



A STUDY OF CHILDHOOD BODY MASS INDEX CHANGES BETWEEN 2012 AND 2015 IN STUDENTS IN GREATER FORT WORTH, TX

EXECUTIVE SUMMARY

Cook Children's, based in Fort Worth, Texas, is a national award-winning, not-for-profit, integrated health care system serving families in Tarrant, Denton, Hood, Johnson, Parker, and Wise. For nearly 100 years, Cook Children's has sought to improve the health of every child in its service area through the treatment and prevention of illness, disease, and injury.

In 2009, Cook Children's conducted the first Community-wide Children's Health Assessment and Planning Survey (CCHAPS). Community leaders, households, parents of patients, focus groups, and key secondary data from other sources (e.g., government, professional journals) helped identify specific child health issues in the region. CCHAPS identified the prevention of childhood obesity as one of the top issues in the community.

Since 2009, Cook Children's has conducted surveys every three years to collect children's height and weight data for use in evaluating childhood weight trends over time and progress in helping to control childhood obesity. In 2011, Cook Children's established the Center for Children's Health (CFCH), a coalition working with other like-minded organizations committed to providing resources in communities interested in children's health. CFCH's goal is to create programs and aligned collaborations that will help make the North Texas region one of the healthiest places to raise a child.

As a part of these initiatives to help combat childhood obesity, in 2013 Cook Children's partnered with GoNoodle to bring online movement and mindfulness games and videos to all elementary schools in greater Fort Worth.

This report provides a summary of the analyses of childhood body mass index (BMI) data from 2009 to 2015.

Data Collection

Height and weight data on over 8,200 children age 2 to 14 in greater Ft. Worth, Texas has been provided by parents every three years beginning in 2009. Participants were randomly selected and those responding are representative of the gender, race, ethnicity, education and socio-economic status of the child and family population at large. Parents from Tarrant, Denton, Hood, Johnson, Parker, and Wise counties provided their child's height and weight data via survey. CFCH used the height, weight, age, and gender data to determine the number of children who were "normal weight" as determined by body mass index (BMI) as measured at 2009, 2012, and 2015. Children above the normal weight target may be considered overweight or obese as defined by BMI, and are at a greater risk for near-term and long-term health issues such as high blood pressure, asthma, diabetes, heart disease, and some cancers, among others.

Results

After adjusting for natural change in BMI over time, CFCH identified a statistically significant improvement in the normal weight of children age 6-12 years old between 2012 and 2015 (a similar change was not evident between 2009 and 2012). From 2012 to 2015, children's normal weight showed an average 13.2 percent improvement as measured by BMI. Individual age cohort improvements ranged from 1.9 percent to 17.5 percent improvement during the three-year period. This is depicted in Graph 1.

Graph 1 – Percent Change in Children’s “NORMAL” BMI by Age (between 2012 and 2015)



The time period of this statistically significant improvement coincides with the time period in which GoNoodle was provided to all area elementary schools to encourage in-classroom physical activity throughout the school day. By the 2014-15 school year, 521 elementary schools, and more than 5,000 classrooms across the six-county region were using GoNoodle’s online movement videos and games. 124,829 elementary students, or 43% of the child population between the ages of 6-12 years old generated approximately 34.7 million minutes of physical activity playing GoNoodle. Through its work with the independent school districts, municipal governments and nonprofits, CFCH is not aware of any program with similar scale of reach and frequency of use during this time period, and thus, believes there is a correlation between the widespread and frequent use of GoNoodle and improvements in the percentage of children who were normal weight.

Based on the health and academic impact of GoNoodle, and feedback from teachers about the value it brings to classrooms, Cook Children’s expanded its sponsorship of GoNoodle, making it available to 692 schools 15,500 teachers, and 326,000 students in public, private, and charter schools across the six county region.

Cook Children’s will continue to monitor childhood BMI data and evaluate progress in helping to reduce childhood obesity. Additional information on this study is available through the Center for Children’s Health led by Cook Children’s.