Denver Childhood Obesity Monitoring Report 2012-2016

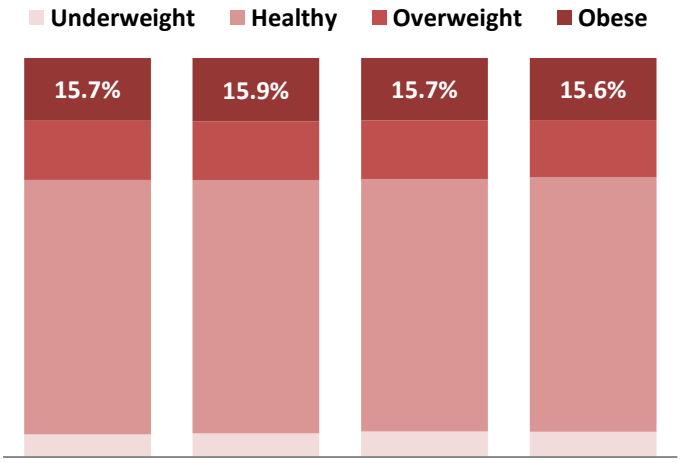
Executive Summary

While recent national data suggests that the childhood obesity epidemic is on the mend in many states, Denver data shows that childhood obesity remains an issue that deserves our attention. Public health and community partners across Denver are focused on reducing childhood obesity prevalence by five percentage points by 2019 through the Community Health Improvement Plan. This report includes detailed information about recent childhood obesity trends in the City and County of Denver, between 2012 and 2016 using height and weight data collected annually from approximately 50,000 children and youth in Denver. This information has been used to identify and target resources and interventions for sub-populations and geographic areas where the burden of childhood obesity is the greatest.

Key Findings

- Childhood obesity prevalence in Denver did not change between the 2012/2013 and 2015/2016 school years (Figure 1).
- Since the 2012/2013 school year, obesity among children 2 to 5 years of age has declined from 10.6% to 9.2%.
- Among adolescents (12 to 17 years), obesity prevalence increased from 20.8% to 21.3% between 2012/2013 and 2015/2016.
- Disparities in childhood obesity prevalence exist:
  - Obesity was more common among males compared to females and Hispanics compared to non-Hispanics.
  - Among Hispanic children, obesity prevalence increased from 20.2% to 20.9% between 2012/2013 and 2015/2016.
  - Across 144 Denver census tracts, prevalence of childhood obesity varied from 1.8% to 26.3%. One out of every four census tracts had a childhood obesity prevalence rate greater than 20%.

Figure 1. Prevalence of Obesity Among Children and Youth 2-17 Years of Age



Data Source: Denver Public Schools Student Height and Weight Screening Data 2012-2016

Promoting Healthy Food and Beverages Can Reduce the Burden of Childhood Obesity

Organizations and individuals can take steps—big and small—to help Denver kids maintain a healthy weight.

- Organizations can adopt toolkit components of sugary drink public education campaigns, such as Hidden Sugar.
- Organizations and individuals can encourage policymakers, funders, and community organizations to increase efforts to limit unhealthy options, including sugary drinks, to children in public venues. The Healthy Beverage and Food Policy and Practice Toolkit is available for partners interested in policy adoption.

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Background

Denver youth are growing up in the midst of a childhood obesity epidemic. Since 1970, childhood obesity has increased more than three-fold in the United States, and Denver has not been excluded from this trend. Obesity is progressive and persistent; evidence shows that obese children are likely to become obese youth and grow into obese adults. If obesity persists, every major system in the body will be affected, increasing the risks of developing type 2 diabetes, asthma, cancer and heart disease.

Childhood obesity is a priority in Healthy People 2020, a national set of objectives to improve the health of all Americans. While recent studies show that the childhood obesity is decreasing in many locales, Denver is an outlier—childhood and youth obesity rates remain high for many groups in Denver.

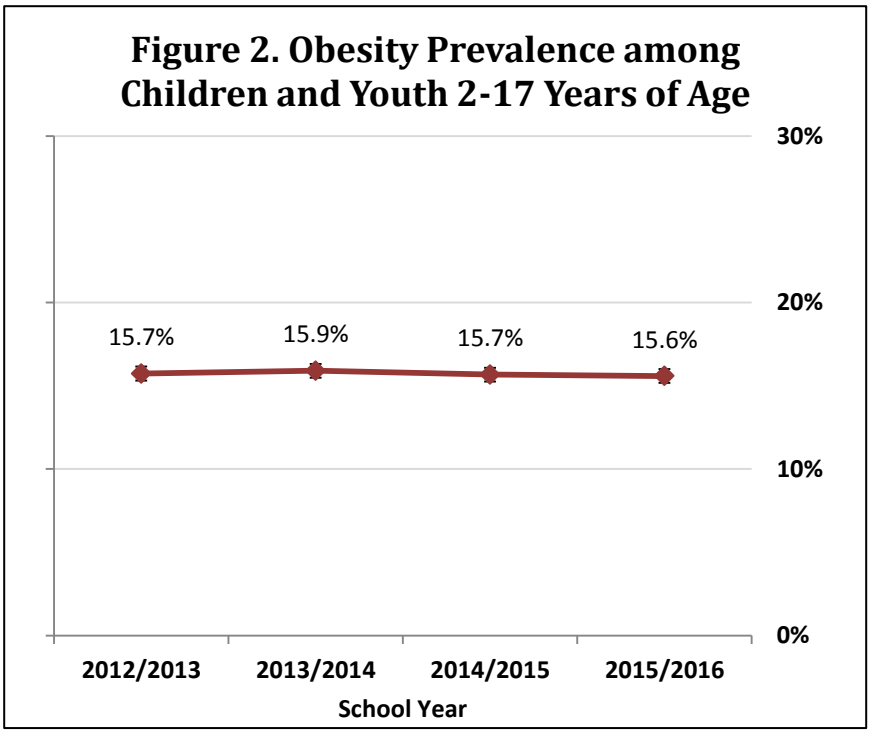
Trends in Childhood Obesity

Figure 2 shows the percent of school-aged children with an obese weight body mass index (BMI) by school year, from 2012/2013 to 2015/2016.

During the 2015/2016 school year, when 52,180 students were screened:

- 63.8% of school-aged children were at a healthy weight
- 15.6% were obese
- 14.3% were overweight
- 6.3% were underweight

The percent of children obese and at a healthy weight showed very little change over the past four school years. Figure 1 represents the prevalence of each weight status as a proportion of all children measured. Figure 2 offers a closer look at obesity prevalence and confirms no recent increases or decreases.



Data Source: Denver Public Schools Student Height and Weight Screening Data 2012-2016

Childhood obesity is often monitored by overall prevalence including all genders and racial ethnic groups. Because some groups are affected more than others, childhood obesity prevalence should also be stratified by age, gender, and racial ethnic groups.

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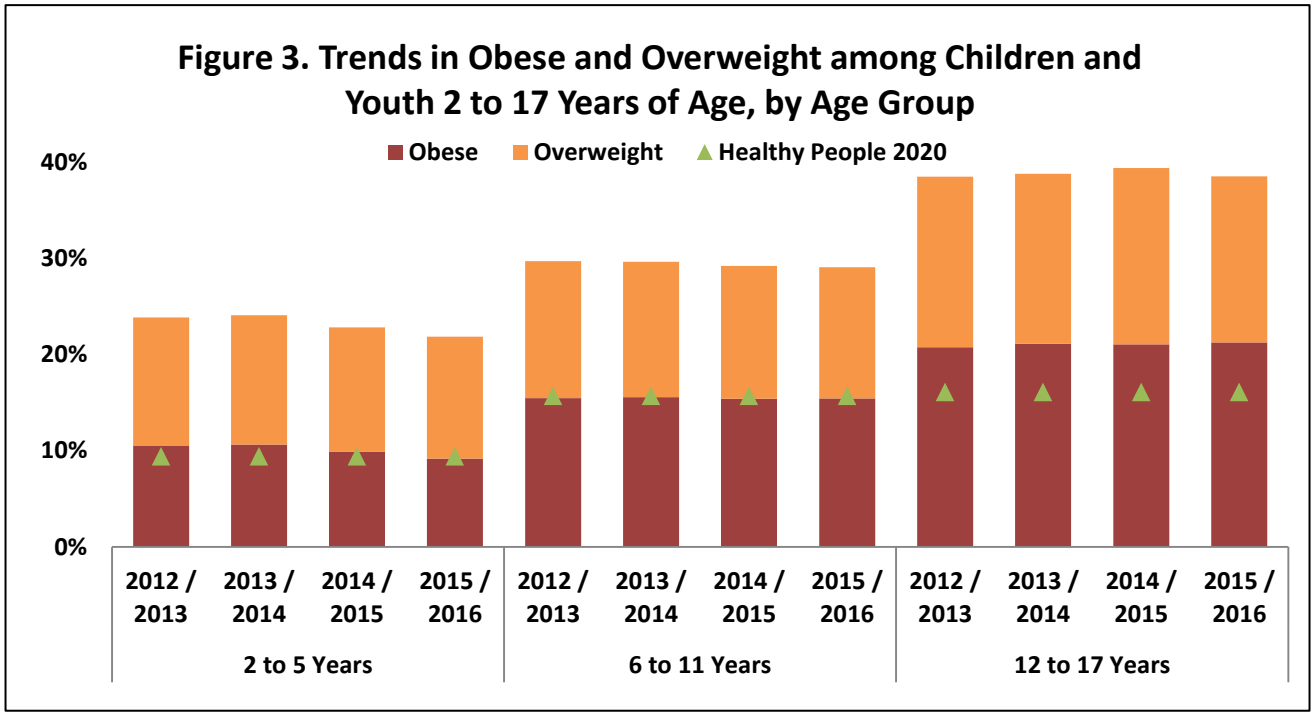
Obesity and Overweight by Age-Group

Monitoring childhood obesity and trends in early childhood (2 to 5 years), middle childhood (6 to 11 years), and youth (12 to 17 years) is important because prevention and intervention are delivered differently depending on the age-group.

Healthy People 2020 has defined childhood obesity goals for each age-group (indicated by the green lines on Figure 3); including reducing the proportion of children aged 2 to 5 years who are obese to 9.4%, children aged 6 to 11 years who are obese to 15.7%, and children aged 12 to 19 years who are obese to 16.1%. Denver strives to have age-group specific obesity prevalence below the Healthy People 2020 goals. Figure 3 shows the percent of children obese and overweight by age groups and school year.



Data Source: Denver Public Schools Student Height and Weight Screening Data 2012-2016

Since 2012, obesity prevalence has decreased among 2 to 5 year olds from 10.6% to 9.2% in 2015/2016 (908 of 9,885 children). While not statistically significant, the decrease is early evidence that childhood obesity in Denver might be decreasing. The 2015/2016 estimate for obesity prevalence among 2 to 5 year olds is lower than the Healthy People 2020 goal.

- Among children 6 to 11 years, obesity prevalence remained flat at 15.5% in 2012/2013 and 2015/2016.
- Obesity among youth 12 to 17 increased from 20.8% to 21.3% between 2012 and 2016.
- For all four years, the obesity prevalence for 6 to 11 year old children and youth 12 to 17 years was above the Healthy People 2020 goal.

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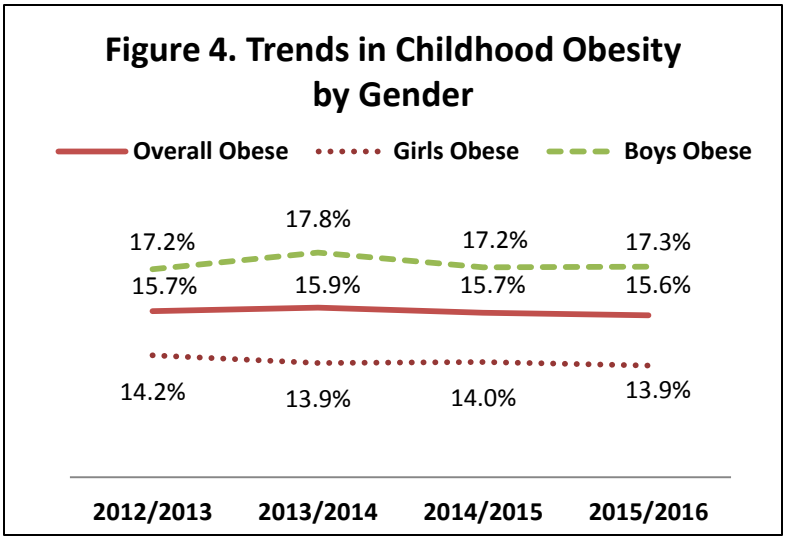
Obesity by Gender

Figure 4 shows the obesity prevalence was higher among boys compared to girls. Boys showed no change during this time period while girls experienced a modest decline.

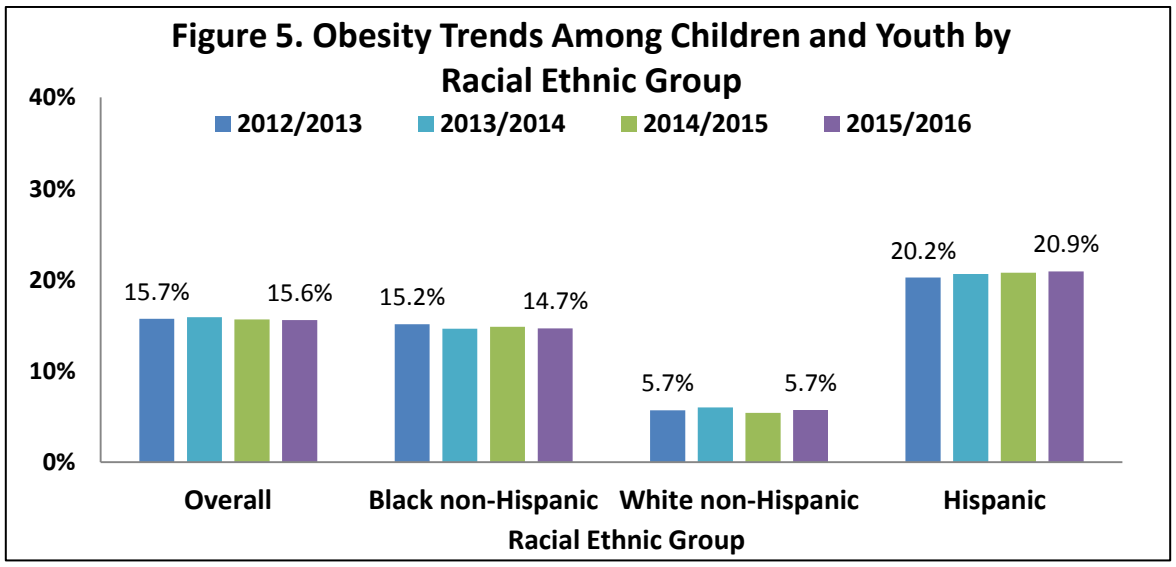
- During all four years, childhood obesity among boys was roughly three percentage points higher compared to girls.
- During the 2015/2016 school year, 62.6% of school-aged males were at a healthy weight and 17.3% were obese.
- During the 2015/2016 school year, 65.1% females were at a healthy weight and 13.9% were obese.



Data Source: Denver Public Schools Student Height and Weight Screening Data 2012-2016

Obesity by Racial Ethnic Group

Patterns of obesity by racial ethnic group appeared to be fairly stable over time but differed by ethnic group. Figure 5 shows the overall proportion of obesity among school-aged children and differences in obesity among each racial ethnic group.



Data Source: Denver Public Schools Height and Weight Screening Data 2012-2016

Hispanic and Black, non-Hispanic children had significantly higher prevalence of obesity compared to the White, non-Hispanic children. In 2015/2016, one in five Hispanic children was obese compared to one in 20 White, non-Hispanic children. White, non-Hispanic children measured nearly 10 percentage points below the overall proportion of obesity and neither increased nor decreased since 2012/2013. Obesity among Black, non-Hispanic children may be declining while obesity prevalence among Hispanic children may be increasing.

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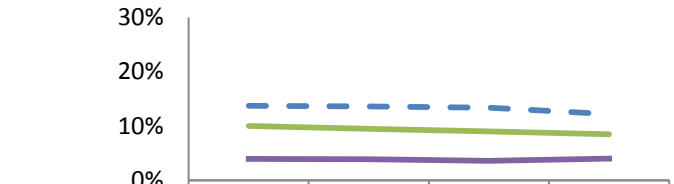
Obesity by Age-Specific Racial Ethnic Group

Trends in childhood obesity by racial ethnic group appear to be fairly stable over time but differ by age and ethnic group.

2-5 Year Olds by Racial Ethnic Group

The prevalence of obesity among Hispanic and Black, non-Hispanic 2 to 5 year olds has decreased but remains higher than non-Hispanic White (12.2% and 8.5% vs. 4.0%). Among White, non-Hispanics obesity prevalence has remained relatively constant since 2012/2013.

Figure 6. Childhood Obesity among 2-5 Year Olds by Racial Ethnic Group



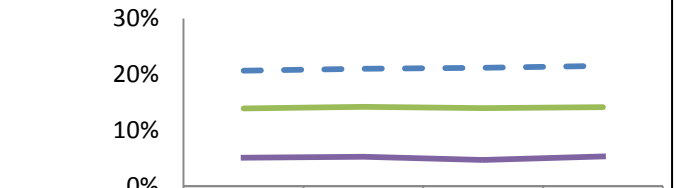
	12/13	13/14	14/15	15/16
Hispanic	13.7%	13.6%	13.4%	12.2%
Black	10.0%	9.5%	9.0%	8.5%
White	4.0%	3.9%	3.6%	4.0%

Data Source: Denver Public Schools Student Height and Weight Screening Data 2012-2016

6-11 Year Olds by Racial Ethnic Group

The prevalence of childhood obesity among 6 to 11 year olds has remained much the same over time among all race/ethnic groups. Among White, non-Hispanics there was a slight increase from 4.7% obesity in 2014 to 5.3% in 2015 but little change over the four year period. Hispanics had the greatest increase over this time period, with a prevalence of 20.6% in 2012/2013 which increased to 21.5% in 2015/2016.

Figure 7. Childhood Obesity among 6-11 Year Olds by Racial Ethnic Group



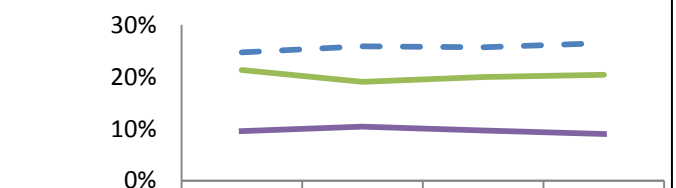
	12/13	13/14	14/15	15/16
Hispanic	20.6%	21.0%	21.2%	21.5%
Black	13.9%	14.2%	13.9%	14.1%
White	5.1%	5.3%	4.7%	5.3%

Data Source: Denver Public Schools Student Height and Weight Screening Data 2012-2016

12-17 Year Olds by Racial Ethnic Group

The prevalence of childhood obesity among Black, non-Hispanic and White, non-Hispanic 12 to 17 year olds. In the 2015/2016 school year, Black, non-Hispanics had an obesity prevalence of 20.4% compared to 21.3% in 2012/2013. Among Hispanics obesity prevalence has increased from 24.7% in 2013 to 26.5% in 2015/2016.

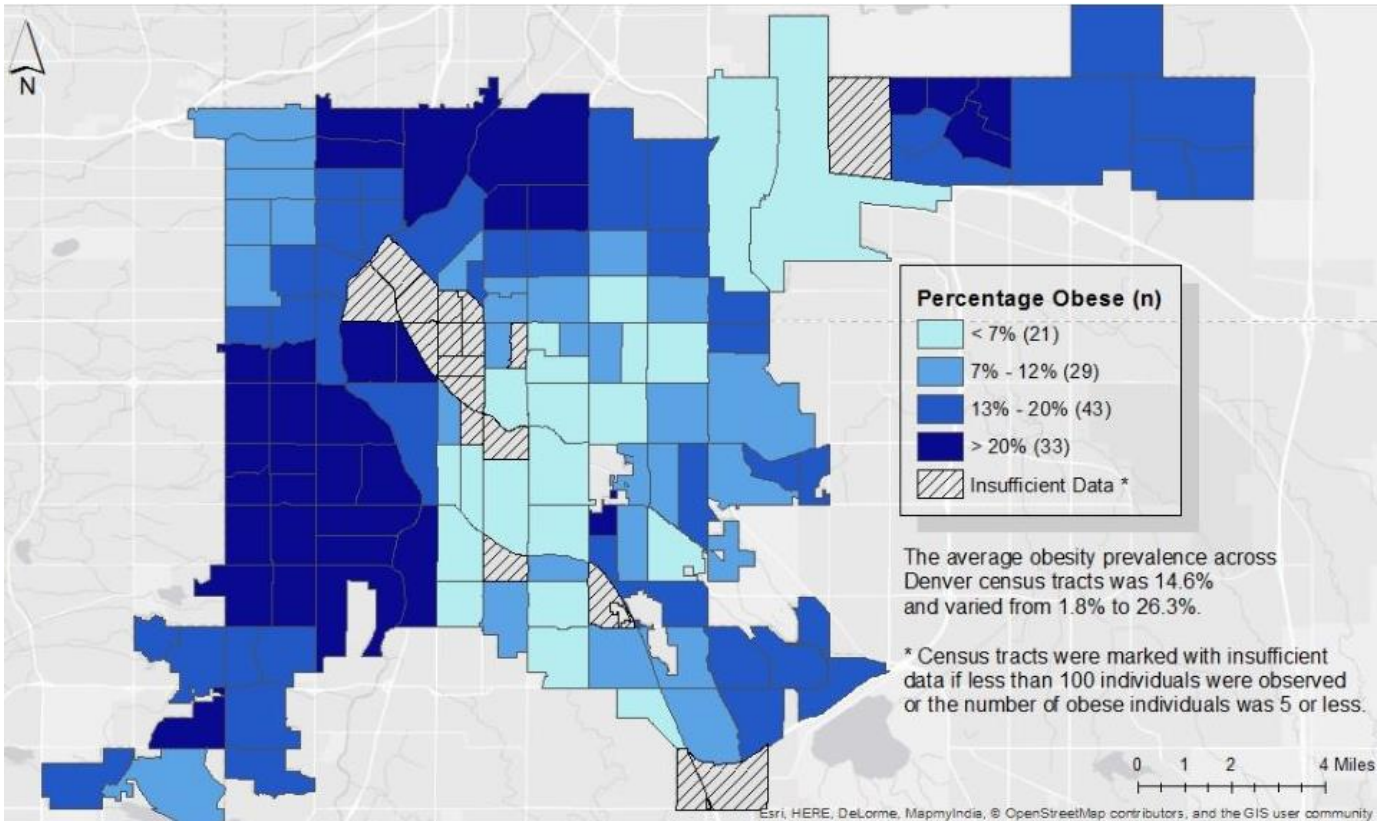
Figure 8. Childhood Obesity among 12-17 Year Olds by Racial Ethnic Group



	12/13	13/14	14/15	15/16
Hispanic	24.7%	25.9%	25.7%	26.5%
Black	21.3%	19.1%	20.0%	20.4%
White	9.6%	10.4%	9.7%	9.0%

Data Source: Denver Public Schools Student Height and Weight Screening Data 2012-2016

Map 1. Percentage of School-Aged Children and Youth Obese by Denver Census Tract 2014-2016



Data source: Denver Public Schools Student Height and Weight Screening Data 2012-2016. Population data and geospatial information from US Census 2010, American Community survey 2010-2014; five year estimates.
Location information assigned based on individual's address of residence.

One in four (26%) of Denver's 144 census tracts had childhood obesity prevalence above 20%. One in six (15%) of Denver census tracts had less than 7% of children and youth with an obese weight. There were a total of 7,053 students excluded from the map for one of the following reasons: their address was located outside of city and county of Denver boundaries, their address could not be geo-located, or their address was in a census tract deemed to have insufficient data. Southwest, Northwest, and Northeast Denver had the highest prevalence of childhood obesity.