



Monitoring Birth Defects in Colorado

Every day in Colorado 148 babies are born; 7 have serious birth defects, 5 of those are of unknown cause. Monitoring the occurrence of birth defects is essential both to eventually understanding their cause and to preventing them.

Colorado Responds to Children With Special Needs (CRCSN) is the public health birth defects monitoring and prevention program at the Colorado Department of Public Health and Environment (CDPHE). The mission of CRCSN is to characterize the prevalence of birth defects and related disabilities and provide epidemiological information for prevention and research.

SURVEILLANCE

CRCSN is the most comprehensive source of information on the occurrence of birth defects in the state of Colorado. It encompasses the entire state and includes information from a wide variety of data sources. Since birth defects may not be diagnosed at birth, CRCSN includes children up to three years of age (up to age seven for children diagnosed with fetal alcohol syndrome). Birth defects surveillance among pregnancies that do not result in a live birth is accomplished by collecting information from fetal death certificates and prenatal testing results.

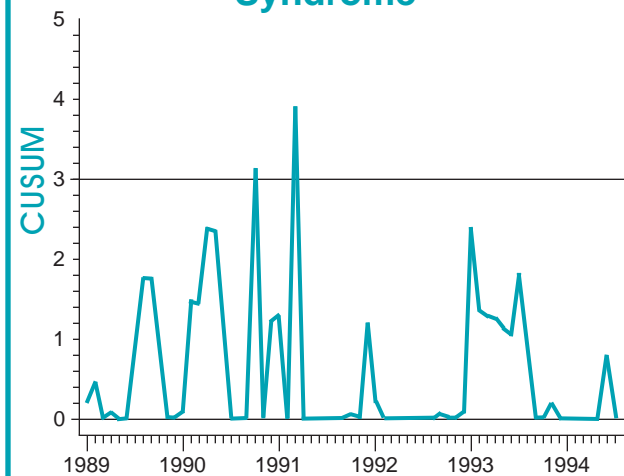
DETECTING CHANGES

Changes in the rate of a birth defect may need to be investigated. The amount of change necessary to trigger an investigation varies. In some cases, a slight increase in the rate of a birth defect may not cause alarm, while in other instances the birth of only one child with an unusual combination of birth defects can indicate a problem. CRCSN uses a combination of methods to detect changes that should be explored further. These include:

- ❖ comparing Colorado birth defect rates to other states' rates and to national rates
- ❖ using statistical techniques to establish baseline rates and tracking changes in these rates over time and geographic location.

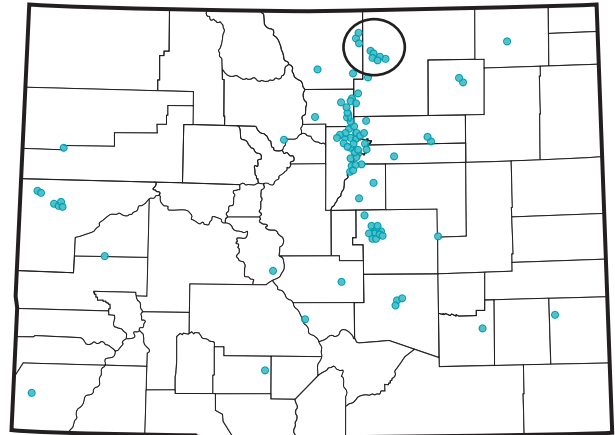
Examples of two statistical techniques that are used are the **CUSUM** method and a **spatial scan statistic**. The CUSUM method takes into consideration information contained in both current and previous observations. It is used by CRCSN to "signal" when the rate of a birth defect has increased significantly over an established baseline rate.

Hypoplastic Left Heart Syndrome



A spatial scan statistic is used by CRCNS to determine the location of a likely geographic “cluster” of birth defects in a study area. Being able to analyze the exact locations of where birth defects and normal births occur is an essential step in trying to understand why birth defects occur where they do.

Analyzing Spatial Patterns



CONTINUAL IMPROVEMENT STRATEGY

CRCNS staff work to continuously improve data collection and analysis. Prevention of birth defects and early intervention for children relies upon monitoring data that are reported in a timely manner, analyzed quickly and presented accurately.

For more information contact:

Colorado Responds to Children with Special Needs
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530
(303) 692-2700
e-mail: crcns@state.co.us
website: www.cdph.state.co.us/dc/dccrcns.html



Colorado Department
of Public Health
and Environment

For more information on healthy pregnancies
or birth defects contact the

March of Dimes

888-663-4637

e-mail: resourcecenter@modimes.org

website: www.modimes.org

DEVELOPED WITH THE SUPPORT OF THE COLORADO CHAPTER OF THE MARCH OF DIMES