

Centers for Birth Defects Research and Prevention (CBDRP)

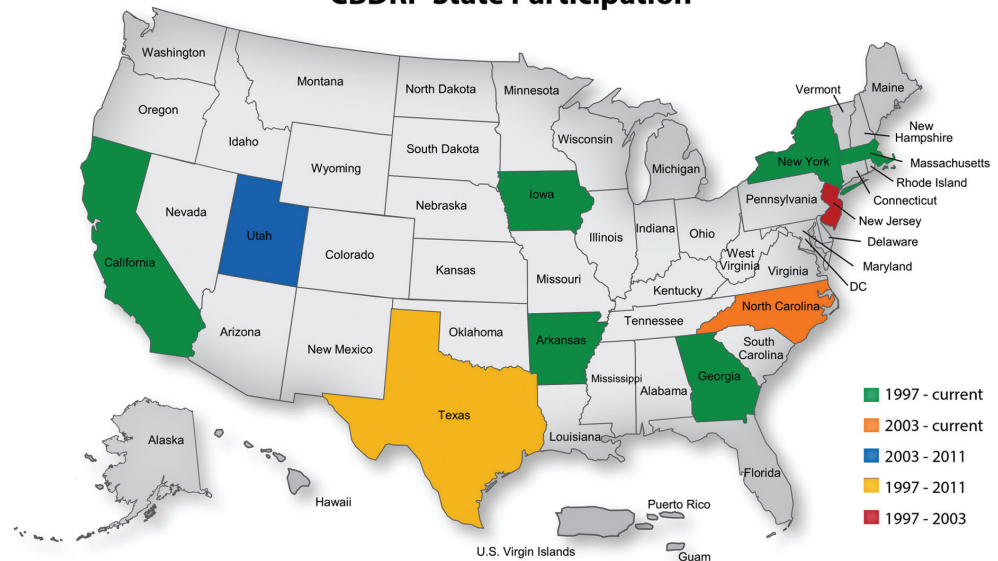
The CBDRP are research centers across the nation funded by CDC to understand the causes of birth defects.

- 1 in every 33 babies in the United States is born with a birth defect.
- Birth defects are a leading cause of infant mortality in the United States, accounting for 1 in 5 deaths in the first year of life.
- Total costs for hospital care of U.S. children with birth defects exceed \$2.6 billion each year.
- Babies who survive and live with birth can have lifelong challenges, such as problems with physical movement, learning, social interaction, and speech.

The CBDRP are a collaborative group of ten study centers funded by CDC to increase what we know about birth defects through tracking, research, and partnerships. Each center collects data and conducts research to identify factors that put babies at risk for birth defects and suggests areas for further study.

The CBDRP collaborate on two large studies: the National Birth Defects Prevention Study (NBDPS) which includes births from 1997–2011, and the Birth Defects Study To Evaluate Pregnancy exposures (BD-STEPS), which begins with births in 2014. The size and scope of these studies provide the nation with a vast resource to look at possible causes of birth defects.

CBDRP State Participation



CBDRP researchers provide expertise in key specialty areas such as medication use during pregnancy, environmental exposures, and genetic risk factors. This research can be used to develop recommendations, laws, messages, and programs to prevent birth defects.

Arkansas leads efforts to study genetic factors that put babies at risk to have congenital heart defects (major birth defects that affect the structure of a baby's heart and the way it works).

California leads efforts to study the nutritional and hormone-related causes of birth defects.

Georgia (CDC) provides technical and administrative support. The CDC is also the site for the Georgia Center, which leads efforts to study the risks for birth defects from many medications used during pregnancy, including fertility treatments.

Iowa leads efforts to understand the causes of cleft lip and cleft palate (major birth defects that occur when a baby's lip or mouth do not form properly), and conducts studies of longer term outcomes among children with birth defects.

Massachusetts leads efforts to understand the risks of medication use during pregnancy.

New York leads efforts to understand the relationship between chronic diseases a mother has during pregnancy and birth defects.

North Carolina leads efforts to understand how genetic factors and other exposures (like nutrition, medications, and pollution) might interact to increase the risk of birth defects.

Texas leads efforts to understand the higher risk for some types of birth defects among Hispanic women, such as neural tube defects (major birth defects of the brain and spine).

Utah leads efforts to understand the risk of maternal infection during pregnancy, particularly in relation to congenital heart defects and gastroschisis (a serious birth defect in which the intestines are outside of the infant's body).

National Center on Birth Defects and Developmental Disabilities
Division of Birth Defects and Developmental Disabilities





national • birth • defects • prevention • study

Through the NBDPS, the CDRP have been building the infrastructure for birth defects research for more than a decade. This study has made key contributions toward understanding the causes of birth defects and identifying potential risks for having a baby with a birth defect. The size, scope, and design of this study, as well as the different populations included, allow us to apply the results to the U.S. population. To date, more than 150 scientific papers have been published using data from the NBDPS. Findings from the NBDPS provide information on the following preventable risks for major birth defects:

- **Diabetes and obesity:** Women who have poor control of diabetes or who are obese at the time of pregnancy have an increased chance of having a baby with a birth defect.
- **Smoking:** Women who smoke during pregnancy have an increased chance of having a baby born with certain birth defects such as cleft lip.
- **Medications:** Certain medications a woman takes before or during pregnancy can increase the risk for birth defects.
 - » A 2010 study found that taking bupropion [Wellbutrin®] (used to treat depression/anxiety and to quit smoking) during pregnancy might increase the risk of having a baby with certain heart defects.
 - » A 2011 study found that some birth defects, including spina bifida and certain heart defects, were linked with use of opioids during early pregnancy.



The Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS) is the CDRP's next endeavor to follow-up on findings from the NBDPS. The BD-STEPS seeks to identify new factors that put babies at risk for birth defects, but that a woman would be able to change, like the medications she takes during pregnancy. The BD-STEPS begins collecting data on births in 2014. Centers in six states are funded to work on the BD-STEPS: Arkansas, California, Iowa, Massachusetts, New York, and North Carolina. CDC participates as the seventh study center in Georgia.

The BD-STEPS is more focused than the NBDPS. We will follow up on some of the promising leads from the NBDPS with more detailed questions for participants in the BD-STEPS. For example, while the NBDPS sought information on types of medications used during pregnancy, the BD-STEPS will ask more in-depth questions about medication doses and conditions for which medications are prescribed. The BD-STEPS will focus on the following maternal exposures that could have a substantial impact on public health:

- Diabetes, obesity, and physical activity
- Chronic medical conditions (e.g., asthma, high blood pressure)
- Infertility
- Medication use during pregnancy

These studies will provide important insight that will help in our journey to ensure that every child is born with the best health possible.



For more information on the CDRP, please visit
<http://www.cdc.gov/ncbddd/birthdefects/cdrp.html>

National Center on Birth Defects and Developmental Disabilities

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