

The Weight of Our Children

New Mexico Childhood Obesity 2021 Update,
COVID-19 Special Edition

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Introduction: Childhood Obesity in Context

Childhood obesity is a serious health issue in New Mexico and across the nation. Children with obesity are more likely to have obesity as adults and develop chronic conditions such as diabetes and heart disease. Nearly one-in-three (31.4%) adults 45 years and older in New Mexico have been diagnosed with two or more chronic diseases (2020).¹ Children with obesity may also suffer more severe COVID-19 illness than other children and are more likely to be hospitalized.² Many external factors influence childhood obesity, such as socioeconomic status, food insecurity, and community infrastructure. Nearly one-in-four (24.1%) school-aged children in New Mexico live in poverty, compared to 16.9% nationally (2020),³ making New Mexican children more at risk for obesity than children in other states.

During the COVID-19 pandemic, the number of children with obesity has increased nationally, particularly among elementary school children.⁴ During the pandemic, families experienced additional economic hardship, increased food insecurity, and increased stress, which are contributing factors of obesity. Also, school closures and virtual learning increased screen time and limited children's access to healthy school meals, recess, and physical education. Altogether, environments like this promote weight gain.^{5,6}



Summary

This report provides the prevalence of childhood obesity and overweight in non-metro New Mexico in Fall 2021, during the COVID-19 pandemic. As a comparison, this report also provides data from Fall 2019, before the COVID-19 pandemic. **Key findings** include:

- Obesity prevalence was higher in 2021 than 2019 for all grades, all genders, and American Indian and Hispanic students in non-metro areas, though differences between years were not statistically significant. Third grade obesity increased from 23.2% to 28.6%, while obesity among boys increased from 22.0% to 25.8%. Obesity among American Indian third graders increased from 33.1% to 42.8%.
- Obesity prevalence was significantly higher among third graders than kindergarten students in 2021.
- Obesity prevalence was higher among boys than girls in 2021, though the difference was not statistically significant.
- American Indian and Hispanic students had a significantly higher obesity prevalence than white students in 2021.

Obesity prevalence among children in non-metro New Mexico increased from 2019 to 2021, which may have been exacerbated by the COVID-19 pandemic. This highlights the need for: 1) additional resources and collaboration across state and local agencies to implement sustainable obesity prevention initiatives in at-risk populations; and 2) increased opportunities for healthy eating and physical activity among preschool and elementary school children and their families.



The New Mexico Department of Health (NMDOH) established its Statewide Childhood Obesity Surveillance System in 2010 to understand the extent of obesity among the elementary school-age population in New Mexico. The system uses Body Mass Index (BMI) percentile and a standardized measurement protocol to monitor childhood obesity over time, identify at-risk groups, guide state and local prevention efforts, and inform appropriate resource allocation. NMDOH collects and reports childhood obesity data on kindergarten and third grade students annually with support from schools, nursing programs, and volunteers across the state. Public elementary schools are selected randomly for data collection.

This special edition of *The Weight of Our Children* reports the prevalence of overweight and obesity among children in non-metro areas of New Mexico in Fall 2021, during the COVID-19 pandemic. Due to COVID-related school closures, BMI data was not collected in 2020. Similar COVID-related factors greatly reduced school participation in the metro area (Bernalillo, Sandoval, Valencia, and Tarrant counties) in 2021. Therefore, the data presented only represent children outside of the metro area. Fall 2019 data from non-metro areas are presented as a reference for childhood obesity before the COVID-19 pandemic. This report includes data from 3,280 students measured at 33 schools in Fall 2021 and 5,379 students measured at 44 schools in Fall 2019.

Childhood Overweight and Obesity Prevalence

Fig. 1: Percent of Students Overweight and Obese by Grade in Non-Metro Areas, 2019 vs 2021

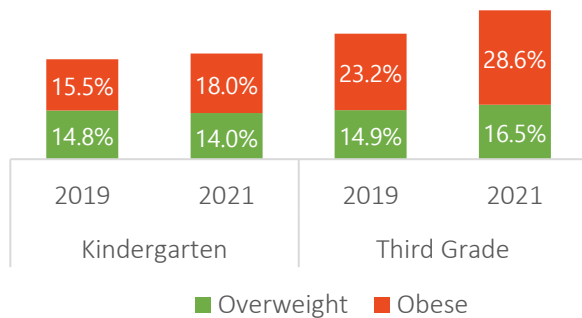
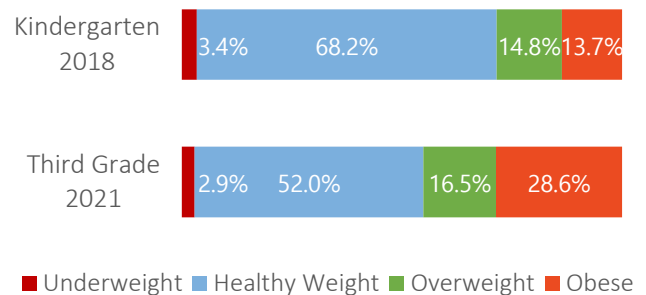


Fig. 2: Percent of Students in Weight Categories by Birth Cohort in Non-Metro Areas, 2018 & 2021



By Grade

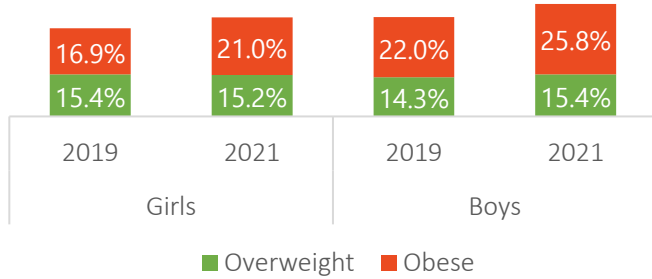
The prevalence of obesity increased for both kindergarteners and third graders from 2019 to 2021 (Fig. 1). Obesity among third graders increased from 23.2% in 2019 to 28.6% in 2021 (representing a 23.3% increase). The increases between 2019 and 2020 were not statistically significant for either grade, suggesting that differences between 2019 and 2020 may be due to chance instead of an actual increase in obesity.

The prevalence of obesity was higher among third graders than kindergarteners in both 2019 and 2021. This difference was statistically significant, indicating that third graders in non-metro areas were actually more obese than kindergarteners. This upward shift suggests a

time-sensitive window for preventing excessive weight gain at an early age, particularly among children who are already overweight in kindergarten.

Each year, third grade students are sampled from the same general birth group as the kindergarteners sampled three years prior. In the 2018-2021 cohort, obesity prevalence more than doubled from kindergarten (13.7%) to third grade (28.6%) (Fig. 2), which was statistically significant. The substantial increase in this cohort from 2018 to 2021 may reflect the impact of COVID-19 on weight gain, along with an increase in obesity from kindergarten to third grade as seen in cohorts before the COVID-19 pandemic.⁷

Fig. 3: Percent of Students Overweight and Obese by Gender in Non-Metro Areas, 2019 vs 2021

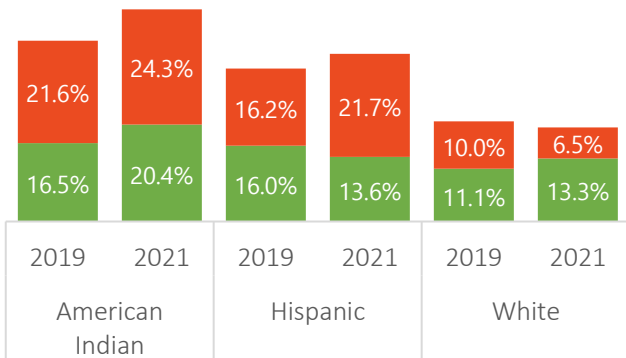


By Gender

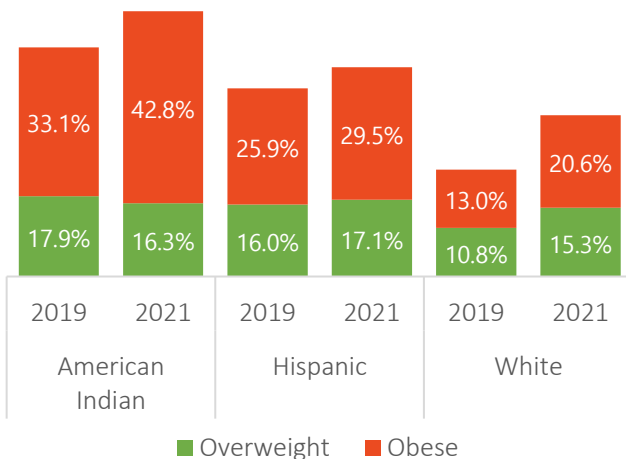
The combined group of kindergarten and third grade boys had a higher obesity prevalence than the combined group of girls in those grade levels in 2019 and 2021 (Fig. 3). In 2021 the obesity prevalence was 25.8% among boys and 21.0% among girls, though the difference was not statistically significant. The obesity prevalence increased for girls and boys from 2019 to 2021, though the differences between years were not statistically significant. Obesity among boys increased from 22.0% in 2019 to 25.8% in 2021 (representing a 17.3% increase). Obesity among girls increased from 16.9% in 2019 to 21.0% in 2021 (representing a 24.3% increase).

Fig. 4: Percent of Students Overweight and Obese by Race/Ethnicity in Non-Metro Areas, 2019 vs 2021

A. Kindergarten



B. Third Grade



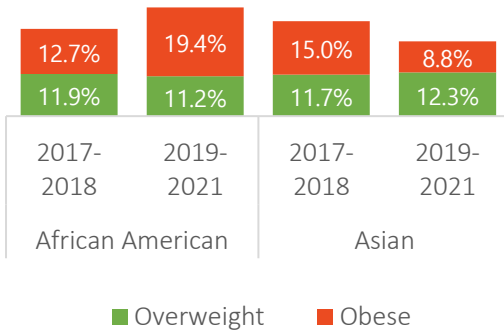
By Race/Ethnicity

Obesity among American Indian and Hispanic students was higher than among white students for both grades in 2021 (Fig. 4), as in previous years.⁷ In 2021, 42.8% of American Indian third graders had obesity, compared to 29.5% among Hispanic third graders and 20.6% among white third graders. When kindergarten and third grade students were combined, the prevalences among American Indian and Hispanic students were statistically significantly different than white students. The obesity prevalence increased for American Indian and Hispanic students from 2019 to 2021 for both grade levels. American Indian third graders, who had the highest obesity prevalence in 2019, increased from 33.1% in 2019 to 42.8% in 2021 (representing a 29.3% increase). Obesity among white third graders also increased from 2019 to 2021. The differences between years were not statistically significant for any racial/ethnic group.

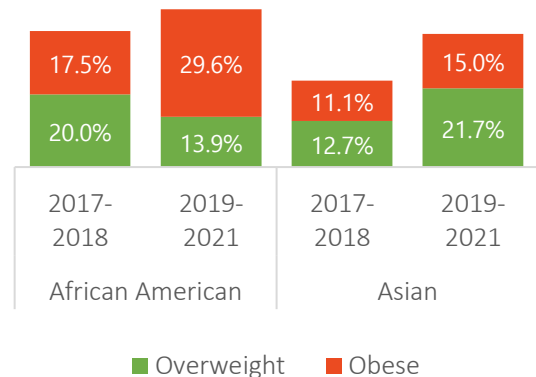


Fig. 5: Percent of Students Overweight and Obese by Race/Ethnicity in Non-Metro Areas, 2017-2018 vs 2019-2021

A. Kindergarten



B. Third Grade



Due to small sample sizes, two years of data were aggregated for African American and Asian students, and comparisons should not be made with other racial/ethnic groups. Data from 2019 and 2021 were aggregated, and 2017 and 2018 data were aggregated as a comparison. Aggregated data suggest an increase in

obesity prevalence among African American students from 2017-2018 to 2019-2021 for both grades (*Fig. 5*). From 2017-2018 to 2019-2021, the obesity prevalence increased among Asian third graders and decreased among Asian kindergarteners (*Fig. 5*). Differences between years were not statistically significant.



What the State is Doing to Address Childhood Obesity

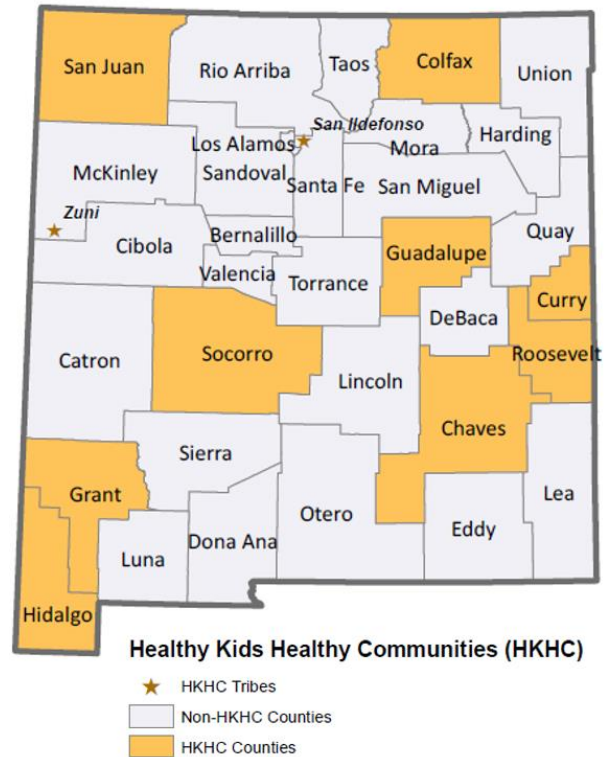
NMDOH’s Obesity Nutrition and Physical Activity Program (ONAPA) partners with state and local organizations and community coalitions in nine counties and two tribal communities across New Mexico to expand healthy eating and physical activity opportunities where children and adults live, learn, play, work, eat, and shop. ONAPA and its partners implement long-term and sustainable policy, systems, and environmental change based on the Centers for Disease Control and Prevention’s (CDC) best practices for preventing obesity. Despite successes and community transformation at the local level, more resources and increased collaboration among state agencies are needed to have a meaningful impact on childhood obesity in New Mexico, particularly during and after the COVID-19 pandemic.

Key Strategies

School and Preschool Environment: *Increasing opportunities for healthy eating and physical activity before, during, and after school and preschool.*

Strategies include establishing salad bars, edible gardens, and walking programs; integrating locally grown produce into snacks and meals; opening school yards for community use during non-school hours; and strengthening wellness policies to include language on healthy eating, physical activity, and staff wellness.

Food and Built Environment: *Increasing access to healthy, affordable food and places to be physically active in low-income, rural, and Tribal communities.*



Strategies include establishing community gardens and farmers’ markets; expanding healthy options and nutrition education in food distribution sites and senior centers; creating active outdoor spaces for community use; and establishing safe walking and biking routes that connect neighborhoods to everyday destinations.

For more information about ONAPA’s programs, please contact Rita Condon, ONAPA Program Manager, at rita.condon@state.nm.us.



Methods: What We Did and Why

Each year NMDOH's Childhood Obesity Surveillance System uses stratified cluster sampling to select 70 public elementary schools from across the state to collect height and weight measurements from kindergarten and third grade students. Measurements are collected from August to November using a standard protocol and trained nursing students and volunteers. BMI is calculated from height and weight measurements and categorized based on sex-specific CDC BMI-for-age percentiles, which are defined as underweight (<5th percentile), healthy weight (≥5th to <85th percentile), overweight (≥85th to <95th percentile), and obese (≥95th percentile).⁸ In a typical year survey weights are used to produce estimates of weight status that are representative of all kindergarteners and third graders statewide. Data is analyzed using R (Version 4.0.3) and/or STATA (Version 14.2). Statistical significance is defined as $p < 0.05$.



Tips to Help Kids Eat Healthy & Stay Active



Every day is a new chance to improve your kids' health habits. Try out the Healthy Kids 5-2-1-0 Challenge and live healthier day by day.

- 5 Eat 5 or more fruits and vegetables a day.** Keep cut-up fruits and veggies in the fridge for handy, healthy snacks.
- 2 Trim screen time to 2 hours a day.** Select TV shows or computer games ahead of time so children have a plan for how they will use their screen time.
- 1 Be active at least 1 hour a day.** Where can you go today? Plan a safe walking route to a school, park or another fun place in your neighborhood with your child – then walk!
- 0 Drink lots of H₂O every day.** Make water the first choice as a drink. Give your child a jug or bottle of water to carry with them so it is always handy when they are thirsty.

In Fall 2021, the school participation rate (49%) was lower than previous years because of COVID-19 related challenges. Some schools declined to participate due to limited staff capacity, while others could not schedule measurements due to COVID outbreaks and quarantine periods. School participation rates were particularly low in the metro region (5%), which consists of Bernalillo, Sandoval, Torrance, and Valencia counties. The metro region represents 28% of kindergarten and third grade public school students in the state. For this reason, this report does not include data from the metro region and only represents childhood weight status in non-metro regions. Survey weights appeared to cause distortions in weight status estimates, likely due to low school participation rates in the metro region, and were not included in the final analysis. To facilitate comparisons, data from 2017, 2018, 2019, and 2021 were analyzed with the same methods. Estimates in this report should not be compared to estimates in previous *The Weight of Our Children* reports as analysis methodologies differ.

References

1. Whiteside, MPH, Behavioral Risk Factor Surveillance System Epidemiologist, New Mexico Department of Health C. Email Communication.; 2022.
2. Kompaniyets L, Agathis NT, Nelson JM, et al. Underlying Medical Conditions Associated With Severe COVID-19 Illness Among Children. *JAMA Netw Open*. 2021;4(6):e2111182. doi:10.1001/jamanetworkopen.2021.11182.
3. US Census Bureau. Poverty Status in the Past 12 Months, 2016-2020 American Community Survey 5-Year Estimates. <https://data.census.gov/cedsci/table?q=childhood%20poverty>.
4. Lange SJ, Kompaniyets L, Freedman DS, et al. Longitudinal Trends in Body Mass Index Before and During the COVID-19 Pandemic Among Persons Aged 2–19 Years - United States, 2018–2020. *MMWR Morb Mortal Wkly Rep*. 2021;70(37):1278-1283. doi:10.15585/mmwr.mm7037a3.
5. Rundle AG, Park Y, Herbstman JB, Kinsey EW, Wang YC. COVID-19-Related School Closings and Risk of Weight Gain Among Children. *Obesity*. 2020;28(6):1008-1009. doi:10.1002/oby.22813.
6. Franckle R, Adler R, Davison K. Accelerated weight gain among children during summer versus school year and related racial/ethnic disparities: a systematic review. *Prev Chronic Dis*. 2014;11:E101. doi:10.5888/pcd11.130355.
7. New Mexico Department of Health Obesity, Nutrition, and Physical Activity Program. *The Weight of Our Children: New Mexico Childhood Obesity 2019 Update*; 2020. Accessed March 24, 2022. <https://www.nmhealth.org/data/view/chronic/2381/>.
8. Centers for Disease Control and Prevention. About Child and Teen BMI. Centers for Disease Control and Prevention. Published August 27, 2021. Accessed March 23, 2022. https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html