



Colorado Department
of Public Health
and Environment



Overweight and Obesity Prevalence among Children Ages 2 through 4 Years Enrolled in the Colorado WIC Program* During 2012

New methodology: In 2010, the Centers for Disease Control and Prevention (CDC) announced they would no longer produce the PedNSS (Pediatric Nutrition Surveillance System) reports. CDC published the last PedNSS results for 2011. States are now tasked with conducting their own analysis on their data. Of all the many data elements reported by PedNSS, pediatric overweight/obese data were viewed as most essential. CDC created an analysis methodology to obtain pediatric overweight/obese data that use a specific data set collected by all state WIC Programs, the WIC Participant and Program Characteristics (WIC PC) file. States have the option to use this methodology to produce their state-specific pediatric overweight/obese data.

During the summer of 2012, the Colorado WIC Program conducted an analysis of its 2012 PC file to assess the prevalence of overweight and obese children ages 2 through 4 years. The 2012 Colorado WIC PC file includes all actively enrolled participants in the WIC data base during the month of April 2012. This methodology is called “point prevalence methodology” and differs from past methodologies CDC produced. It contains children enrolled in the Colorado WIC Program during one month only. It does not contain the entire number of children participating in WIC over a one year time period (as previously presented in PedNSS). Hence, the number of children with biologically plausible data (data that are assumed accurate and consistent with what makes sense biologically) to analyze from 2012 is smaller than the number from past PedNSS estimates. Because of this new analysis methodology, the prevalence of overweight and obesity among children ages 2 through 4 years receiving WIC services from the WIC PC file are not directly comparable to past PedNSS prevalence estimates.

Because the 2012 estimates are based on actual measurement values of WIC participants, the estimates are valid and accurate. The 2012 estimates will serve as a new baseline for monitoring trends in future years.

2012 State Prevalence: Based on the new methodology, the 2012 state prevalence of overweight and obesity among Colorado WIC Program participants ages 2 through 4 years is below (Table 1). The prevalence estimate is reported along with its corresponding confidence interval (refer to the description about confidence intervals below). In 2012, 14.5 percent of low income children ages 2 through 4 years in Colorado were overweight, 8.4 percent were obese, and 22.9 percent were overweight or obese.

Table 1. Prevalence of overweight and obesity among children ages 2 through 4 years enrolled in the Colorado WIC Program (N = 33,615), 2012

	n	Overweight 85 th -<95 th percentile [^] % (95% CI)	Obese ≥95 th percentile [^] % (95% CI)	Overweight or Obese ≥85 th percentile [^] % (95% CI)
Colorado	33,615	14.5 (14.1 - 14.9)	8.4 (8.1 - 8.7)	22.9 (22.4-23.3)

CI: Confidence Interval

[^]Based on 2000 CDC growth chart percentiles for BMI-for-age for children 2 years of age and older.

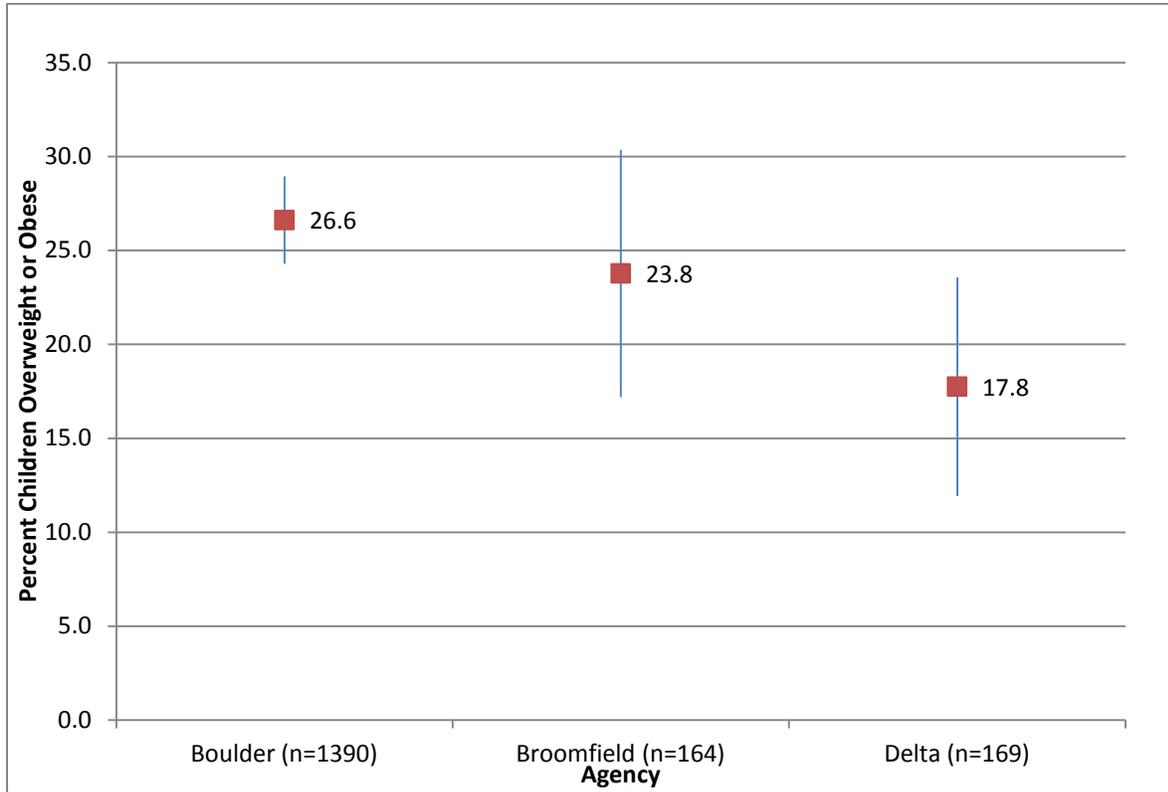
Data Source: 2012 WIC Participant and Program Characteristics (Colorado WIC PC) file

Note that the total number of children ages 2 through 4 years available for analysis after exclusions of implausible records was 33,615. This sample size is smaller than the sample sizes analyzed in the past by the PedNSS. The decreased sample size results in increased variability in estimates, which is why it becomes important to look at the confidence intervals, especially when making comparisons. It should be noted that prevalence estimates are suppressed for counties, agencies, and clinics with a sample size less than 100.

Confidence Intervals (CI): Confidence intervals are used to describe the possible margin of error of an estimated prevalence or rate. This report provides 95 percent confidence intervals. A 95 percent confidence interval indicates that 95 out of 100 times, the “true” prevalence value will be contained between the upper and lower limits of that confidence interval. Confidence intervals are directly affected by sample size. If the sample size is small, the confidence interval will likely be wide. Conversely, if the sample size is large, the confidence interval will likely be narrow. Confidence intervals are important for understanding if differences are statistically significant.

The CI example shows the prevalence of overweight or obese children for three agencies. The prevalence estimate is indicated by the red marker and the confidence interval is indicated by the blue line. Broomfield has the longest line and the smallest sample size, while Boulder has the shortest line and the largest sample size. The lines for Boulder and Broomfield overlap, so the prevalence estimates are not statistically significantly different. The lines for Boulder and Delta do not overlap, thus the prevalence of overweight or obese children ages 2 through 4 years served in Boulder County is 26.6 percent and this is statistically different from 17.8 percent, the prevalence of overweight or obese children in Delta County.

CI Example: Prevalence of overweight or obese children ages 2 through 4 years enrolled in the Colorado WIC Program by select agencies, 2012



Data Interpretation: Due to changes in methodology, these are a few things that cannot and can be done with these new estimates.

Cannot:

- Compare 2012 estimates to the PedNSS estimates from 2011 and earlier.
- Compare Colorado 2012 data to other states' 2012 data.

Can:

- Use the 2012 estimates as the new baseline for overweight and obese children ages 2 through 4.
- Compare data within the same year to other agencies, clinics, counties, and the state.
- Compare with future data when available – make sure to check the confidence interval overlap when making comparisons by year.

The following pages indicate the prevalence of overweight and obesity among children ages 2 through 4 years in 2012 by local WIC agency (Table 2), WIC clinic (Table 3), and county of WIC clinic (Table 4) along with their respective confidence intervals.

Note to Users of these Data:

Use these data as you monitor efforts to achieve healthy weight among the children you serve in your agency. It is helpful to look at the prevalence of overweight and obesity together because the sum of these values tells a much broader story of the burden among the population being served. Remember that although the 2012 data are valid, it is not comparable to PedNSS rates reported earlier.

Other partner programs within your broader agencies or external organizations may also find the data to be a useful surveillance tool as programmatic efforts targeting the health of children in early childhood emerge. Specifically, local WIC agencies can use the data to monitor progress related to early childhood obesity prevention nutrition education plans.

The data are posted on the Colorado WIC Program's web site. Click "Agency Staff", then "Reports". Scroll past the PedNSS tables to locate the 2012 data.

Future plans: Beginning 2013, these estimates for state, local agencies, clinics, and counties will be released in the spring following the year of the data. When 2014 data are released, three years of data will be aggregated (2012-2014) at the local WIC agency level to supply overweight and obese estimates to agencies with smaller caseloads. Colorado will continue to explore ways to identify data elements (other than pediatric overweight/obesity) that were once available through PedNSS.

*The Colorado Special Supplemental Nutrition Program for Women, Infants, and Children is commonly referred to as the Colorado WIC Program