

Body Mass Index Report of Missoula County Third Graders 2008–2014 September, 2014



The purpose of *Let's Move! Missoula* is to create, support and mobilize projects and partnerships that enhance and build healthy environments for all children and residents. Strategies include education, policy development and advocacy and environmental change.

Thank you to all the local school principals, office staff, nurses, teachers and students who participated in the BMI surveillance program... and thank you to the Montana State University College of Nursing and the University of Montana Health and Human Performance Department staff and students for conducting the BMI surveillance program.

Executive Summary

In 2011, after three years of tracking Body Mass Index measurements in the 3rd grade population, the Missoula City-County Health Department recognized local childhood obesity rates had not escaped the national trends and had increased from 7 % in 1980 to nearly 13% in 2008 and remained steady.

Body Mass Index (BMI) is the ratio of an individual’s weight and height and is used to estimate a person’s risk of weight-related problems. The BMI 3rd grade Surveillance Program was established in 2008 with Missoula County schools to describe trends in weight status over time among school aged children. The use of the BMI measurement for surveillance purposes has been endorsed by the American Public Health Association and the Institute of Medicine.

The data presented in this report offers a first look at Missoula County overweight and obesity rates in the 3rd grade population over six years. Its purpose is to inform Missoula and demonstrate the importance of ongoing data collection to monitor for changes in weight status and to contribute to important decision making regarding strategies, policies, and resources allocated to control and reduce childhood obesity in Missoula.

This report is the result of collaborations between MSU Nursing school and the University of Montana Health and Human Performance Department, Missoula County Public School and Missoula County schools. Through surveillance programs such as this one, we can make informed decisions based on important indicators of health to more effectively address the needs of Missoula children.



National childhood obesity rates overview

Obesity and Overweight Rates for Children Ages 2 to 19, NHANES, 2011 to 2012

	ALL GIRLS	ALL BOYS
Severely Obese	N/A	N/A
Obese (including Severely Obese)	17.2%	16.7%
Obese and Overweight Combined	31.6%	32.0%

Childhood Overweight = BMI at or above the 85th percentile and lower than the 95th percentile for children of the same age and sex; Childhood Obesity = BMI at or above the 95th percentile for children of the same age and sex; Severe Childhood Obesity = BMI greater than 120 percent of 95th percentile for children of the same age and sex.

Let's Move! Missoula (LM!M) Leadership Team is created!

The LM!M Leadership Team has identified schools and community as the logical place to implement nutritionally sound policies and a variety of physical activity programs and environments that all children and families will benefit from.



ACCOMPLISHMENTS:

2012— Summit to Prevent Childhood Obesity

Missoula held a Summit to Prevent Childhood Obesity with more than 200 community members and experts. Fifteen prioritized suggestions, aligned with the five Let's Move Cities Towns and Counties goals, were developed, creating a path for the next several years.

2013— Summit for Healthy Children: Physical Activity

This summit focused on helping school systems align their physical activity policies with national recommendations calling for schools to incorporate 60 minutes of moderate-to-vigorous physical activity for students every school day. *Let's Move! Missoula* Active Schools was developed to begin this work through active transportation, before school activities, in classroom physical activity, access to physical activity and after school physical activity.

2014—Summit for Healthy Children: Food for Fuel and Learning

This summit is focused on helping school systems develop nutritional standards through the adoption of Competitive Food Recommendations that meet the Institute of Medicine nutritional guidelines. This includes food sold in vending machines and student stores, and food provided via classroom celebrations, classroom rewards and fundraisers.

OTHER ACTIVITIES:

Early childcare providers in Missoula are being trained to increase physical activity and nutritional foods. United Way of Missoula County, which now prioritizes funding obesity-prevention programs in its Health category, awarded Child Care Resources a grant to implement *Let's Move! Missoula* guidelines for child care programs.

Let's Move! Missoula leaders drafted partnership criteria for public, nonprofit and business entities wishing to identify themselves as Let's Move! partners. The criteria sets clear expectations so our partners know and subscribe to meaningful activities that make sure we're all taking steps together to prevent and address obesity in our community.

Why is childhood obesity a problem?

Physical Problems	Social & Emotional Issues	Educational Issues
Cardiovascular disease Type-2 diabetes High blood cholesterol Respiratory ailments Orthopedic problems \$19,000 additional Lifetime medical costs	Depression Stigmatizing, stereotyping, and marginalization Teasing and bullying Lower self esteem Negative body image	More likely to drop out of high school More likely to become pregnant as a teen Children who are obese by age 6, are 50% more likely to be an obese adult

Childhood Obesity Trends in Missoula County

Over the past 30 years childhood obesity rates have tripled in the United States. Missoula has not escaped this public health epidemic. Our children face health issues that have, until recently, been reserved for their parents and grandparents.

In 2008 the Missoula City-County Health Department launched the 3rd grade Body Mass Index (BMI) surveillance program. The goal is to make comprehensive estimates on overweight and obesity prevalence at the county level. The Center for Disease Control and the American Academy of Pediatrics recommend the use of BMI to screen for overweight and obesity in children beginning at 2 years old. A BMI percentile is calculated individually for each boy and girl based on his or her gender, age, height and weight. BMI percentiles are then used to categorize children as underweight, healthy weight, overweight or obese.



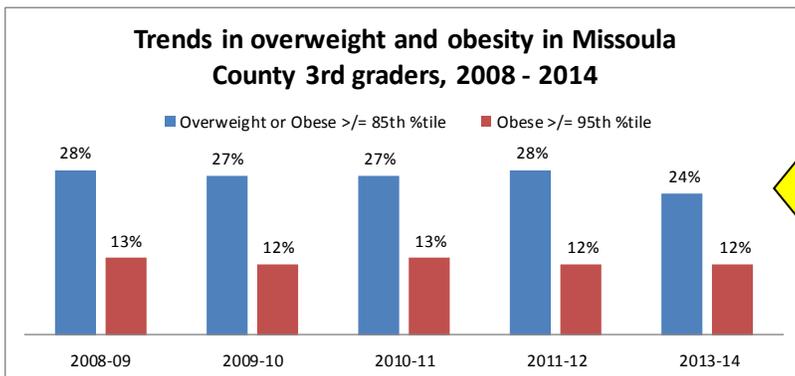
BMI Measurement Ranges

Underweight: BMI-for-age less than 5th percentile

Healthy weight: BMI-for-age between 5th and less than 85th percentile

Overweight: BMI-for-age between 85th and less than 95th percentile

Obese: BMI-for-age greater than or equal to 95th percentile

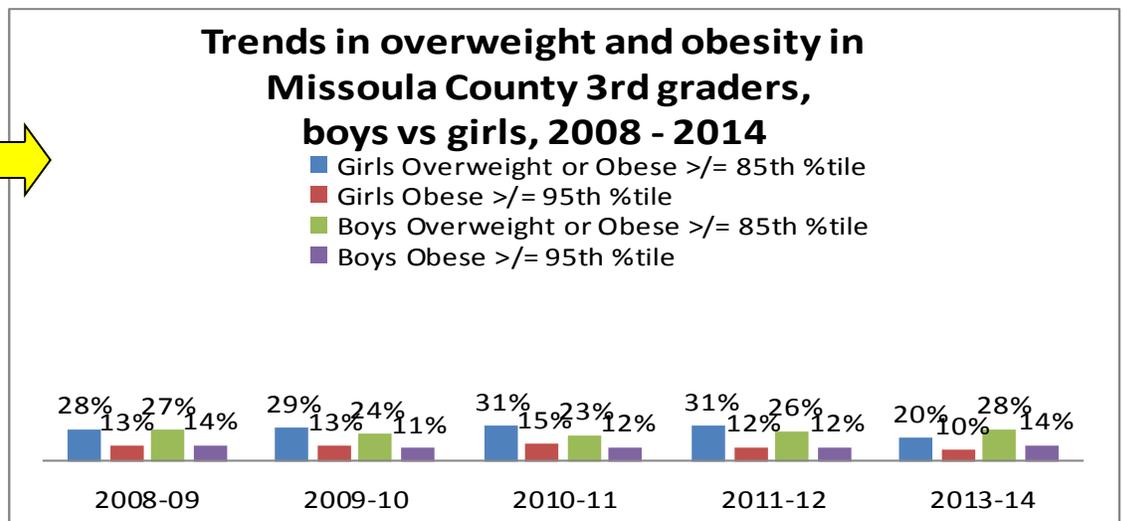


Results

From 2008–2012 there were no significant changes in the prevalence of combined overweight and obesity. In 2013–2014, there was a 4% decrease in combined overweight and obesity, but no change in obesity.

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In 2013–2014 there was a significant 10% decline in girls' combined overweight and obesity and a 3 to 5% decline in obesity. There was a slight decrease of 3 to 4% in boys' combined overweight and obesity through 2012, and then an increase in 2013–2014.



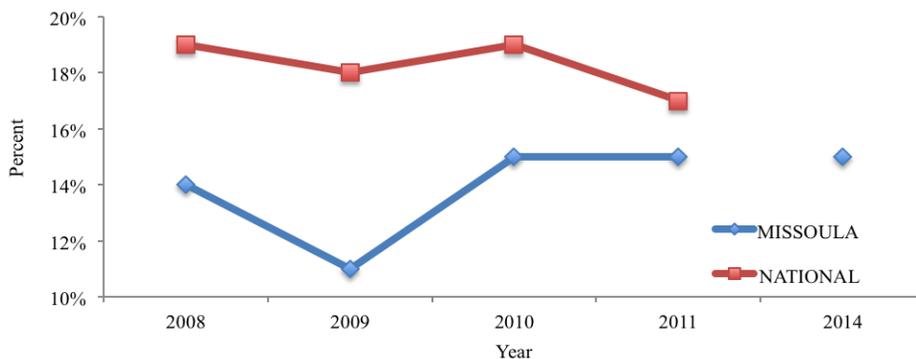
Childhood Obesity in Missoula and Beyond

Childhood obesity is the imbalance between the calories a child consumes and the calories a child uses to support normal growth and development, metabolism, and physical activity. Genetic, behavioral, and environmental factors all contribute to a child's weight. No single factor causes obesity.

Preventing obesity during childhood is critical, because habits formed during youth frequently carry into adulthood. An obese 6-year-old has a 50% chance of becoming obese as an adult, and an obese teenager has up to an 80% chance of becoming an obese adult.

Although the prevalence of obesity in the United States is high, it appears to have leveled off. Childhood obesity has leveled off in Missoula County too, but it remains a critical public health issue. The Missoula City-County Health Department and *Let's Move! Missoula's* goals are to reduce the childhood obesity rate from 13% to 7%.

Missoula 3rd Graders vs. National Youth Ages 6-11
Childhood Obesity Trends



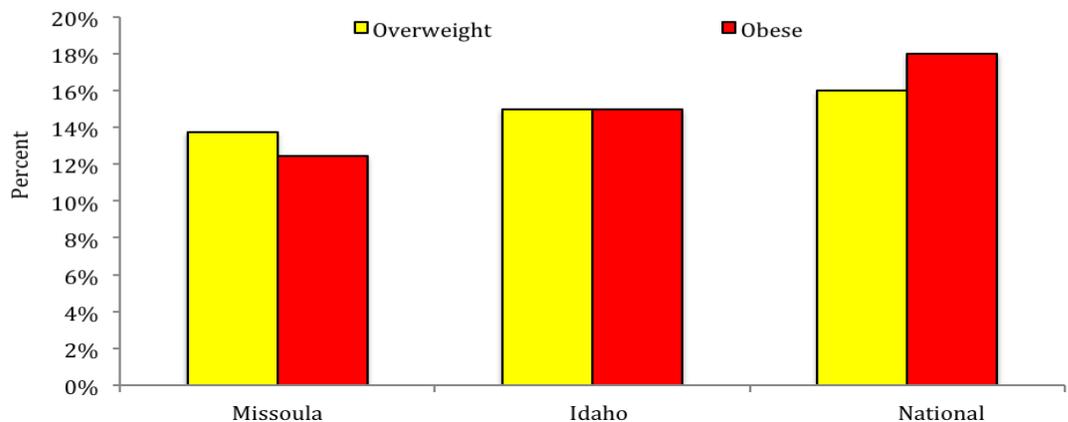
Third grade combined (overweight and obese BMI) for the county of Missoula (2008 N=359, 2009 N=506, 2010 N=529, 2011 N=270, 2014 N=690) and the U.S. national averages (NHANES)

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BMI rates are compared to Idaho because the state of Montana doesn't have a program that measures childhood overweight and obesity rates.

BMI Rates Missoula, Idaho, and U.S.



Third grade BMI comparisons for Missoula City- County Health Department(2013-2014, N=690) and state of Idaho (2011-2012, N=2102: Idaho Department of Health and Welfare - Idaho 3rd Grade Body Mass Index (BMI) Assessment.), and the U.S. National average (2011-2012, N=1268 from Ogden et al. - Prevalence of Childhood and Adult Obesity in the United States).

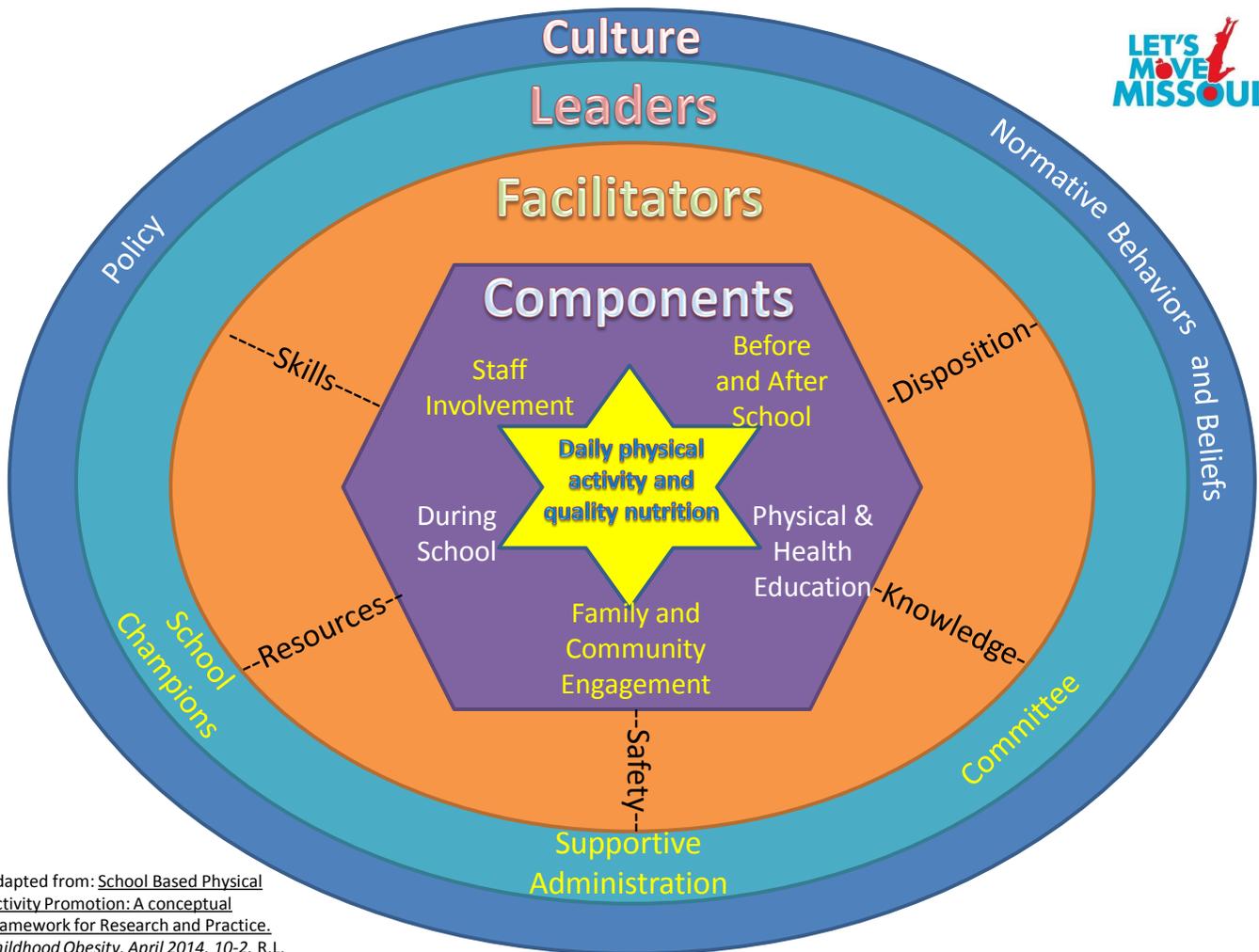
How can we create a healthier Missoula for our youth?

Let's Move! Missoula works closely with experts from the health care and public health fields to find realistic and evidence-based methods to prevent more Missoula children from becoming an unhealthy weight and to help those already struggling.

There is no question that behavior changes — such as sports, regular walking, and reducing soda consumption — can have a positive impact on your health and weight. Recent research has found that a significant amount of the obesity epidemic can be attributed to unhealthy environments — **the places where we live, learn, work and play every day.**

Let's Move! Missoula is working closely with schools and community partners to lay a foundation of policies and procedures to incorporate quality nutrition and 60 minutes of moderate—vigorous activity into children's lives.

This graphic is a visual representation of the comprehensive approach *Let's Move! Missoula's* framework to change the overall health and wellbeing of generations to come.



Adapted from: School Based Physical Activity Promotion: A conceptual Framework for Research and Practice. *Childhood Obesity*, April 2014, 10-2. R.L. Carson, D.M. Castelli, A. Beighle and H. Erwin.

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Let's Move! Missoula



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