

National Center on Birth Defects and Developmental Disabilities

Annual Report | Fiscal Year 2013



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

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 [Treating for Two initiative](#) by convening key stakeholders on strategies for safer

Video: The Story of Folic Acid Fortification



[This video](#) documents the compelling story of folic acid fortification.

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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 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 middle-resource 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 [fetal alcohol spectrum disorders \(FASDs\)](#) by characterizing the problem, implementing and disseminating evidence-based interventions, and strengthening partnerships to advance practice change. NCBDDD contributed to a [CDC Vital Signs report](#) 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. NCBDDD supported 3 of its [Regional Training Centers](#) to integrate alcohol screening and



SAVING BABIES
THROUGH BIRTH DEFECTS
PREVENTION AND RESEARCH

1 IN 33
IS BORN WITH A
BIRTH DEFECT

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

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brief intervention into clinical practice. NCBDDD supported the American Academy of Pediatrics (AAP) in the production of an [FASD Toolkit for providers](#).

- Leveraged NCBDDD's birth defects tracking expertise to better understand [congenital heart defects](#) (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: [gastroschisis](#) prevalence doubled from 1995-2005; trisomy conditions, including [Down syndrome](#), increased from 2005-2010 and survival among people with Down syndrome has improved over time; 18% of babies with [spina bifida](#) 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 [congenital heart defects](#) could be prevented each year in the U.S.

Did You Know?

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

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

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

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

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

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

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

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

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

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

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

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

Yazdy MM, et al. [Periconceptional use of opioids and the risk of neural tube defects](#). *Obstetrics & Gynecology*. 2013 Oct;122(4):838–844.

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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.

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