

Cherokee County School District

2015 Body Mass Index (BMI) Report

First, Third, and Fifth Grade Students



ALMA ELEMENTARY
BD LEE ELEMENTARY
BLACKSBURG ELEMENTARY
BLACKSBURG PRIMARY
CORINTH ELEMENTARY
DRAYTONVILLE ELEMENTARY
GOUCHER ELEMENTARY
GRASSY POND ELEMENTARY
LIMESTONE ELEMENTARY
LUTHER L. VAUGHAN ELEMENTARY
MARY BRAMLETT ELEMENTARY
NORTHWEST ELEMENTARY



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Preface

Project Description

The Cherokee County Body Mass Index (BMI) project began as a collaborative effort between the Cherokee County School District and S.C. Department of Health and Environmental Control (DHEC). The reports (2012-2015) have spurred important conversations and created significant momentum.

Central to that discussion has been KNOW(2), a local non-profit created to address important community indicators in the areas of economic development, education, crime and safety, family and youth, and public health. The Public Health Task Force conducted a health assessment in 2014, culminating in a prioritization process that led to a focus on healthy eating, active living and tobacco prevention. In 2015, the task force took steps to become an official chapter of Eat Smart, Move More, South Carolina, a statewide coalition whose tagline reads “Making the Healthy Choice the Easy Choice.” Eat Smart, Move More, Cherokee County (ESMMCC) focuses on policy, systems and environmental changes and uses evidence-based interventions to increase access to healthy foods and physical activity. The coalition is comprised of representatives from schools, health-care facilities, government entities, the local newspaper, community volunteers and others. The strong partnerships and community buy-in have contributed to a decrease in childhood obesity over the last three years.

This report details the fourth consecutive year of BMI measurement for all Cherokee County first-, third- and fifth-grade students attending public school. Consistent participation over the last four years is significant. Comparing four data points allows for the establishment of trend data, which is a useful metric in measuring differences and changes over time.

The data collected for this study is strictly for surveillance and is not used as a screening tool. Surveillance data helps schools and policymakers make informed decisions about how to address the problem of childhood obesity.

Problem Statement

It is well documented that overweight or obese children are more likely to be obese as adults. Being overweight or obese can put children at a higher risk for health problems such as heart disease, hypertension, type 2 diabetes, stroke, cancer, asthma and osteoarthritis—during childhood and as they age. Additionally, troubling inequities persist: Obesity rates are higher among children of color and families living in poverty.

The Robert Wood Johnson Foundation’s 2015 State of Obesity Report states that South Carolina is the 10th most obese state in the country and South Carolina’s 10-17 year-olds have the second highest obesity prevalence in the U.S. Rates in Cherokee County reflect state and national trends, indicating an alarming prevalence of overweight and obese children. BMI data is not available for all South Carolina counties, but DHEC’s Upstate Region Health Department facilitates BMI studies in Spartanburg, Cherokee and Union Counties.

An increased recognition of this epidemic has created important inroads toward preventing and reducing obesity. However, change has been slow and national, state and local obesity rates remain very high.

Causes of Childhood Obesity

Very simply put, childhood obesity results from an energy imbalance – children consuming more calories than they burn through physical activity and normal growth. However, we now understand that behavioral decisions are not made without connection to many other important factors. Where families live, learn, work and play all have a major impact on the choices they are able to make. For example, inexpensive processed foods are widely available, while healthy foods are often more expensive and scarce in some neighborhoods. Safe, accessible places to be physically active are not always available. Reversing the obesity epidemic will require collaboration among individuals, families, schools, communities, businesses and government – all sectors working together to make healthier choices easier for all communities.

Methodology

Students from all 12 elementary/primary schools (first-, third- and fifth-graders) in Cherokee County participated in the BMI study. DHEC staff provided electronic scales and measured the height/weight of each student. School personnel provided de-identified information regarding gender, date of birth, ethnicity, and free and reduced lunch status.

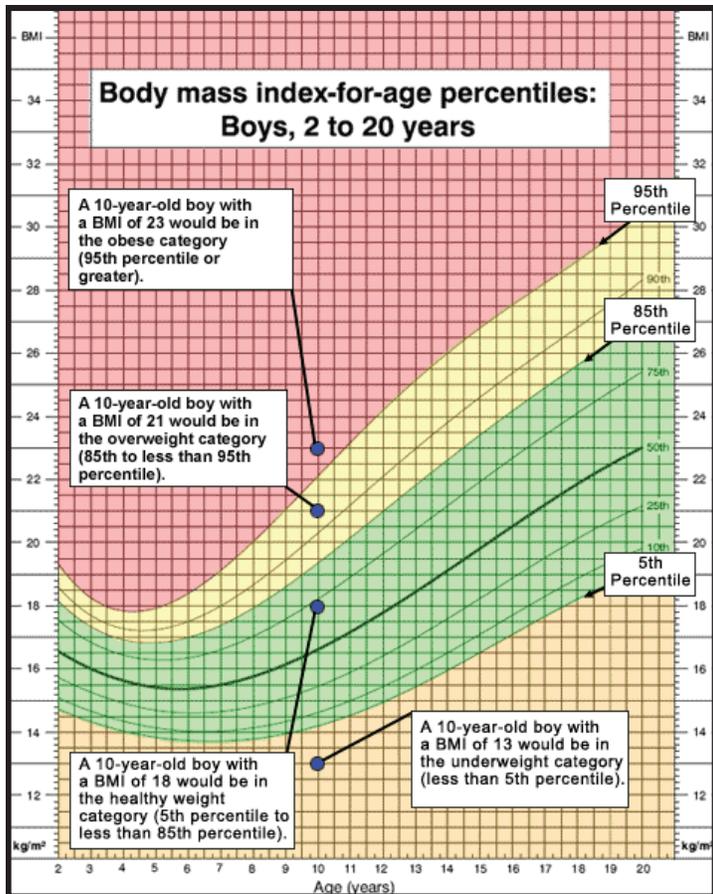
Obesity is defined as excess body fat, and there are various ways to estimate fat. The most commonly used screening tool is the calculation of body mass index (BMI) from the weight and height of an individual.

The formula follows:

$$\text{BMI} = 703 \times (\text{weight (pounds)} / \text{height}^2 (\text{inches}^2))$$

For children and youth, defining overweight or obesity based on BMI is more difficult because height and weight are age dependent and change throughout development. For children age 2 to 20 years old, the CDC has developed a definition based on the 2000 CDC growth charts for age and sex. The BMI categories used for this report are listed below.

A census rather than a sample method of data collection was used, making the results very reliable.



Weight Status Category and Percentile Range
Underweight Less than the 5 th percentile
Normal Weight 5 th percentile to less than the 85 th percentile
Overweight 85 th percentile to less than the 95 th percentile
Obese Equal to or greater than the 95 th percentile

2015 Key Findings

A census rather than a sample method of data collection was used, making the results very reliable. Of the total population of first-, third- and fifth-graders, 93.5 percent were measured (1,982 of 2,119). A breakdown for each grade follows:

FIRST GRADE

91.8% were measured. (706 of 769)

34.3%

were either overweight or obese.

THIRD GRADE

93.6% were measured. (675 of 721)

40.7%

were either overweight or obese.

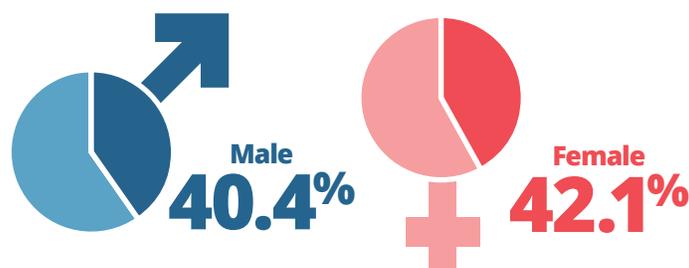
FIFTH GRADE

95.5% were measured. (601 of 629)

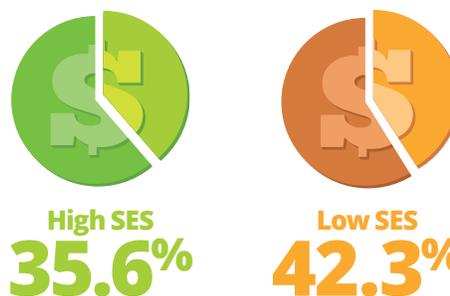
49.9%

were either overweight or obese.

Of the total number of first, third, and fifth graders that were overweight/obese, the following observations can be made:

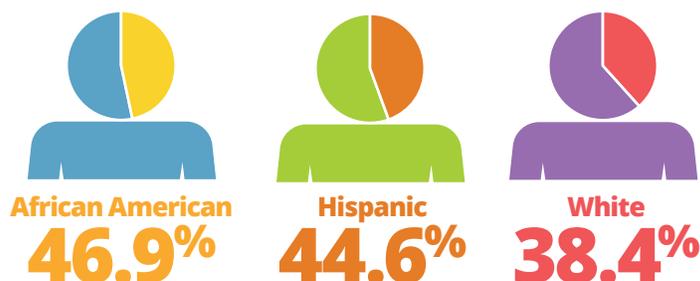


Disparities exist between male and female genders.



Disparities exist between children from low socioeconomic households and children from high socioeconomic households.

Note: Socioeconomic status based on free and reduced lunch eligibility.



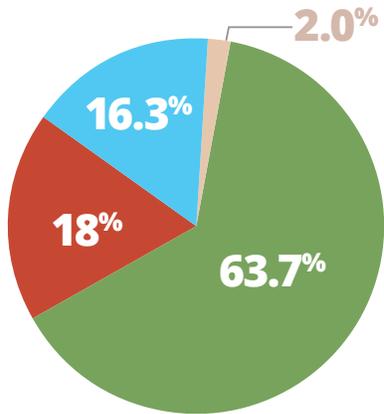
Disparities exist between African American, Hispanic American and White children.

Note: For statistical reasons, race/ethnic groups comprising less than 5 percent of the data were not included.

First Grade Report

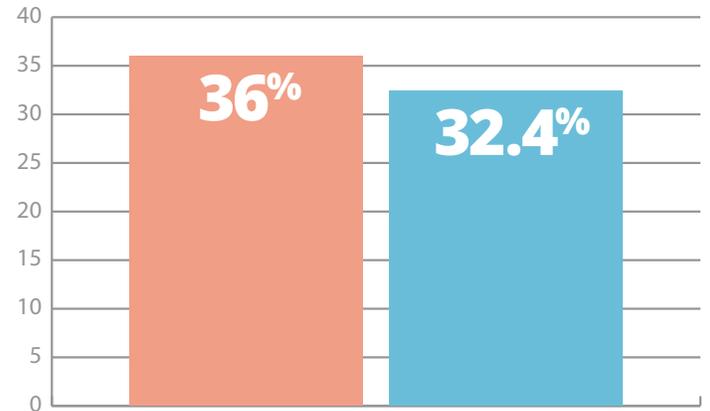


OVERVIEW



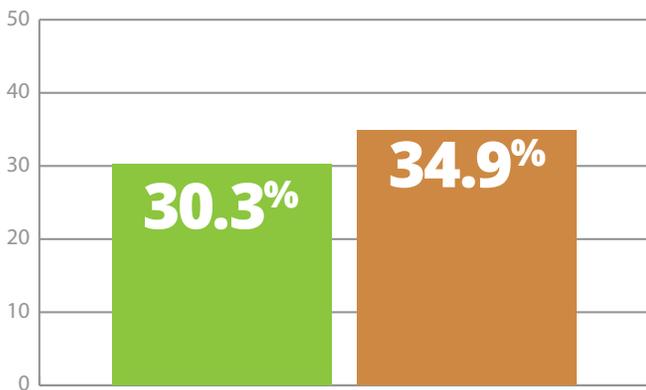
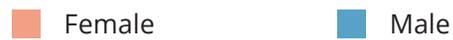
Percent of children by weight status

Cherokee County • First Grade • 706 Students



Percent of children who were obese or overweight by gender

Cherokee County • First Grade

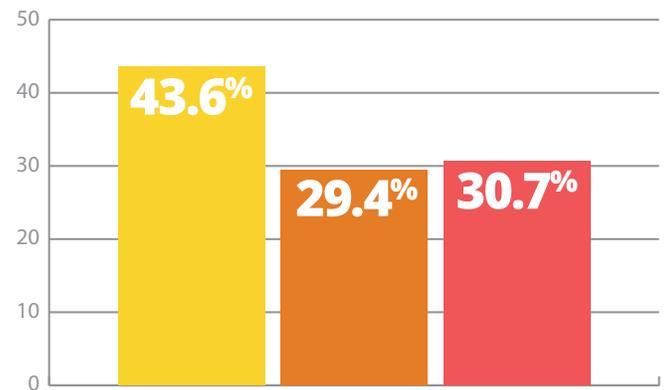


Percent of children who were obese or overweight by SES*

Cherokee County • First Grade



*Socioeconomic status based on free and reduced school lunch eligibility.



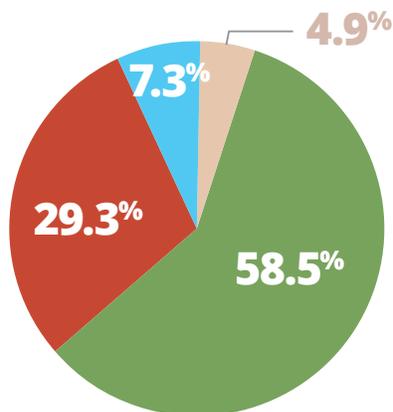
Percent of children who were obese or overweight by race/ethnicity*

Cherokee County • First Grade



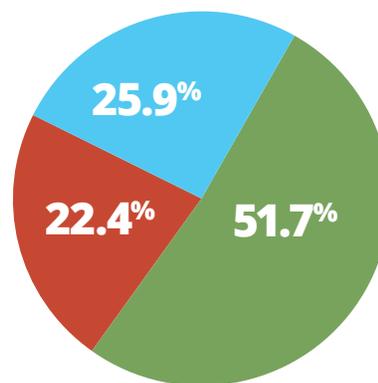
* For statistical reasons, race/ethnic groups comprising < 5 percent of the data were not included. These groups/individuals are included in all other parts of the report.

BY SCHOOL



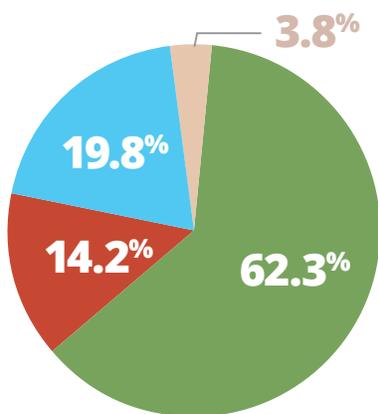
Percent of children by weight status

Alma Elementary • First Grade • 41 Students



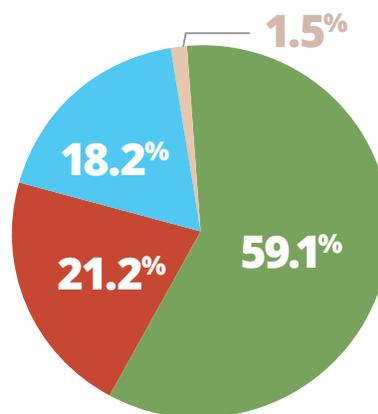
Percent of children by weight status

B.D. Lee Elementary • First Grade • 58 Students



Percent of children by weight status

Blacksburg Primary • First Grade • 106 Students



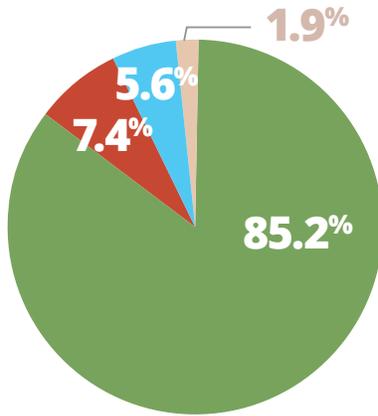
Percent of children by weight status

Corinth Elementary • First Grade • 66 Students

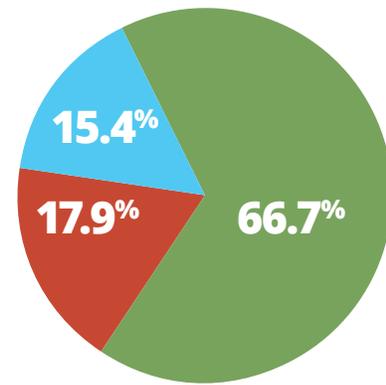


Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

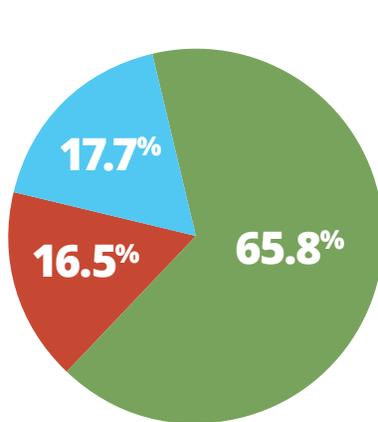
BY SCHOOL



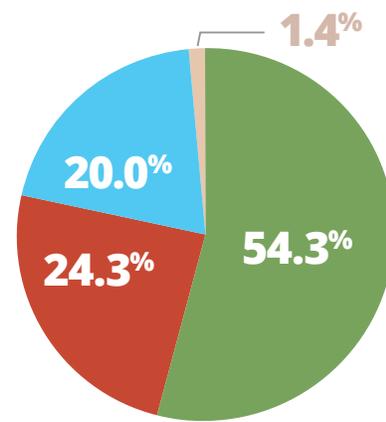
Percent of children by weight status
 Draytonville Elementary • First Grade • 54 Students



Percent of children by weight status
 Goucher Elementary • First Grade • 39 Students



Percent of children by weight status
 Grassy Pond Elementary • First Grade • 79 Students

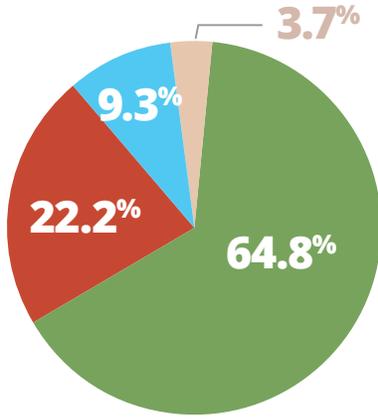


Percent of children by weight status
 Limestone Central Elementary • First Grade • 70 Students



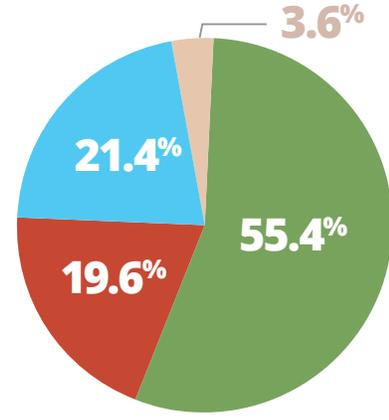
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

BY SCHOOL



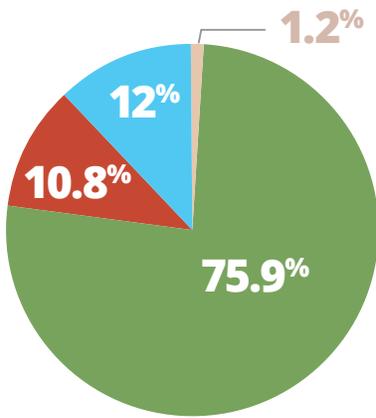
Percent of children by weight status

Luther L. Vaughan Elementary • First Grade • 54 Students



Percent of children by weight status

Mary Bramlett Elementary • First Grade • 56 Students



Percent of children by weight status

Northwest Elementary • First Grade • 83 Students



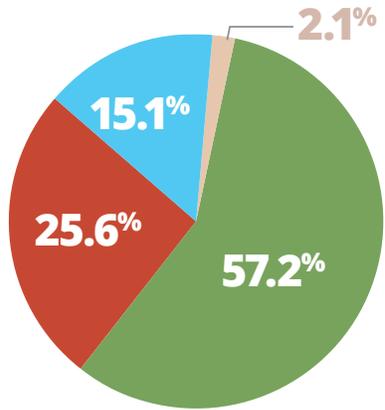
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile



Third Grade Report

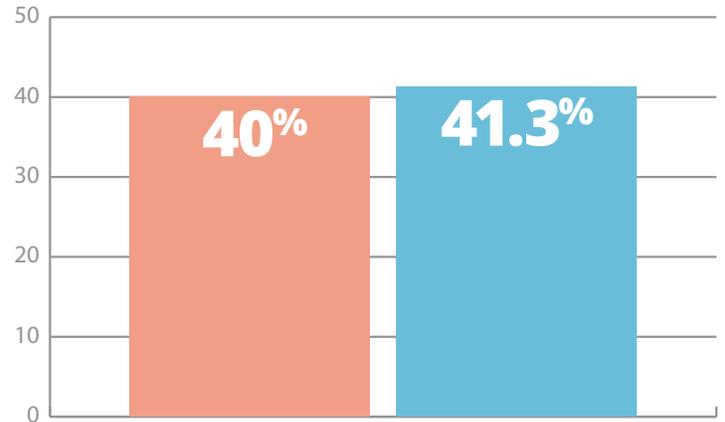


OVERVIEW



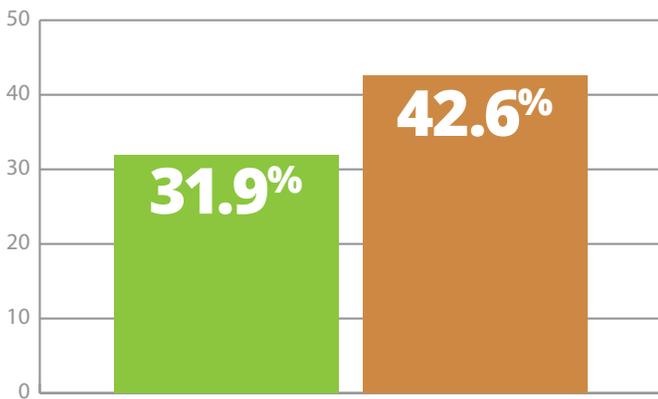
Percent of children by weight status

Cherokee County • Third Grade • 675 Students



Percent of children who were obese or overweight by gender

Cherokee County • Third Grade

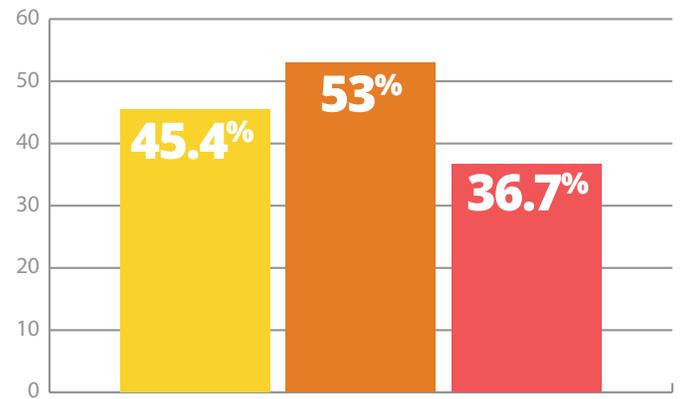


Percent of children who were obese or overweight by SES*

Cherokee County • Third Grade



*Socioeconomic status based on free and reduced school lunch eligibility.



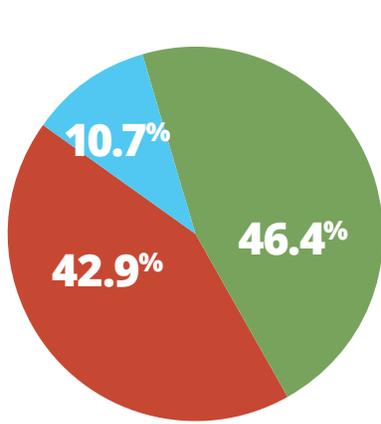
Percent of children who were obese or overweight by race/ethnicity*

Cherokee County • Third Grade



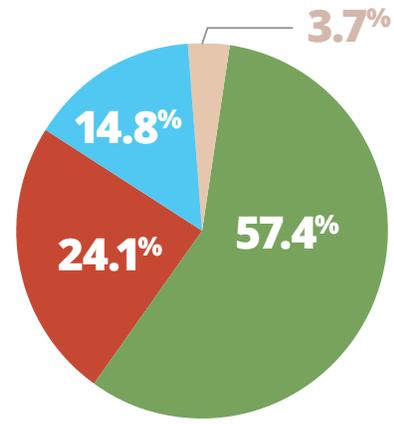
* For statistical reasons, race/ethnic groups comprising < 5 percent of the data were not included. These groups/individuals are included in all other parts of the report.

BY SCHOOL



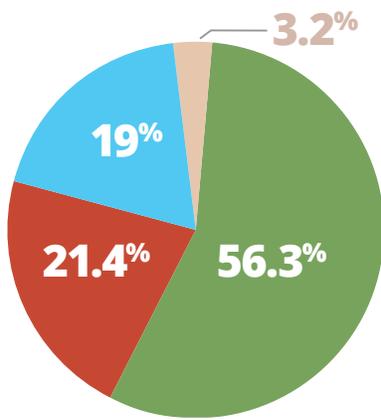
Percent of children by weight status

Alma Elementary • Third Grade • 28 Students



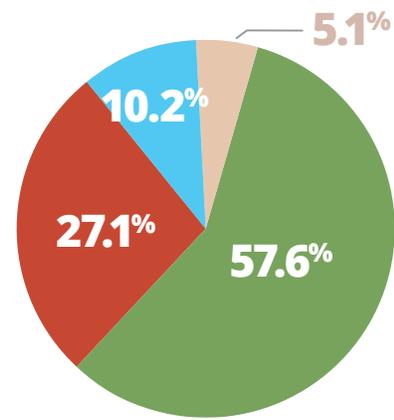
Percent of children by weight status

B. D. Lee Elementary • Third Grade • 54 Students



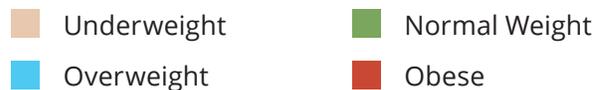
Percent of children by weight status

Blacksburg Elementary • Third Grade • 126 Students



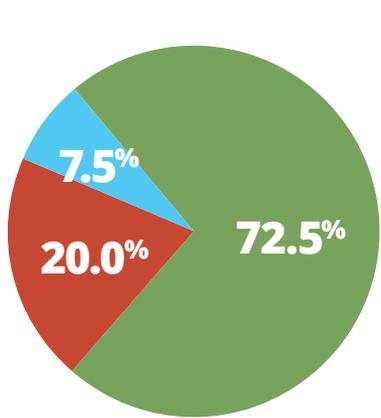
Percent of children by weight status

Corinth Elementary • Third Grade • 59 Students

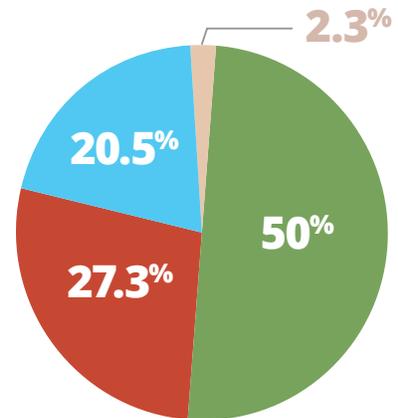


Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

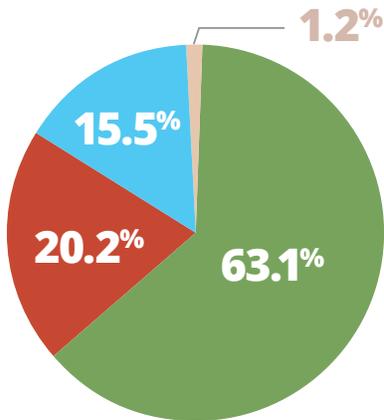
BY SCHOOL



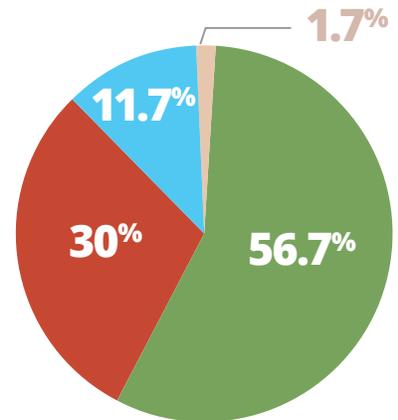
Percent of children by weight status
Draytonville Elementary • Third Grade • 40 Students



Percent of children by weight status
Goucher Elementary • Third Grade • 44 Students



Percent of children by weight status
Grassy Pond Elementary • Third Grade • 84 Students

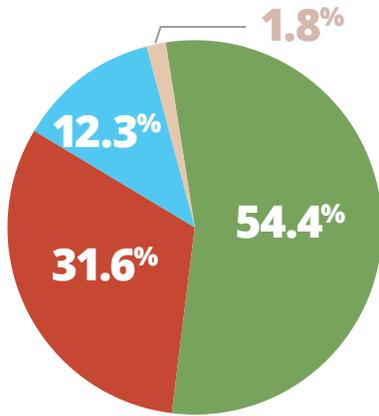


Percent of children by weight status
Limestone Central Elementary • Third Grade • 60 Students



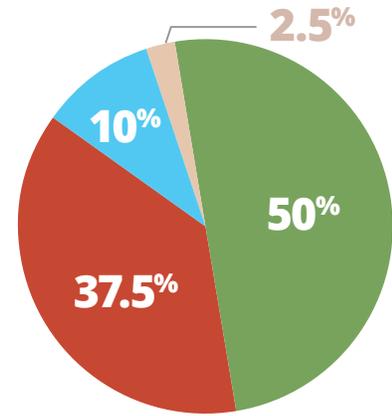
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BY SCHOOL



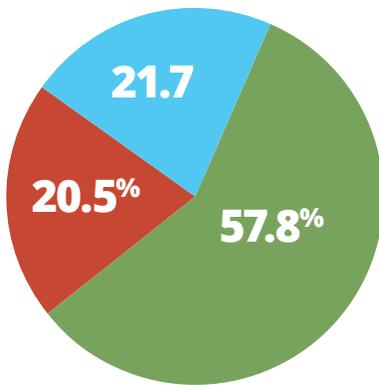
Percent of children by weight status

Luther L. Vaughan Elementary • Third Grade • 57 Students



Percent of children by weight status

Mary Bramlett Elementary • Third Grade • 40 Students



Percent of children by weight status

Northwest Elementary • Third Grade • 83 Students



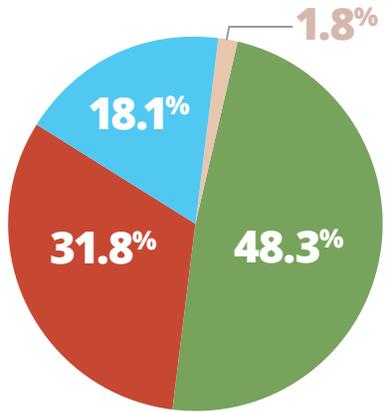
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile



Fifth Grade Report

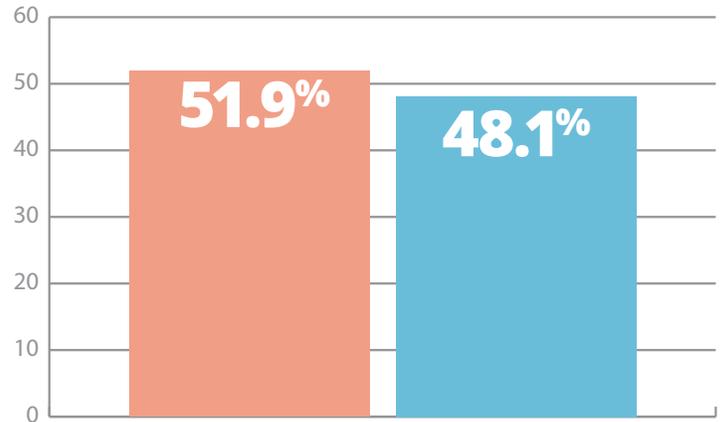


OVERVIEW



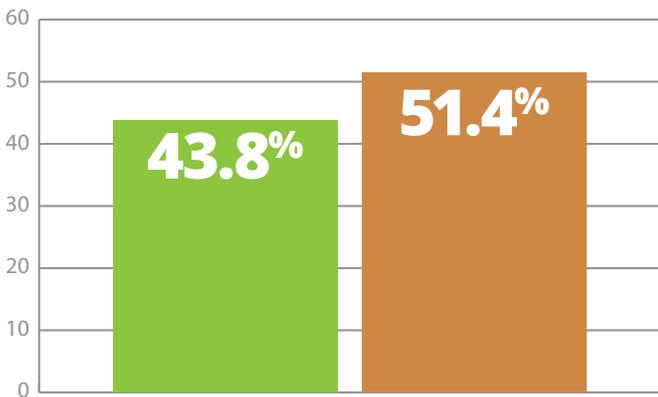
Percent of children by weight status

Cherokee County • Fifth Grade • 601 Students



Percent of children who were obese or overweight by gender

Cherokee County • Fifth Grade

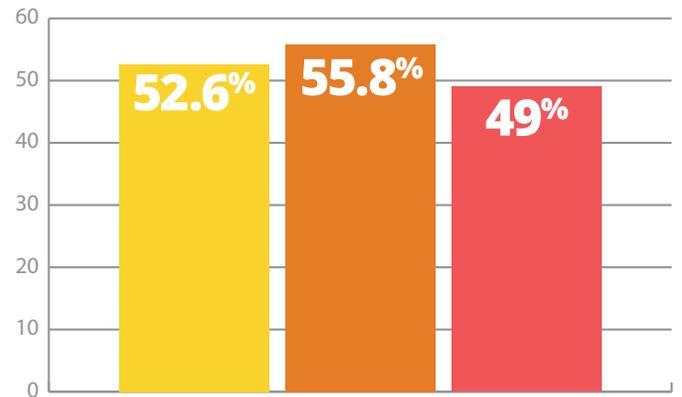


Percent of children who were obese or overweight by SES*

Cherokee County • Fifth Grade



*Socioeconomic status based on free and reduced school lunch eligibility.



Percent of children who were obese or overweight by race/ethnicity*

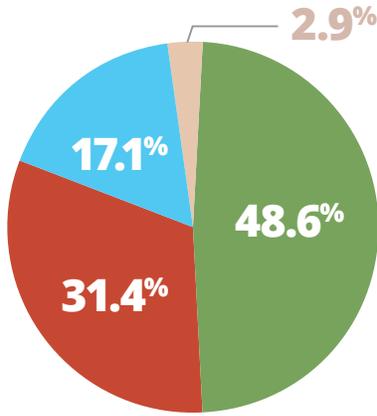
Cherokee County • Fifth Grade



* For statistical reasons, race/ethnic groups comprising < 5 percent of the data were not included. These groups/individuals are included in all other parts of the report.

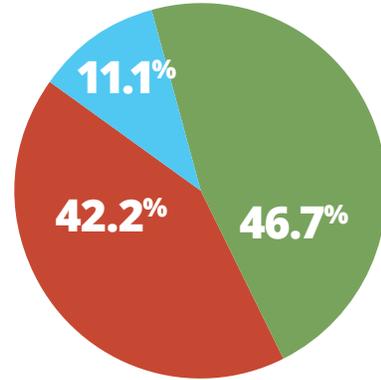
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BY SCHOOL



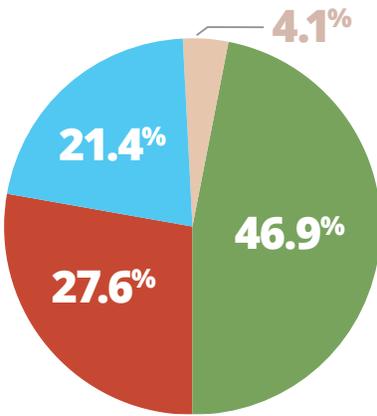
Percent of children by weight status

Alma Elementary • Fifth Grade • 35 Students



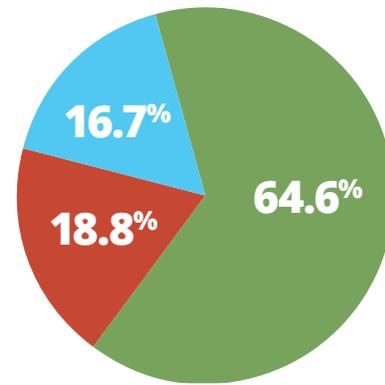
Percent of children by weight status

B.D. Lee Elementary • Fifth Grade • 45 Students



Percent of children by weight status

Blacksburg Elementary • Fifth Grade • 98 Students



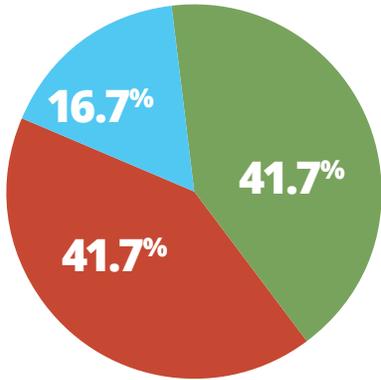
Percent of children by weight status

Corinth Elementary • Fifth Grade • 48 Students



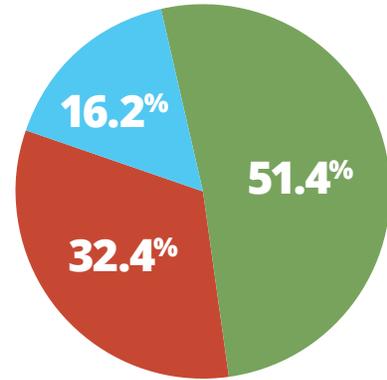
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

BY SCHOOL



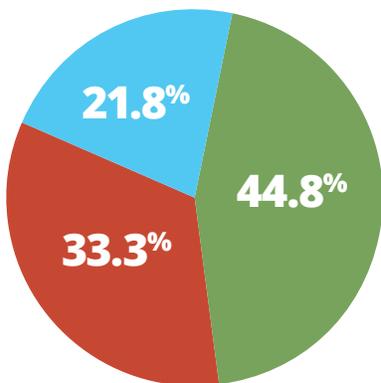
Percent of children by weight status
 Draytonville Elementary • Fifth Grade • 36 Students

Underweight Normal Weight
 Overweight Obese



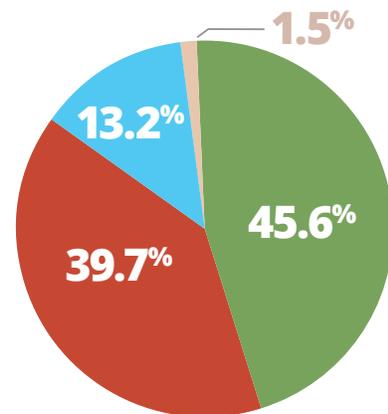
Percent of children by weight status
 Goucher Elementary • Fifth Grade • 37 Students

Underweight Normal Weight
 Overweight Obese



Percent of children by weight status
 Grassy Pond Elementary • Fifth Grade • 76 Students

Underweight Normal Weight
 Overweight Obese

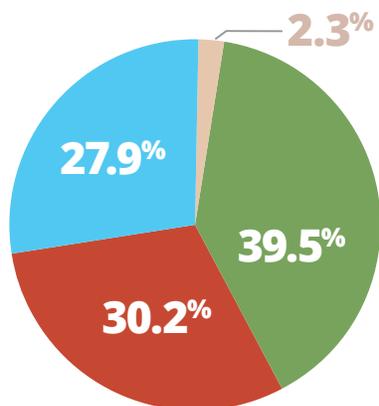


Percent of children by weight status
 Limestone Central Elementary • Fifth Grade • 68 Students

Underweight Normal Weight
 Overweight Obese

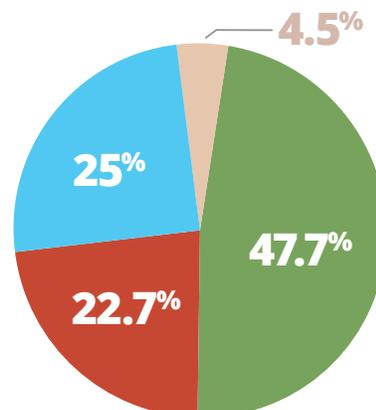
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

BY SCHOOL



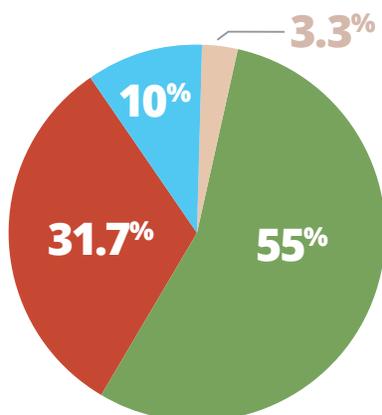
Percent of children by weight status

Luther L. Vaughan Elementary • Fifth Grade • 43 Students



Percent of children by weight status

Mary Bramlett Elementary • Fifth Grade • 44 Students



Percent of children by weight status

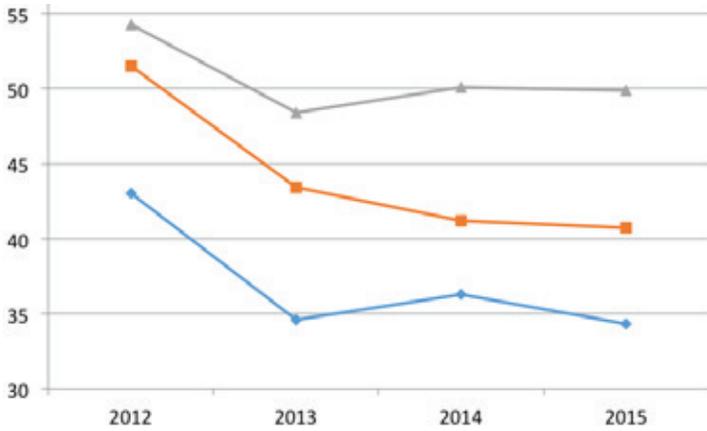
Northwest Elementary • Fifth Grade • 60 Students



Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

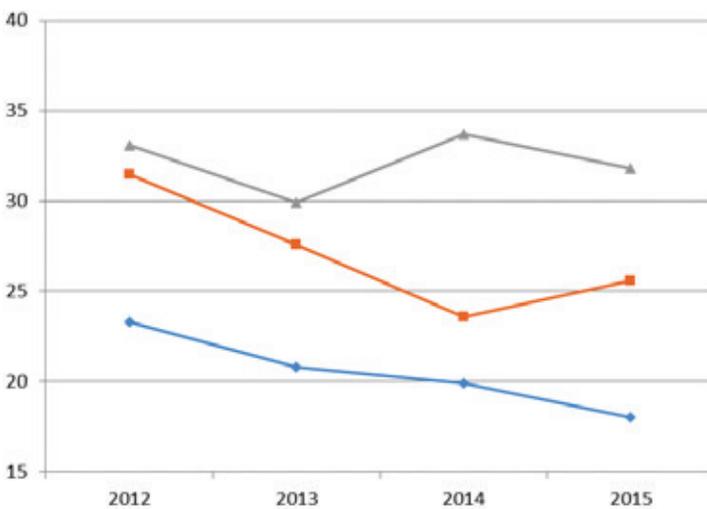
Four Year Comparative Data

Data has been collected for four consecutive years (2012, 2013, 2014, 2015). While overall rates of children who are overweight and obesity are considered to be high in Cherokee County, statistics indicate some positive trends among students in the fourth year. Comparative data charts follow.



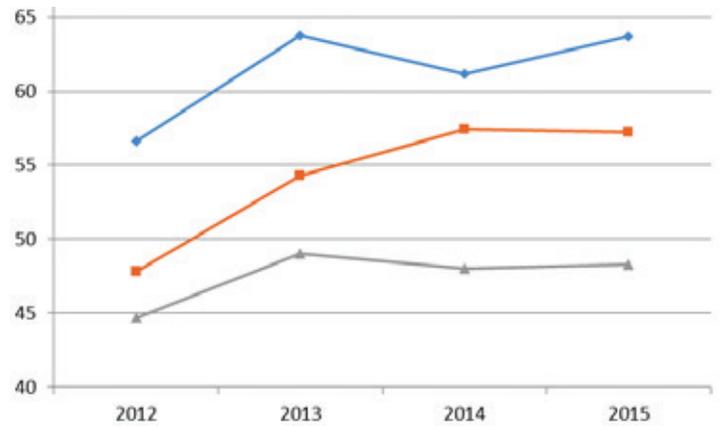
Cherokee County Four Year Trend Data: Percentage of Overweight & Obese Children

◆ First Grade ■ Third Grade ▲ Fifth Grade



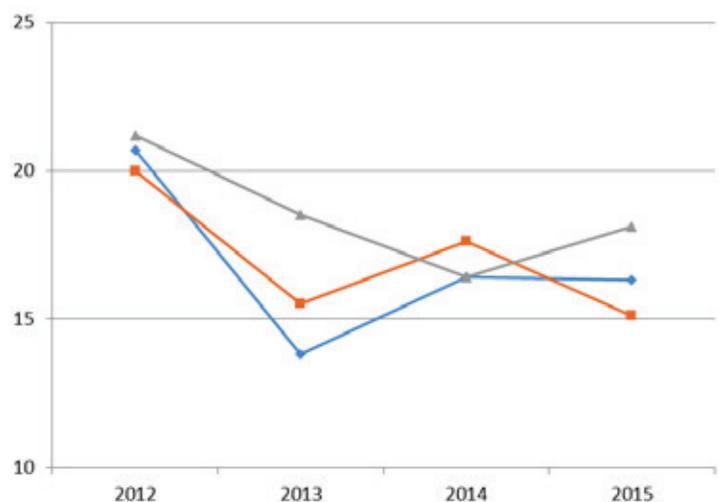
Cherokee County Four Year Trend Data: Percentage of Obese Children

◆ First Grade ■ Third Grade ▲ Fifth Grade



Cherokee County Four Year Trend Data: Percentage of Normal Weight Children

◆ First Grade ■ Third Grade ▲ Fifth Grade



Cherokee County Four Year Trend Data: Percentage of Overweight Children

◆ First Grade ■ Third Grade ▲ Fifth Grade

Recommended Strategies to Combat Childhood Obesity

Over the course of a year, the South Carolina Obesity Council worked with organizations across the state to develop the 2014-2019 Obesity Action Plan. The plan details evidence-based strategies and activities to guide our partners in reducing the burden of obesity in South Carolina over a five-year period. Special attention was paid to ensure that objectives outlined in the plan reach minority and low-income populations, who are disproportionately affected by obesity in South Carolina and across the U.S.

These strategies and objectives are grouped under the four settings that most South Carolinians interact with during their day: community, workplace, health care and school/childcare.

The Plan's vision for the schools and childcare setting follows:

South Carolina children have increased access to healthy foods and beverages, and more opportunities for physical activity during and outside of school hours.

School and child care settings are ideal locations to improve eating habits, increase physical activity and educate young people about how to make healthier lifestyle choices. Cherokee County schools directly impact a large number of young people during the majority of their waking hours. Implementing policy, environmental and systems-level changes in school and child care settings contributes to children establishing healthy behaviors at an early age.

The following strategies are recommended in the school and child care setting:

- Increase access to fresh fruits and vegetables for children
- Increase access to physical activity opportunities for children
- Increase the number of South Carolina out-of-school time providers implementing the National AfterSchool Association's healthy eating and physical activity standards
- Develop partnerships between health care professionals and schools to promote healthy eating and active living initiatives in South Carolina schools
- Make health education in schools a focal point for obesity prevention
- Increase the number of early care and education systems that integrate nutrition and physical activity best practices

The SScale Down Initiative was launched in January 2015 to engage key stakeholders to achieve the strategies and objectives outlined in the Obesity Action Plan. The S.C. Institute of Medicine and Public Health is convening this statewide initiative in partnership with the S.C. Department of Health and Environmental Control. Additional information about the South Carolina Obesity Action Plan and SScale Down may be found at scaledown.org.



Acknowledgment

This assessment would not be possible without the willingness and cooperation of the Cherokee County School District. DHEC sincerely appreciates the

commitment to this project, and commends the district for taking a major step in a community-wide effort to address childhood obesity in Cherokee County.



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