

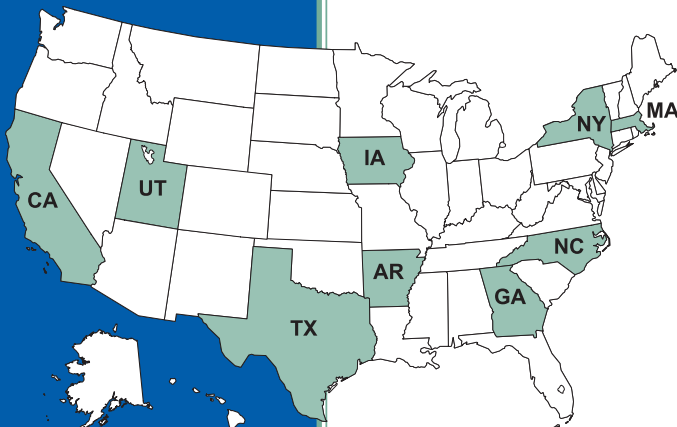


CDC's Centers for Birth Defects Research and Prevention

Birth defects affect 1 in 33 babies and are a leading cause of infant mortality in the United States. More than 5,500 infants die each year because of birth defects—two times as many as sudden infant death syndrome (SIDS). Babies who survive and live with birth defects are at increased risk for developing many lifelong physical, cognitive, and social challenges.

While we know how to prevent some birth defects like spina bifida and fetal alcohol syndrome, the causes of about two-thirds of birth defects are not known.

- ▶ Costs of life-long medical treatments and supportive services for individuals with any of the 17 most common birth defects exceed \$6 billion annually.
- ▶ Birth defects account for 12% of all pediatric hospital visits, contributing substantially to health care costs and the nation's burden of disease, illness, and long-term disability.



ADVANCING BIRTH DEFECTS RESEARCH

In 1996, Congress established CDC's network of Centers for Birth Defects Research and Prevention. The nine centers have been working on the largest study of birth defects causes ever undertaken in the United States. Researchers have gathered information from more than 25,000 participants and are using this information to look at key questions on potential causes.

CDC's Centers for Birth Defects Research and Prevention comprise partners at universities and at state health departments in Arkansas, California, Georgia, Iowa, Massachusetts, New York, North Carolina, Texas, and Utah. In addition to collaborating on the joint study, each center has developed expertise in key specialty areas such as medication use during pregnancy and genetic risk factors, as well as priority birth defects such as heart defects and cleft lip and cleft palate. CDC's decade-long investment in the study is now yielding important returns.

LEARNING MORE ABOUT BIRTH DEFECTS

Researchers have collected sufficient information to make meaningful conclusions about the more common birth defects. As a result, CDC and its partners are better able to answer critical questions about the causes of many of these birth defects. Study collaborators have discovered important findings on:

- ▶ Nutritional factors, such as B vitamins, and the causes of certain birth defects.
- ▶ Chronic conditions, such as thyroid disease and diabetes, and the increased risk of birth defects.
- ▶ Medications commonly used to treat depression and the risk for birth defects.
- ▶ The relationship between risk factors, such as smoking and obesity, and certain birth defects.

IMPROVING OUR ABILITY TO PREVENT BIRTH DEFECTS

Improving our ability to prevent birth defects is an important public health priority issue that requires continued commitment, among competing priorities. The knowledge gained from research done at the nine Centers for Birth Defects Research and Prevention is helping in the development of new birth defects prevention strategies. Building on this strong research foundation, CDC hopes to include more information in the study about environmental exposures, maternal infections, and the role of genetic risk factors. Expanding the study holds great promise in identifying new causes of and strengthening birth defects prevention strategies.

TAPPING EXPERTISE

Each Center for Birth Defects Research and Prevention offers specialized experience that enriches our understanding of the causes of birth defects and helps develop new birth defects prevention strategies.



Arkansas

The Arkansas center leads efforts to study **genetic risk factors** for **congenital heart defects**. Congenital heart defects are the most common type of birth defect, affecting nearly 1% of infants born in the United States.



California

The California center leads efforts to study the **nutritional** and **hormone-related causes of birth defects**. Diet is complex—the center has investigated many nutrients for their potential to prevent birth defects.



Iowa

The Iowa center leads efforts to understand the causes of **cleft lip and cleft palate** and conducts studies of longer term outcomes among affected children. This center also explores the possible risk of **agricultural exposures**, such as that from pesticide exposures during pregnancy.



Massachusetts

The Massachusetts center leads efforts to understand the **risks of medication use during pregnancy**. Over half of pregnant women take at least one prescription medication during pregnancy, and it is very important to understand the safety or risk of these medications.



New York

The New York center leads efforts to understand the relationship between the chronic diseases a mother might have during pregnancy and birth defects. These chronic diseases include **hypertension, asthma, and thyroid disorders**.



North Carolina

The North Carolina center leads efforts to understand **complex genetic pathways** and how they relate to birth defects. The center also provides expertise on **nutritional factors** such as dietary fat intake and their association with birth defects.



Texas

The Texas center 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). The center is also involved in exploring **environmental exposures, such as air pollution**.



Utah

The Utah center leads efforts to understand the risks of **maternal infections** during pregnancy, particularly in relation to congenital heart defects and **gastroschisis**. Gastroschisis is a serious birth defect in which the intestines are outside of the infant's body.



Georgia (CDC)

The CDC center leads efforts to study **occupational exposures** and birth defects. The center also focuses on understanding some exposures of increasing prevalence, such as **fertility treatments**.