population-based study</u>. Journal of the American Medical Association. 2013 Apr;309(16):1696-1703.

Kancherla V, et al. <u>Childhood vision impairment, hearing loss and co-occurring autism</u> <u>spectrum disorder.</u> Disability and Health Journal. 2013 Oct;6(4):333-342.

Maenner MJ, et al. <u>Frequency and pattern of documented diagnostic features and the age</u> <u>of autism identification</u>. Journal of the American Academy of Child and Adolescent Psychiatry. 2013 Apr;52(4):401-413.

Peacock G, et al. (2013). "Learn the Signs. Act Early." The public health approach to the early identification of children at risk for autism spectrum disorder and other developmental disabilities. In Doehring P, Becker-Cottrill B, (editors). <u>Autism Services</u> <u>Across America: Road Maps for Improving State and National Education, Research, and</u> <u>Training Programs.</u> pp 231-247. Baltimore, MD: PH Brooks Publishing Co.

Rice CE, et al. "<u>Evaluating changes in the prevalence of autism spectrum disorders."</u> In Tulchinksky, et al (editors). Public Health Reviews: Mental Health as a Public Health Issue. 2013;34(2). pp 634-655. France: EHESP Presses.

Schendel DE, et al. <u>The Study to Explore Early Development (SEED): A multisite</u> <u>epidemiologic study of autism by the Centers for Autism and Developmental Disabilities</u> <u>Research and Epidemiology (CADDRE) Network</u>. Journal of Autism and Developmental Disorders. 2012 Oct; 42(10):2121-2140.

#### References

- Boyle CA, Boulet S, Schieve L, Cohen RA, Blumberg SJ, Yeargin-Allsopp M, Visser S, Kogan MD. Trends in the Prevalence of Developmental Disabilities in US Children, 1997–2008. Pediatrics. 2011 Jun;126(6):1034-1042. Epub 2011 May 23.
- Shimabukuro TT, Grosse SD, Rice C. Medical expenditures for children with an autism spectrum disorder in a privately insured population. J Autism Dev Disord. 2008 Mar;38(3):546-52. Epub 2007 Aug 10.





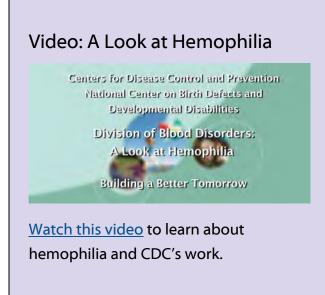
3. Mendah, D., Grosse, S.D., Peacock, G., & Mandell, D.S. (2011). The economic costs of autism: A review. In D. Amaral, D. Geschwind, & G. Dawson (Eds.), Autism spectrum disorders (pp. 1347-1360). Oxford: Oxford University Press.





## Protecting People and Preventing Complications of Blood Disorders

Blood disorders are a serious public health problem affecting millions of Americans, yet we don't have an accurate picture of the real impact of these conditions. CDC's National Center on Birth Defects and Developmental Disabilities (NCBDDD) is uniquely positioned to reduce the public health burden resulting from these conditions by contributing to a better understanding of blood disorders and their complications. We ensure that information is accessible to consumers and health care providers. We encourage the use of information to inform actions that improves the



quality of life for people living with or affected by these conditions.

#### Budget

Learn more about budget

Learn more about state funding

#### Accomplishments

 Launched a <u>new database of more than 1,000 Factor IX (Factor 9) gene mutations</u> reported to cause hemophilia B. The new database supplements CDC's Hemophilia A Mutation Project (CHAMP), a database of more than 2,000 Factor VIII (Factor 8) gene mutations reported to cause hemophilia A. This information can be used to determine which hemophilia mutations may increase the risk of developing an inhibitor (antibody) which lessens the effectiveness of hemophilia treatment.



- Worked with partners to launch surveillance of inhibitors, a significant complication of treatment in hemophilia. Inhibitors will be monitored through centralized testing at CDC. NCBDDD's blood disorders laboratory developed new methods to test patients as well as new ways to confirm the results. The surveillance will result in the first estimates of the incidence and prevalence of inhibitors among people with hemophilia in the United States.
- Worked to decrease death and disability from venous thromboembolism (VTE) through health education and outreach. NCBDDD launched an expert video commentary series on Medscape, titled Blood Clots and Long Distance Travel: Advising Patients. NCBDDD authored a <u>chapter on</u> <u>blood clots and travel</u> in CDC's Yellow Book and presented a Public Health Grand Rounds, "<u>Preventing Venous Thromboembolism</u>," which addressed what is known about how to reduce the rate of hospital-associated VTE.
- Published an investigation of a cluster of late vitamin K deficiency bleeding (VKDB) in infants. NCBDDD developed a comprehensive communications and outreach plan, developed a fact sheet, "Protect Your Baby from Bleeds - Talk to Versite and the set of the s

PROTECTING PEOPLE AND PREVENTING COMPLICATIONS OF BLOOD DISORDERS

1 IN 10

#### WITH A BLOOD CLOT WILL DIE IF IT MOVES TO THE LUNGS

Healthcare costs associated with blood clots in the U.S. are

\$10 BILLION or more each year

Preventing readmission due to a blood clot can save an average of

**\$15,000** In hospital costs per patient

Your Healthcare Provider about Vitamin K," created a podcast, "<u>Talk with Expectant</u> <u>Parents about Late Vitamin K Deficient Bleeding Among Infants</u>," and released a <u>Medscape Commentary</u> on VKDB.

• Convened an expert panel to get stakeholder feedback on gaps in prevention research across blood disorders and identify priority areas for intervention research,

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implementation, and evaluation. A summary of this meeting has been developed and submitted to a special supplement of the American Journal of Preventive Medicine.

- As a result of NCBDDD's Registry and Surveillance for Hemoglobinopathies surveillance pilot project, California initiated population-based surveillance for <u>thalassemia</u>. A newlyestablished committee is using the surveillance data to create fact sheets that educate Californians about the incidence of thalassemia in their state.
- Launched a Blood Safety Surveillance System among people with blood disorders to identify complications and infectious transmissions in heavily transfused populations such as those with thalassemia and <u>sickle cell disease</u> to keep the blood supply safe for everyone.

#### Looking to the Future

NCBDDD's Division of Blood Disorders is committed to serving those with inherited (hemophilia, thalassemia and sickle cell disease) as well as acquired (VTE) blood disorders. Collaborating with our many public health partners – other federal and state agencies, academia, and professional and communitybased organizations - NCBDDD's Division of Blood Disorders improves the lives of people at risk or affected by blood disorders. Emerging issues in each of our priority areas include ensuring that evidence-based interventions are put into practice to improve health outcomes for the populations we serve. For example, among people with severe hemophilia, the overall proportion of people regularly using factor

#### Did You Know?

- 60,000-100,000 Americans die of deep vein thrombosis/pulmonary embolism each year.<sup>1</sup>
- Sickle cell disease affects an estimated 90,000 to 100,000 Americans.<sup>2</sup>
- A CDC study showed that people with hemophilia were at risk for developing an inhibitor, which is currently the most serious complication of hemophilia care.<sup>3</sup>

treatment products to prevent bleeding episodes (the only evidence-based prevention strategy for joint disease) rose from 34% in 2004 to only 45% in 2009 and it is estimated that fewer than 50% of hospitalized patients receive risk-appropriate prevention for VTE.





#### Notable 2013 Scientific Publications

Landi D, et al. <u>Characteristics of abdominal vein thrombosis in children and adults.</u> Thrombosis and Haemostasis. 2013 Apr;109(4):625-632.

Miller CH, et al. The Hemophilia Inhibitor Research Study Investigators. <u>Comparison of clot-based</u>, chromogenic, and fluorescence assays for measurement of factor VIII inhibitors in the U.S. Hemophilia Inhibitor Research Study. Journal of Thrombosis and Haemostasis. 2013;11: 1300–1309.

Payne AB, et al. <u>Invasive pneumococcal disease among children with and without sickle</u> <u>cell disease in the United States, 1998-2009.</u> The Pediatric Infectious Disease Journal. 2013 Dec;32(12):1308-1312.

Payne AB, et al. <u>The CDC Hemophilia A Mutation Project (CHAMP) mutation list: a new</u> <u>online resource</u>. Human Mutation. 2013 Feb;34(2):E2382-E2392.

Simmons GM, et al. <u>Identifying information needs among children and teens living with</u> <u>haemophilia</u>. Haemophilia. 2014 Jan;20(1):1-8. Epub 2013 Jun 28

Soucie JM, et al. Evidence for the transmission of parvovirus B19 in patients with bleeding disorders treated with plasma-derived factor concentrates in the era of nucleic acid test (NAT) screening. Transfusion. 2013; 53:1217-1225.

Vichinsky E, et al. <u>Transfusion complications in thalassemia patients: a report from the</u> <u>Centers for Disease Control and Prevention.</u> Transfusion. 2014 Apr;54(4):972-981. Epub 2013 Jul 25.

Wang WC, et al. <u>Hydroxyurea is associated with lower costs of care of young children with</u> <u>sickle cell anemia</u>. Pediatrics. 2013 Oct;132(4):677-683.

Wang Y, et al. <u>Sickle cell disease incidence among newborns in New York State by</u> <u>maternal race/ethnicity and nativity.</u> Genetics in Medicine. 2013 Mar;15(3):222-228.

Yusuf HR, et al. <u>Hospitalizations of adults ≥60 years of age with venous thromboembolism</u>. Clinical and Applied Thrombosis/Hemostasis. 2014 Mar;20(2):136-142. Epub 2013 Jun 27.

#### References





- 1. Beckman MG, Hooper WC, Critchley SE, Ortel TL. Venous thromboembolism: a public health concern. Am J Prev Med. 2010 Apr;38(4 Suppl):S495-S501.
- National Heart, Lung, and Blood Institute. Disease and conditions index. Sickle cell anemia: who is at risk? Bethesda, MD: US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 2009. Available from: <u>http://www.nhlbi.nih.gov/health/dci/Diseases/Sca/SCA\_WholsAtRisk.html</u>
- 3. Soucie JM, Miller CH, Kelly FM, Payne AB, Creary M, Bockenstedt et al. A study of prospective surveillance for inhibitors among persons with haemophilia in the United States. Haemophilia. 2014;20:230-237.





# Improving the Health of People with Disabilities

Disability is part of the normal human experience and having a disability does not – and should not – equal poor health. Unfortunately, there are major health gaps that make it more challenging for a portion of the estimated 37 million to 56 million<sup>1</sup> people with disabilities in the United States to live the healthiest life possible. The work of CDC's National Center on Birth Defects and Developmental Disabilities (NCBDDD) in disability and health focuses on sustaining lifelong health. We collaborate with national and state partners to ensure children and adults with disabilities receive needed programs and

#### Video: What's Disability to Me?



Watch this video to see the experience of one person with a disability.

services across their lifespan so they can reach their full potential, have an improved quality of life, and experience independence. We want to make every person count and are committed to equity in the health of people with disabilities at every stage of life.

Learn more about budget

Learn more about state funding

#### Accomplishments

 Communicated public health opportunities to improve the health of people with disabilities to thousands of health professionals and organizations through a presentation at Public Health Grand Rounds. The presentation, <u>Where in Health is</u> <u>Disability? Public Health Practices to Include Persons with Disabilities</u>, also highlighted accomplishments of partners and public health agencies, and resulted in a <u>scientific</u> <u>article published in MMWR</u>.

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- Increased public health capacity in 18 states using the <u>Disability and Health network</u> to plan, prepare and include people with disabilities in healthprotecting programs and services. The majority of states have identified policy needs within their state; worked to increase the number of facilities providing preventive healthcare screenings; and assessed state emergency plans – all to better include, provide access to, and ultimately improve the health of, people with disabilities.
- Supported evidence for the health needs and disparities of people with disabilities, including risk for chronic conditions and low utilization of preventive screenings, through <u>Disability and</u> <u>Health Data System (DHDS)</u>. Since its initial launch in December 2011, DHDS has been helping national and state organizations demonstrate impact in improving the health of people with disabilities by using data to build partnerships with programs, such as cancer control, tobacco control and diabetes.
- Achieved the task of getting 5 of 6 HHSrecommended disability identifier questions in the Behavioral Risk Factor Surveillance System (BRFSS), a major CDC survey system. NCBDDD will continue to collaborate with other CDC programs to include





OF PEOPLE WITH DISABILITIES

**1 IN 5** AMERICANS HAS SOME KIND OF DISABILITY

Annual healthcare costs associated with disability are nearly

\$400 BILLION

Early hearing screening and intervention for children with hearing loss saves approximately



the questions in additional surveys. With this work, we will further assess disparities in health and identify existing prevention strategies that can be adapted to include people with disabilities.

#### Looking to the Future





#### Did You Know?

- An estimated <u>37 million</u> to <u>56 million</u> people live with a disability.
- 4 in 10 people with disabilities have fair or poor health.<sup>2</sup>
- Disability-associated health-care expenditures have been estimated at nearly \$400 billion in 2006, more than a quarter of all national health expenditures for that year.<sup>3</sup>

NCBDDD's Division of Human Development and Disability is committed to protecting the health of people with disabilities across their lifespan by integrating CDC's public health science with national and state-based programs. We will work to reduce health disparities of people with disabilities by including them in public health surveys, health promotion programs (including healthy weight activities), emergency preparedness and planning efforts, and accessible healthcare services. In addition to our national data activities, we will continue to make sure people with disabilities are included in emergency preparedness and response efforts – there are too many tragic stories of people with disabilities are included in emergency that individuals with disabilities are included in ongoing state disease prevention, health promotion, and emergency response activities. We will partner with national organizations to improve the lives of individuals living with disabilities by delivering health information, education and consultation to the public.

#### Notable 2013 Scientific Publications

Armour BS, et al. <u>Disability prevalence among healthy weight, overweight, and obese</u> <u>adults</u>. Obesity (Silver Spring). 2013 Apr;21(4):852-855.

Benjamin G, et al. <u>CDC grand rounds: public health practices to include persons with</u> <u>disabilities</u>. MMWR Morbidity and Mortality Weekly Report. 2013;62:697-701.

Fox MH, et al. <u>Disability, health, and multiple chronic conditions among people eligible for</u> <u>both Medicare and Medicaid, 2005-2010</u>. Preventing Chronic Disease. 2013 Sep 19;10:E157.

Fox MH, et al. Reducing obesity among people with disability. Journal of Disability Policy Studies. 2013 July 12;1044207313494236.





Krahn G, et al. <u>Health disparities of adults with intellectual disabilities: What do we know?</u> <u>What do we do?</u> Journal of Applied Research in Intellectual Disabilities. 2013 Jul 31;doi: 10.1111/jar.12067.

Krahn G, et al. <u>Toward a conceptual model for national policy and practice considerations</u>. Disability and Health Journal. 2014 Jan;7(1):13-18. Epub Aug 5, 2013.

Perou R, et al. <u>Mental health surveillance among children--United States, 2005-2011</u>. MMWR Morbidity and Mortality Weekly Report, 2013 am y 17; 62(Suppl 2):1-35.

Reichard A, et al. <u>Using population-based data to examine preventive services by disability</u> <u>type among dually eligible (Medicare/Medicaid) adults</u>. Disability and Health Journal. 2013 Apr; 6(2);75-86.

Sinclair LB, et al. <u>A tool for enhancing strategic planning: a modeled use of the</u> <u>International Classification of Functioning, Disability and Health</u>. International Journal of Health Planning and Management. 2013 Apr-Jun;28(2):172-180.

Visser S, Danielson M, Bitsko R, et al. <u>Trends in the Parent-Report of Health Care Provider-Diagnosis and Medication Treatment for ADHD disorder: United States, 2003–2011</u>. J Am Acad Child Adolesc Psychiatry. 2013 [published online November 22] doi: 10.1016/j.jaac.2013.09.001.

#### References

- CDC. Other Data & Statistics. Atlanta, GA: US Department of Health and Human Services, CDC; 2010. Available at <u>http://www.cdc.gov/ncbddd/disabilityandhealth/data-highlights.html</u>.
- 2. CDC. Disability and Health Data System (DHDS). Atlanta, GA: US Department of Health and Human Services, CDC; 2010. Available at <u>http://dhds.cdc.gov</u>.
- 3. Anderson WL, Armour BS, Finkelstein EA, Wiener JM. Estimates of state-level health-care expenditures associated with disability. Public Health Rep 2010;125:44–51.

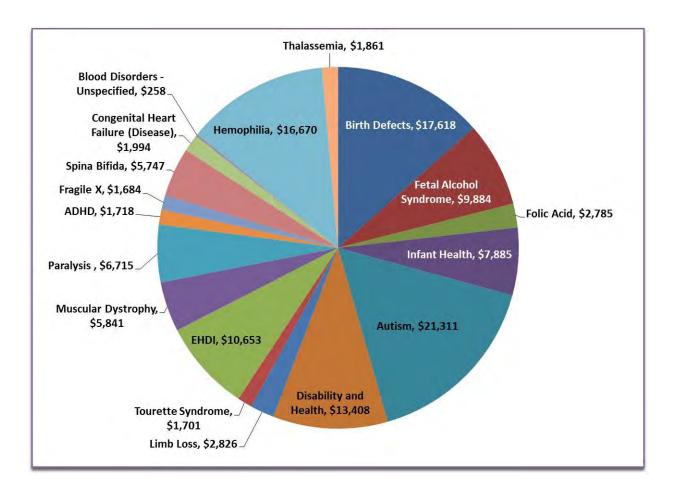




# Fiscal Year 2013 Budget

CDC's National Center on Birth Defects and Developmental Disabilities (NCBDDD) fiscal year (FY) 2013 appropriation includes \$137.586 million: for Child Health and Development, Health and Development with Disabilities, and Public Health Approach to Blood Disorders.

Funds are currently supporting surveillance, research, and prevention activities that are addressing issues with the greatest public health burden, and implementing strategies to improve health outcomes.





# NCBDDD FY 2013 Appropriations (in thousands)

Child Health and Development	\$62,100
Birth Defects	\$17,618
Craniofacial Malformation	\$1,809
Fetal Death	\$808
Fetal Alcohol Syndrome	\$9,884
Folic Acid	\$2,785
Infant Health	\$7,885
Autism	\$21,311
Health and Development w/ Disabilities	\$56,697
Disability and Health (includes CDS)*	\$ 13,408
Limb Loss	\$2,826
Tourette Syndrome	\$1,701
EHDI	\$10,653
Muscular Dystrophy	\$5,841
Paralysis	\$6,715
ADHD	\$1,718
Fragile X	\$1,684
Spina Bifida	\$5,747
Congenital Heart Failure (Disease)	\$1,994





Public Health Approach to Blood Disorders	\$18,789
Blood Disorders - Unspecified	\$258
Hemophilia	\$16,670
Thalassemia	\$1,861
NCBDDD Total	\$137,586

<sup>1</sup> This amount does not reflect a reduction of \$6.9 million due to sequestration.

Learn more about NCBDDD's budget here: http://www.cdc.gov/ncbddd/aboutus/documents/ncbddd\_budgettrends.pdf





# Select State-Based Activities and Funding



(Based on Fiscal Year 2013 funding level)

#### Alabama

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Alabama Department of Public Health (DD11-1101, 000793) \$134,601 National Spina Bifida Registry Longitudinal Data Collection & Evaluation University of Alabama, Birmingham (DD11-005, 000773) \$66,999 Enhancing Public Health Surveillance of Autism Spectrum Disorders and Other Developmental Disabilities through the Autism and Developmental Disabilities Monitoring (ADDM) Network University of Alabama, Birmingham (DD10-1002, 000678)

\$408,001

National Public Health Practice and Resource Centers on Health Promotion for People with Disabilities

University of Alabama, Birmingham (DD12-1205, 000906) \$931,320

Development and Evaluation of a Clinic-Based Screening and Brief Intervention (SBI) for Changing Behaviors Related to Cytomegalovirus CMV) University of Alabama, Birmingham (DD12-005 000922) \$249,995

Improving the Health of People with Disabilities through State Based Public Health Programs







#### Alabama State Department of Public Health (DD12-1204, 000947) \$300,000

#### Alaska

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Alaska Department of Health (DD11-1101, 000780) \$126,435 Fetal Alcohol Spectrum Disorders (FASD) Regional Training Centers University of Alaska, Anchorage (DD11-1107, 000886) \$500,000 Improving the Health of People with Disabilities through State Based Public Health Programs Alaska State Department of Public Health (DD12-1204, 000948) \$300,000

#### Arkansas

Birth Defects - Centers for Birth Defects Research and Prevention-Research Arkansas Children's Hospital Research Institute (DD09-001, 000491) \$558,600

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs

Arkansas Department of Health (DD11-1101, 000789) \$94,941

Enhancing Public Health Surveillance of Autism Spectrum Disorders and Other Developmental Disabilities through the Autism and Developmental Disabilities Monitoring (ADDM) Network





University of Arkansas (DD10-1002, 000679) \$408,000

Improving the Health of People with Disabilities through State Based Public Health Programs University of Arkansas (DD12-1204, 000932) \$299,774

Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS) Arkansas Children's Hospital Research Institute (DD13-003, 001039) \$350,000

#### Arizona

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Arizona Department of Health Services (DD10-1001, 000609) \$174,000 Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Arizona Department of Health Services (DD11-1101, 000826) \$172,583 Surveillance of Fetal Alcohol Syndrome Utilizing the Infrastructure of Existing Surveillance Programs – Non-Research University of Arizona (DD09-910, 000557) \$228,000 MD STARnet: Feasibility of Expansion to other Muscular Dystrophies University of Arizona (DD11-006, 000830)

\$550,000

Enhancing Public Health Surveillance of Autism Spectrum Disorders and Other Developmental Disabilities through the Autism and Developmental Disabilities Monitoring (ADDM) Network





University of Arizona (DD10-1002, 000680) \$552,000

#### California

Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE): Study to Explore Early Development (SEED) II Kaiser Foundation Hospitals (DD11-002, 000748) \$1,050,000 Birth Defects - Centers for Birth Defects Research and Prevention - Research Stanford University (DD09-001, 000489) \$443,200 Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs California Department of Health Care Services (DD11-1101, 000816) \$146,360 National Spina Bifida Patient Registry Clinic Demonstration Project Children's Hospital & Research Center @ Oakland (DD11-001, 000743) \$70,000 National Spina Bifida Registry Longitudinal Data Collection and Evaluation Children's Hospital Of Los Angeles (DD11-005, 000770) \$70,000 Reducing Risks for Alcohol Exposed Pregnancy in Women attending Federally-Funded Community Health Centers AltaMed Health Service Corp (DD10-1006, 000726) \$274,999 Blood Safety Surveillance Among People with Blood Disorders

Children's Hospital Los Angeles (DD11-1108, 000874)

\$142,500





Hemoglobinopathies Surveillance, Health Promotion and Laboratory Capacity Demonstration Project Public Health Institute (DD12-1206-001008) \$300,000 Behavioral Risk Factor Surveillance System (BRFSS) California State Department of Public Health (SO11-1101, 000048) \$410,831 Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS) Stanford University (DD13-003, 001033) \$325,000 Behavioral Risk Factor Surveillance System (BRFSS) California State Department of Public Health (SO11-1101, 000048) \$27,500

#### Colorado

Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE): Study to Explore Early Development (SEED) II University of Colorado Denver (DD11-002, 000750) \$1,050,000

Birth Defects - Population Based Surveillance and Utilization of Surveillance Data by Public Health Departments - Non-Research Colorado Department of Public Health and Environment (DD10-1001, 000596) \$174,800

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Colorado Department Of Public Health And Environment (DD11-1101, 000822) \$157,297





National Spina Bifida Registry Longitudinal Data Collection & Evaluation University of Colorado at Denver (DD11-005, 000767) \$69,999

Surveillance of Fetal Alcohol Syndrome Utilizing the Infrastructure of Existing Surveillance Programs – Non-Research Colorado Department of Public Health and Environment (DD09-910, 000531) \$228,000

MD STARnet: Feasibility of Expansion to other Muscular Dystrophies Colorado Department Of Public Health And Environment (DD11-006, 000835) \$450,000

Public Health Research for the Prevention of Complications of Bleeding Disorders University of Colorado Denver (DD11-009, 000757) \$189,998

Enhancing Public Health Surveillance of Autism Spectrum Disorders and other Disabilities through (ADDM) Network

Colorado Department of Public Health and Environment (DD10-1002, 000686) \$390,000

Advanced Alcohol Screening & Brief Intervention (aSBI) & CHOICES in American Indian & Alaska Native Population thru Training & Technical Assistance Denver Health and Hospital Authority (DD13-1301, 001046) \$275,000

#### Connecticut

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Connecticut Department of Public Health (DD11-1101, 000817) \$122,838





National Spina Bifida Registry Longitudinal Data Collection & Evaluation Connecticut Children's Medical Center, Inc. (DD11-005, 000774) \$43,178

Behavioral Risk Factor Surveillance System (BRFSS) Connecticut State Department of Public Health (SO11-1101, 000003) \$20,000

#### Delaware

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Delaware Department of Health and Social Services (DD11-1101, 000819) \$93,246 Improving the Health of People with Disabilities through State Based Public Health Programs University of Delaware (DD12-1204, 000953) \$299,992

#### Florida

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Florida Department of Health (DD10-1001, 000608) \$194,500

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Florida Dept. of Health (DD11-1101, 000810) \$98,636

Improving the Health of People with Disabilities through State Based Public Health Programs





#### Florida State Department of Health (DD12-1204, 000992) \$300,000

#### Georgia

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Georgia Dept. of Community Health (DD11-1101, 000824) \$160,005 Hemoglobinopathies Surveillance, Health Promotion and Laboratory Capacity Demonstration Project Georgia Department of Public Health (DD12-1206-001010) \$170,000 Surveillance and Congenital Health Defects (CHDS) focusing on Adolescents and Adults

Surveillance and Congenital Health Defects (CHDS) focusing on Adolescents and Adults Emory University (DD12-1207-001027) \$380,000

Cooperative Agreement for the Strengthening and the Development of Applied Task Force for Global Health, Inc. (GH10-1006, 000047) \$50,000

OSTLTS Partnerships CBA of the Public Health System Task Force for Global Health, Inc. (OT13-1302, 000216) \$110,000

#### Hawaii

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs University of Hawaii as a bona fide for American Samoa (DD11-1101, 000777)

\$139,333





Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs University of Hawaii as a bona fide for Marshall Islands (DD11-1101, 000796) \$56,924

#### Idaho

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Idaho Dept. of Health and Welfare (DD11-1101, 000801) \$57,573

#### Illinois

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Illinois Department of Public Health (DD10-1001, 000598) \$174,800

Public Health Program to Enhance Health and Development of Infants and Children through the AAP - Non-Research American Academy of Pediatrics (DD09-907, 000587) \$786,489

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Illinois Dept. of Public Health (DD11-1101, 000825) \$151,940

National Spina Bifida Patient Registry - Clinic Demonstration Project Children's Memorial Hospital Chicago (DD11-001, 000744) \$66,316



Public Health Research for the Prevention of Complications of Bleeding Disorders American Thrombosis and Hemostasis Network (DD11-009, 000761) \$189,958 Public Health Surveillance for the Prevention of Complications of Bleeding & Clotting Disorders American Thrombosis and Hemostasis Network (DD11-1103, 000862) \$3,942,590 Improving the Health of People with Disabilities through State Based Public Health Programs Illinois State Department of Public Health (DD12-1204, 000938) \$300,000 Blood Safety Surveillance Among People with Blood Disorders Lurie Children's Hospital of Chicago (DD11-1108, 000872)

\$142,500

#### Indiana

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Indiana State Department of Health (DD11-1101, 000790) \$147,818

National Spina Bifida Registry Longitudinal Data Collection and Evaluation Indiana University- Riley Hospital for Children (DD11-005, 000769) \$67,802

Behavioral Risk Factor Surveillance System (BRFSS) Indiana State Department of Health (SO11-1101, 000028) \$15,000



#### lowa



Birth Defects - Utilizing Existing Birth Defects Surveillance Program to include Surveillance Data on Stillbirths Iowa Department of Public Health (DD10-1007, 000730) \$265,000

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Iowa Dept. of Public Health (DD11-1101, 000785) \$174,999

Centers for Birth Defects Research and Prevention University of Iowa (DD09-001, 000492) \$559,600

MD STARnet: Feasibility of Expansion to other Muscular Dystrophies University of Iowa (DD11-006, 000831) \$749,999

Improving the Health of People with Disabilities through State Based Public Health Programs Iowa State Department of Public Health (DD12-1204, 000949) \$300,000

Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS) University of Iowa (DD13-003, 001035) \$350,000

Behavioral Risk Factor Surveillance System (BRFSS) Iowa State Department of Public Health (SO11-1101, 000005) \$13,000

## Kansas

Behavioral Risk Factor Surveillance System (BRFSS) Kansas State Department of Health and Environment (SO11-1101, 000008) \$20,327





# Kentucky

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Kentucky Cabinet for Health & Family Services (DD10-1001, 000606) \$174,351 Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs

Kentucky Cabinet for Health and Family Services (DD11-1101, 000828) \$153,939

# Louisiana

#### Louisiana

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Louisiana Office of Public Health (DD10-1001, 000623) \$180,000 Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Louisiana Office of Public Health (DD11-1101, 000841) \$162,446

## Maine

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs - Non-Research Maine Department of Health (DD11-1101, 000813) \$122,891





# Maryland

Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE): Study to Explore Early Development (SEED) II Johns Hopkins University School of Public Health (DD11-002, 000746) \$1,000,000 Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Maryland Department of Health and Mental Hygiene (DD11-1101, 000782) \$146,651 Assure Hit Standards for Public Health Public Health Data Standards Consortium (HM08-805, 000455) \$131,031 State Vital Records Jurisdictions National Association of Public Health Stats and Information Systems (SH07-701, 000001) \$8,500 Enhancing Public Health Surveillance of Autism Spectrum Disorders and other Disabilities through (ADDM) Network Johns Hopkins University (DD10-1002, 000675) \$408,000 National Public Health Practice and Resource Centers for Children with Attention-Deficit/Hyperactivity Disorder or Tourette Syndrome CHADD, Inc. (Children & Adults with Attention Deficit Hyperactivity Disorder) (DD13-1302, 001049) \$800,000 CDC Partnership for Quality Laboratory Practice Association for Public Health Laboratories (HM10-1001, 000803) \$50,000

OSTLTS Partnerships CBA of the Public Health System Association of University Centers//Disabilities (OT13-1302, 000140) \$779,288





#### Massachusetts

Birth Defects - Centers for Birth Defects Research and Prevention - Research Massachusetts Department of Public Health (DD09-001, 000493) \$580,400

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs

Commonwealth of Massachusetts Department of Public Health (DD11-1101, 000783) \$154,163

Birth Defects - Risk Factors for Folic Acid-Resistance Spina Bifida Boston University Medical Campus (DD10-002, 000697) \$196,180

Improving the Health of People with Disabilities through State Based Public Health Programs

Massachusetts State Department of Public Health (DD12-1204, 000940) \$300,000

Surveillance of Congenital Heart Defects (CHDS) Focusing on Adolescents and Adults Massachusetts State Department of Public Health (DD12-1207-001029) \$396,000

Disabilities Improving the Health of People with Disabilities through State Based Public Health Programs

University of Massachusetts Medical School Worcester (DD12-003, 000914) \$153,866

Birth Defects Study To Evaluate Pregnancy Exposed (BD-STEPS) Massachusetts State Department of Public Health (DD13-003, 001037) \$350,000







Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Michigan Department of Community Health (DD10-1001, 000615) \$194,500 Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Michigan Department of Community Health (DD11-1101, 000798) \$175,000 Data Coordinating Center for Autism and Other Developmental Disabilities Research and **Epidemiologic Studies** Michigan State University (DD12-001, 000901) \$868,500 National Spina Bifida Patient Registry - Clinic Demonstration Project Wayne State University (DD11-001, 000740) \$68,339 Blood Safety Surveillance Among People with Blood Disorders Michigan Department of Community Health (DD11-1108, 000876) \$142,500 Improving the Health of People with Disabilities through State Based Public Health Programs Michigan State Department of Community Health (DD12-1204, 000930) \$300,000

## Minnesota

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Minnesota Department of Health (DD10-1001, 000594) \$174,800





Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Minnesota Department of Health (DD11-1101, 000842) \$108,660 Disability and Health DD Prevention Research Center University of Minnesota (DP09-001, 001939) \$195,000 Behavioral Risk Factor Surveillance System (BRFSS)

Minnesota State Department of Health (SO11-1101, 000031) \$25,000

# Mississippi

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Mississippi Department of Health (DD11-1101, 000820) \$84,716 Blood Safety Surveillance Among People with Blood Disorders University of Mississippi Medical Center (DD11-1108, 000879)

\$142,422

Hemoglobinopathies Surveillance, Health Promotion and Laboratory Capacity Demonstration Project Mississippi Department of Health (DD1-1206, 001011) \$100,000

## Missouri

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs





Missouri Dept. of Health and Senior Services (DD11-1101, 000815) \$113,573

Enhancing Public Health Surveillance of Autism Spectrum Disorders and Other Developmental Disabilities through the Autism and Developmental Disabilities Monitoring (ADDM) Network Washington University (DD10-1002, 000684) \$528,177

Fetal Alcohol Spectrum Disorders Regional Training Centers Saint Louis University (DD11-1107, 000884) \$267,743

# Montana

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Montana Department of Public Health and Human Services (DD11-1101, 000811) \$154,182 Improving the Health of People with Disabilities through State Based Public Health Programs

Montana State Department of Public Health (DD12-1204, 000991) \$300,000

# Nebraska

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Nebraska Department of Health & Human Services (DD11-1101, 000797) \$112,854

Maternal Child Health Epidemiology: National and State Coalition Capacity Building to Improve Outcomes

National Center on Birth Defects and Developmental Disabilities Office of the Director





University of Nebraska Medical Center (DP10-1006, 002750) \$293,400

#### Nevada

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Nevada Department of Health and Human Services (DD11-1101, 000788) \$129,700

Fetal Alcohol Spectrum Disorders (FASD) Regional Training Center Board of Regents, University of Nevada Reno (DD11-1107, 000888) \$454,166\_

# **New Hampshire**

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research New Hampshire Birth Conditions Program (DD10-1001, 000607) \$155,500

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs New Hampshire Department of Health and Human Services (DD11-1101, 000827) \$112,701

Improving the Health of People with Disabilities through State Based Public Health Programs University of New Hampshire (DD12-1204, 000954) \$300,000

Reducing Health Disparities among People with Intellectual Disabilities University of New Hampshire (DD12-003, 000917) \$230,798





#### **New Jersey**

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research New Jersey Department of Health and Senior Services (DD10-1001, 000599) \$194,262

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs

New Jersey Department of Health and Senior Services (DD11-1101, 000805) \$172,000

National Public Health Practice and Information Center on Paralysis Christopher Reeve Paralysis Foundation (DD11-1102, 000838) \$5,473,507

Enhancing Public Health Surveillance of Autism Spectrum Disorders and other Disabilities through (ADDM) Network

University of Medicine and Dentistry of New Jersey (DD10-1002, 000674) \$552,000

Behavioral Risk Factor Surveillance System (BRFSS) New Jersey State Department of Health and Senior Services (SO11-1101, 000056) \$15,000

New Mexico

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs New Mexico Department Of Health (DD11-1101, 000807) \$127,053



Behavioral Risk Factor Surveillance System (BRFSS) New Mexico State Department of Health (SO11-1101, 000036) \$15,000

#### New York

Birth Defects - Centers for Birth Defects Research and Prevention - Research NYS Health Research, Inc./New York State Department of Health (DD09-001, 000487) \$583,600

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs

Health Research Inc./NYS Dept. of Health (DD11-1101, 000795)

\$156,115

Promoting Health of Individuals with Clotting Disorders National Alliance Thrombosis/Thrombophilia (DD09-904, 000545) \$410,878

Preventing Complications of Persons with Hereditary Blood Disorders Through Health Education and Outreach

National Hemophilia Foundation (DD09-905, 000534)

\$828,155

Surveillance of Fetal Alcohol Syndrome Utilizing the Infrastructure of Existing Surveillance Programs – Non-Research NYS Health Research, Inc./New York State Department of Health (DD09-910, 000532)

\$228,000

Reducing Risks for Alcohol Exposed Pregnancy in Women attending Federally-Funded Community Health Centers NYC Health and Hospital Corp (DD10-1006, 000728) \$275,000





MD STARnet: Feasibility of Expansion to other Muscular Dystrophies Health Research Inc./NYS Dept. of Health (DD11-006, 000836) \$525,000

Pilot Longitudinal Data Collection to Inform Public Health – Fragile X Syndrome Research Foundation for Mental Hygiene, Inc. (DD11-007, 000753) \$550,000

Improving the Health of People with Disabilities through State Based Public Health Programs New York State Department of Health (DD12-1204, 000937)

\$300,000

Surveillance of Congenital Heart Defects (CHDS) Focusing on Adolescents and Adults New York State Department of Health (DD12-1207-001017) \$396,000

Evaluation of Treatments and Services Provided to People with Duchenne Muscular Dystrophy (DMD)

Center of Environmental Health (DD13-002, 001041)

\$150,000

Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS) Health Research Inc./NYSDOH-Center for Environmental Health (DD13-003, 001032) \$350,000

National Public Health Practice and Resource Centers for Children with Attention-Deficit/Hyperactivity Disorder or Tourette Syndrome

Tourette Syndrome Association, Inc. (DD13-1302, 001050)

\$800,000

Prevention Research Centers Columbia University Health Sciences (DP09-001, 001916) \$3,900

OSTLTS Partnerships CBA of the Public Health System March of Dimes Birth Defects Foundation (OT13-1302, 000199) \$540,000



Behavioral Risk Factor Surveillance System (BRFSS) NYSDOH/Health Research, Inc. (SO11-1101, 000037) \$15,000

# North Carolina

Birth Defects - Centers for Birth Defects Research and Prevention - Research University of North Carolina-Chapel Hill (DD09-001, 000488) \$563,600 Birth Defects - The North Carolina Cleft Outcomes Study - Research

University of North Carolina-Chapel Hill (DD10-001, 000696) \$250,000

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs

North Carolina Department Of Health And Human Services (DD11-1101, 000823) \$163,962

National Spina Bifida Patient Registry - Clinic Demonstration Project Duke University (DD11-001, 000742) \$47,077

Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE): Study to Explore Early Development (SEED) II University of North Carolina at Chapel Hill (DD11-002, 000749) \$1,050,000

Public Health Surveillance for the Prevention of Complications of Bleeding and Clotting Disorders Duke University (DD11-1103, 000860) \$190,000

Public Health Surveillance of Deep Vein Thrombosis and Pulmonary Embolism Duke University (DD11-1109, 000897) \$300,000





Improving the Health of People with Disabilities through State Based Public Health Programs North Carolina State Dept. of Health & Human Services (DD12-1204, 000952) \$300,000 Enhancing Public Health Surveillance of Autism Spectrum Disorders and other Disabilities through (ADDM) Network University of North Carolina – Chapel Hill (DD10-1002, 000687) \$408,000 Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS) University of North Carolina at Chapel Hill (DD13-003, 001036) \$350,000 Promoting Health of Individuals with Clotting Disorders Duke University (DD09-904, 000553) \$206,622

## North Dakota

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs North Dakota - Minot State University (DD11-1101, 000802) \$155,704 Improving the Health of People with Disabilities through State Based Public Health Programs

Minot State University (DD12-1204, 000950) \$300,000

## Ohio

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research





Ohio Department of Health (DD10-1001, 000611) \$174,800

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Ohio Department of Health (DD11-1101, 000804) \$83,623 National Spina Bifida Registry Longitudinal Data Collection & Evaluation Children's Hospital Medical Center (DD11-005, 000766) \$55,474 National Spina Bifida Patient Registry - Clinic Demonstration Project The Research Institute at Nationwide Children's Hospital (DD11-001, 000738) \$50,000 Improving the Health of People with Disabilities through State Based Public Health Programs Ohio State Department of Health (DD12-1204, 000931) \$300,000

# Oklahoma

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Oklahoma Department of Health (DD10-1001, 000595) \$175,000

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Oklahoma State Department of Health (DD11-1101, 000814) \$142,750

Public Health Surveillance of Deep Vein Thrombosis and Pulmonary Embolism University of Oklahoma Health Sciences Center (DD11-1109, 000899) \$299,999





# Oregon

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Oregon State Dept. of Human Services (DD11-1101, 000799) \$162,365 National Spina Bifida Registry Longitudinal Data Collection & Evaluation Oregon Health & Science University (DD11-005, 000772) \$69,693 Improving the Health of People with Disabilities through State Based Public Health Programs Oregon Health & Science University (DD12-1204, 000942) \$300,000 Behavioral Risk Factor Surveillance System (BRFSS) Oregon Department of Health (Public Health Services) (SO11-1101, 000041) \$15,000

# Pennsylvania

National Spina Bifida Patient Registry - Clinic Demonstration Project Pennsylvania State University Hershey Medical Center (DD11-001, 000736) \$59,288

National Spina Bifida Patient Registry - Clinic Demonstration Project University of Pittsburgh (DD11-001, 000737) \$70,000

Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE): Study to Explore Early Development (SEED) II University of Pennsylvania (DD11-002, 000752) \$1,050,000



# **Rhode Island**

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Rhode Island Department of Health (DD10-1001, 000612) \$156,000 Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Rhode Island Department of Health (DD11-1101, 000791) \$146,000 Improving the Health of People with Disabilities through State Based Public Health Programs Rhode Island State Department of Health (DD12-1204, 000944) \$300,000 Development and Evaluation of a Clinic-Based Screening and Brief Intervention (SBI) for Changing Behaviors Related to CMV Transmission in Pregnant Women Women and Infants' Hospital (DD12-005, 000921)

\$249,731

# South Carolina

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs South Carolina Department of Health and Environmental Control (DD11-1101, 000779) \$129,839

Pilot for State-specific Cross-Sectional Surveillance of Persons with Rare Disorders & Longitudinal Assessment of Outcomes South Carolina Research Foundation (DD11-004, 000776) \$402,180

Coordinating Center for Research and Training to Promote the Health of People with Developmental and Other Disabilities







University of South Carolina(DD12-006, 001007) \$2,487,395

Enhancing Public Health Surveillance of Autism Spectrum Disorders and other Disabilities through (ADDM) Network Medical University of South Carolina (DD10-1002, 000682) \$552,000 A Pilot Surveillance System for High Impact/Low Prevalence Congenital and Inherited Conditions University of South Carolina at Columbia (DD12-002, 000927) \$397,903 Improving the Health of People with Disabilities through State Based Public Health Programs University of South Carolina at Columbia (DD12-1204, 000945)

\$299,976

# South Dakota

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs South Dakota Department of Health (DD11-1101, 000794) \$95,883

# Tennessee

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Tennessee Department of Health (DD11-1101, 000786) \$156,873







Fetal Alcohol Spectrum Disorders (FASD) Regional Training Center Meharry Medical College (DD11-1107, 000882) \$457,347

National Public Health Practice and Resource Centers on Health Promotion for People with Disabilities Amputee Coalition of America (DD12-1205, 000904) \$931,320

#### Texas

Birth Defects - Center for Birth Defects Research and Prevention - Research Texas Department of State Health Services (DD09-001, 000494) \$583,600

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Texas Department of State Health Services (DD11-1101, 000781) \$77,000

Behavioral Risk Factor Surveillance System (BRFSS) Texas State Department of Health Services (SO11-1101, 000046) \$44,173

## Utah

Birth Defects - Centers for Birth Defects Research and Prevention - Research Utah State Department of Health (DD09-001, 000490) \$583,787

Public Health Research on Craniofacial Malformations Research Utah State University (DD10-001, 000698) \$250,000



Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Utah State Department of Health (DD11-1101, 000821) \$141,809 National Spina Bifida Patient Registry-Clinic Demonstration Project

IHC Health Services, Inc., Dba: LDS Hospital (DD11-001, 000745)

\$40,871

Enhancing Public Health Surveillance of Autism Spectrum Disorders and Other Developmental Disabilities through the Autism and Developmental Disabilities Monitoring (ADDM) Network University of Utah (DD10-1002, 000685) \$545,180

#### Vermont

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Vermont Department of Health (DD11-1101, 000818) \$150,000 Behavioral Risk Factor Surveillance System (BRFSS) Vermont State Department of Health (SO11-1101, 000013)

\$15,000

#### Virginia

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Virginia Department of Health (DD11-1101, 000812) \$122,583





Craniofacial Malformations Information for Affected Families, Health Care Providers and School Professionals Operation Smile (DD11-1105, 000868) \$225,000 OSTLTS Partnerships CBA of the Public Health System

Association of State/Territories Health Officials (OT13-1302, 000161) \$62,000

# Washington

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Washington State Department of Health (DD11-1101, 000800) \$146,794 National Spina Bifida Registry Longitudinal Data Collection & Evaluation

Seattle Children's Hospital (DD11-005, 000771)

\$70,000

Behavioral Risk Factor Surveillance System (BRFSS) Washington State Department of Health (SO11-1101, 000047) \$30,000

West Virginia

#### Wisconsin

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Wisconsin Department of Health and Family Services (DD11, 1101, 000806)

Wisconsin Department of Health and Family Services (DD11-1101, 000806)

\$154,628





Fetal Alcohol Spectrum Disorders (FASD) Regional Training Center Board of Regents of the University of Wisconsin System (DD11-1107, 000885) \$300,000

National Spina Bifida Registry Longitudinal Data Collection & Evaluation Children's Hospital of Wisconsin (DD11-005, 000768) \$69,108

Enhancing Public Health Surveillance of Autism Spectrum Disorders and other Developmental Disabilities through ADDM Network University of Wisconsin - Madison (DD10-1002, 000677) \$552,000

Advanced Alcohol Screening & Brief Intervention (aSBI) & CHOICES in American Indian & Alaska Native Population thru Training & Technical Assistance University of Wisconsin (DD13-1301, 001048) \$275,000

Behavioral Risk Factor Surveillance System (BRFSS) Wisconsin Department of Health Services (SO11-1101, 000015) \$15,000

## Wyoming

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Wyoming Department of Health (DD11-1101, 000787) \$141,924\_

# **District of Columbia**

Preventing Complications of Persons with Hereditary Blood Disorders Through Health Education and Outreach





Hemophilia Federation of American (DD09-905, 000537) \$336,165

Enhanced Resources for FASD Prevention and Intervention thru National Networking, Education and Dissemination National Organization on Fetal Alcohol Syndrome Prevention (DD10-1005, 000700) \$300,000

Public Health Surveillance for the Prevention of Complications of Bleeding & Clotting Disorders Hemophilia Federation of America (DD11-1103, 000859)

\$190,000

Improving the Health of People with Intellectual Disabilities Special Olympics, Inc. (DD12-1201, 000995) \$2,347,077

Improving Health of People with Intellectual Disabilities ARC of the United States (DD12-1201, 000993) \$938,745

Collaboration with Academia to Strengthen Public Health Workforce Capacity Association for Prevention Teaching and Research (OE12-1201, 000005) \$23,348

OSTLTS Partnerships CBA of the Public Health System National Healthy Start Association (OT13-1302, 000217) \$50,000

OSTLTS Partnerships CBA of the Public Health System National Association of County City Health Officials (OT13-1302, 000172) \$180,000

OSTLTS Partnerships CBA of the Public Health System American Public Health Association (OT13-1302, 000131) \$13,747





## Puerto Rico

Birth Defects - Population Based Birth Defects Surveillance and Utilization of Surveillance Data by Public Health Programs - Non-Research Puerto Rico Department of Health (DD10-1001, 000600) \$170,328

## Guam

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs University of Guam (DD11-1101, 000784) \$139,000

# American Samoa

# United States Virgin Islands

# Commonwealth of the Northern Marianna Islands

Commonwealth of the Northern Marianna Islands Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Commonwealth of the Northern Marianna Islands (DD11-1101, 000792) \$104,562

## Palau

National Center on Birth Defects and Developmental Disabilities Office of the Director





Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Republic of Palau Ministry of Health (DD11-1101, 000809 \$73,774

# Federated States of Micronesia (FSM)

Development, Maintenance & Enhancement of EHDI Info Systems (EHDI-IS) Surveillance Programs Federated States of Micronesia Department of Health, Education and Social Affairs (DD11-1101, 000778) \$68,872

# Marshall Islands

#### International

#### Italy

Birth Defects - Collaborative International Birth Defects Surveillance Program - Non Research International Centre for Birth Defects (DD09-902, 000524) \$215,712

#### Lebanon

Birth Defects - Surveillance of Birth Defects in Low and Middle Income Countries - Non Research American University of Beirut (DD11-1104, 000843) \$230,000

#### Switzerland





Global Prevention of Non-Communicable Disease Prevention & Promotion of Health World Health Organization (DP09-909, 002196) \$809,460

#### China

Conducting Public Research in China Chinese Center for Disease Control and Prevention (GH12-005, 000636) \$50,000

#### India

Addressing Emerging Infectious Disease and Related Public Health Concerns in India National Centre for Disease Control (GH10-002, 000066) \$40,000



# Learn more about NCBDDD's work in Birth Defects, Disabilities and Blood Disorders



http://www.cdc.gov/ncbddd



