

Metropolitan Atlanta Congenital Defects Program



Birth defects are the leading cause of infant mortality and contribute substantially to illness and long-term disability among children. Birth defects surveillance systems are vital for monitoring and detecting trends in birth defects, providing the basis for studies of the causes of birth defects, and planning and evaluating the effects of prevention activities.

The Metropolitan Atlanta Congenital Defects Program (MACDP) is a population-based birth defects surveillance program created in 1967 of increases in the prevalence of defects. Founded as a collaboration of the Centers for Disease Control and Prevention (CDC), Emory University, and the Georgia Mental Health Institute, and administered by CDC, MACDP has been collecting, analyzing, and interpreting birth defects surveillance data on an ongoing basis for over 30 years.



The program monitors all major birth defects in five counties of the metropolitan Atlanta area (Clayton, Cobb, DeKalb, Fulton, and Gwinnett) with approximately 50,000 annual births from a population of about 2.9 million. An estimated 3.3% of births each year have a major birth defect.

MACDP has served as a data source for a variety of epidemiologic studies, including studies of trends in hypospadias, heart defects, and neural tube defects. MACDP has served as a data source for studies of clusters of birth defects and for epidemiologic studies of possible risk factors for birth defects, including potential Agent Orange exposure among Vietnam war veterans, maternal use of multivitamins, maternal diabetes, smoking, alcohol use, maternal use of prescription medications, and maternal febrile illnesses. MACDP data have also been used to evaluate prognostic factors for disability among children with birth defects and for prognostic factors for survival among children with neural tube defects.

Currently, MACDP serves as the source of case data for one of eight centers participating in the National Birth Defects Prevention Study (NBDPS), a large case-control study that aims to evaluate the role of environmental and genetic factors in the occurrence of birth defects. MACDP data have also served as a basis for developing and evaluating prevention strategies and for health policy decisions related to the use of folic acid supplements before and early in pregnancy for the prevention of neural tube defects.

Since its inception, MACDP has served as a model for many state-based programs, a resource for the development of uniform methods and approaches to birth defect surveillance, and a prototype for active case ascertainment surveillance across the United States and in many other countries.

The program has served as a training ground for a large number of professionals active in birth defects epidemiology, including CDC Epidemic Intelligence Service Officers, visiting scientists, fellows, preventive medicine residents, and medical and public health students. Such training has been important for building professional capacity in birth defects epidemiology in state health departments, federal agencies, universities, and private industry.

Promoting the health of
babies, children, and adults,
and enhancing the potential
for full, productive living.

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