



Obesity –

A National Epidemic Affecting Montanans

Highlights from
Two School Surveys





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The Montana Department of Public Health and Human Services (DPHHS) has developed this report to raise awareness of the severity of the problem of obesity among children and adolescents.

Increasing rates of obesity among children and adults have become such a concern that in January, 2001, Surgeon General David Satcher announced a year-long effort to develop a national action plan for reducing the prevalence of people who are overweight and obese in the United States. This problem is now an epidemic with a prevalence far in excess of what is expected. Simply stated, this should not be happening.

Addressing this problem has become a national priority. Now, it is time for Montanans to begin to examine why rates of obesity continue to climb and what we can do to halt this epidemic. In Montana, rates of adult and childhood obesity are lower than national averages. However, if preventive measures are not taken now, the prevalence of obesity in our state may reach and surpass the rates that are seen at the national level.

Promoting healthy dietary and physical activity habits early in life is an effective way to prevent obesity. This report outlines the results of two surveys conducted by the Cardiovascular Health Program at Montana DPHHS. One is of Montana 4th-6th grade children and the other is of elementary school teachers. These findings, along with other related data, show us that children are in need of increased opportunities to be physically active and to improve eating habits.

Included in this report are recommendations made to teachers and other school personnel on how they can help children become more active and improve dietary habits. I believe that Montanans, including legislators, public health professionals, physicians, educators, and parents all have a role in addressing obesity. One of the most important things that we can do is provide good examples of healthy eating and active lifestyles.

Michael Spence, MD
State Medical Officer
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Obesity—A National Epidemic Affecting Montanans

In recent years, public health professionals have become alarmed at the rising rates of obesity among adults, children and adolescents in the United States. Sixty-one percent of Americans are now classified as being overweight (BMI* = 25.0-29.9) or obese (BMI \geq 30).¹

Jeffrey P. Koplan, director of the Centers for Disease Control and Prevention (CDC) has stated that obesity is an epidemic and should be taken as seriously as any infectious disease epidemic. Obesity and overweight are linked to the nation's number one killer—heart disease—as well as diabetes and other chronic conditions. Obesity can also have a great influence on an individual's quality of life and a strong impact on our nation's healthcare costs. In 1995, the estimated annual healthcare costs in the United States associated with obesity equaled \$99.2 billion.²

In Montana, the prevalence of obesity among adults has increased significantly between 1990 and 1999.³ National data show a similar trend. The prevalence of adult obesity in the United States increased by 57% from 1991 to 1999 (Figure 1).⁴

The latest National Health and Nutrition Examination Survey (NHANES) indicates that the number of overweight children and adolescents is on the rise (Figure 2). Before 1988, rates of childhood obesity remained steady. In the 1988-1994 time period, the percentage of overweight children jumped to 11 percent in both age groups. Initial 1999 data show a continuing climb.⁵

National data from the 1999 Youth Risk Behavior Survey (YRBS) show nearly 10 percent of high school students were overweight, and 16 percent were at risk for becoming overweight.

*Body Mass Index (BMI) is an indicator of weight status. It is an individual's weight in kg divided by their height in meters squared.

According to the 1999 Montana YRBS, nearly six percent of children in grades 9-12 in Montana are overweight (\geq 85th percentile).⁶ If Montanans do not take an interest in promoting healthy eating and increasing physical activity among youth, it is probable that obesity rates in Montana will be comparable to national rates over time.

A Risk Factor for Chronic Diseases

In order to understand the likely future of chronic disease in adults, it makes sense to observe behaviors and risk factors among children. It is also in the interest of parents, teachers, and communities to become aware of the significance of the problem of obesity among youth and to take action to address the barriers keeping children and adolescents from living healthy lifestyles.

Of particular concern is the increasing prevalence of diabetes among overweight youth. Type 2 diabetes has typically been a disease diagnosed among adults; however, in recent years, this disease has been increasing in youth and has been found to occur often among youth in minority populations, including American Indians.⁷

School health screenings of American Indian children were conducted on two Montana reservations during the 1999-2000 school year. Combined data from both reservations showed that 31% of the youth were overweight (BMI \geq 95th percentile) and 33% of the children screened positive for acanthosis nigricans (AN), a skin condition that is associated with an increased risk of diabetes (Figure 3).⁸

Figure 1. Obesity Trend Among Adults - Montana vs. U.S.

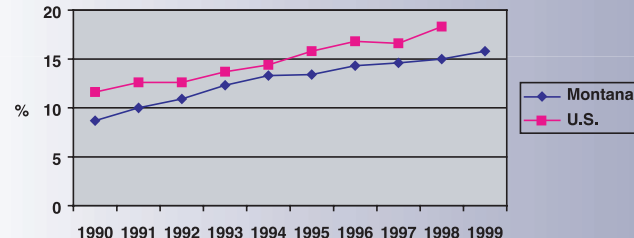
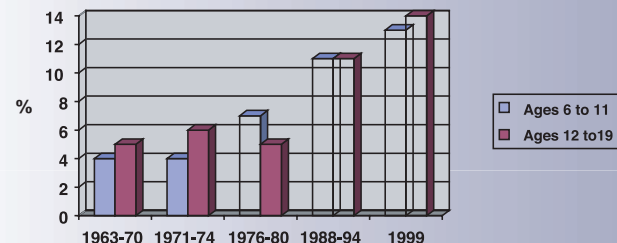
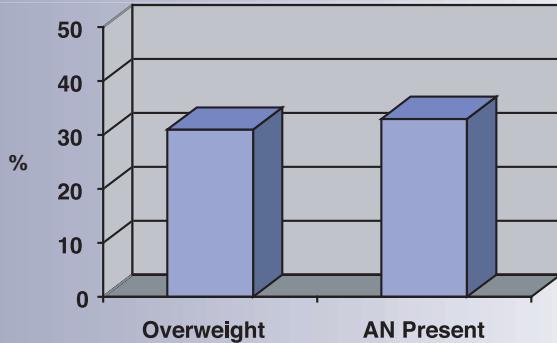


Figure 2. Overweight Among Children and Adolescents: U.S., 1999



**Figure 3. School Health Screenings —
2 Montana Reservations**



There is a clear relationship between obesity and risk factors for heart disease including high blood pressure and elevated blood cholesterol. These conditions are increasingly prevalent among youth, but most can be managed by increasing physical activity and improving eating habits.

Behaviors Linked to Obesity

The most apparent explanation for this epidemic is that children are eating more and are less active than previous generations. Physical inactivity and poor eating habits seem to be the main contributors to the obesity epidemic, and both are risk factors for chronic diseases.

Physical Inactivity

As the national prevalence of obesity has increased over the past decade, physical inactivity has also become more prevalent. The U.S. Surgeon General’s Report on Physical Activity and Health reported that more than 60% of adults in the U.S. do not achieve the recommended amount of regular physical activity, and 25% of all adults are not active at all.⁹ Similarly, in Montana 25% of adults are sedentary.¹⁰

Nationally, nearly half of young people ages 12-21 are not vigorously active on a regular basis. There is also evidence that suggests levels of activity decline during the teen years, particularly in females. An adolescent’s physical activity habits are likely to continue into the older years.

Today fewer opportunities for physical activity exist in the school setting. Across the nation, the number of schools that require daily or regular physical education are decreasing, and many do not provide enough in-class time for children to be active. In 1999, only 36% of Montana’s high school

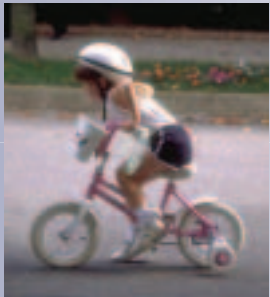
students participated in daily physical education classes.¹¹ In many schools, a greater emphasis has been placed on core subject areas such as math, language arts, and science, and consequently, physical education has become less of a priority.

A greater number of sedentary activities are now available to children, such as watching television or playing video games. William Dietz, MD, PhD, Director of the Division of Nutrition and Physical Activity at CDC stated, “TV is a behavioral health hazard.” The American Academy of Pediatrics has issued guidelines recommending that parents limit their children’s TV viewing to no more than two hours a day. This recommendation is made, in part, because TV viewing discourages physical activity. Studies have shown that children who watch more television gain more weight over time.¹²

Poor Eating Habits

Poor dietary habits of children may also be contributing to the growing prevalence of obesity among youth. According to a national nutrition survey, fried potatoes comprised almost one-third of the vegetable servings eaten by 2 to 19-year-olds. Less than one-fourth of children aged 6 to 11 met the Food Pyramid’s recommended servings of fruit and vegetables. Infants and children (0-9 years old) exceeded the recommendations for fat intake. And in the average American diet, over 40% of daily calories were from fat and added sugars.¹³

Soft drinks constitute the leading source of added sugars among adolescents. The Center for Science in the Public Interest (CSPI) has stated that “soft drink companies are mounting ‘predatory’ marketing campaigns aimed at children and adolescents.” New research has established a link between soda consumption and obesity, stating that the odds of becoming obese increased significantly for each additional daily serving of sugar-sweetened drink.¹⁴ When soft drinks are consumed, it’s likely that these beverages are replacing milk, an important source of calcium in a young person’s diet.



MONTANA SURVEYS

Teacher Survey

In 1999, a survey of elementary school teachers in Montana was conducted to learn about their perceptions regarding students' nutrition and physical activity knowledge and habits. This survey also provided insight into how supportive Montana school environments are of healthy eating and regular physical activity.

Written surveys were mailed to principals of all public elementary schools in the state, requesting that one teacher of a pre-determined grade complete the survey. An equal number of surveys were received from 1st through 6th grade teachers. Out of the 470 mailed surveys, 274 were returned (58% response rate). The following are key points from the survey.

Youth Survey

Another survey of 4th-6th grade students in Montana was conducted during the 1999-2000 school year to learn more about children's knowledge, attitudes and behaviors related to nutrition and physical activity. The results of this survey also helped in identifying potential obesity prevention efforts that could reach children via families and schools.

With the assistance of the Montana Association of Health, Physical Education Recreation and Dance (MAHPERD), a convenience sample was selected. One hundred seventy packets including 75 surveys each were mailed to all MAHPERD members who are elementary teachers. They distributed the surveys to 4th, 5th, and 6th-grade classrooms at their schools. Out of the 12,750 surveys that were disseminated, 4,320 responses were received (34% response rate). The following are key findings from the survey.

Teacher Survey

Among the survey respondents...

- Sixty-four percent from schools with cafeterias report that their food service personnel have made an effort to lower the sodium and fat content of the school lunches served.
- Forty-two percent believe after-school programs are a good way to increase physical activity among their students.
- Thirty-two percent think their school needs to spend more time improving the health of the students.
- Fifty-seven percent are aware of Health Enhancement standards.
- Fifty-eight percent have incorporated Health Enhancement standards in their curriculum to some degree.



Youth Survey

Dietary Habits

Among the survey respondents...

- After-school snacks that are chosen include cookies, candy, and chips as well as fruit, juice, and milk.
- Over half eat hot lunch from the school cafeteria.
- Eighty percent do not understand the meaning of “5 A Day”, a message to promote eating 5 servings of fruits and vegetables a day.
- Fifteen percent don’t usually eat vegetables, and one third eat only one serving of vegetables a day.
- Fifty-five percent eat the recommended 5 daily servings of fruit.
- Over half drink pop on a daily basis, and 24% drink two or more cans a day.
- Less than one-fourth report drinking 1% milk or skim at home or school. 2% milk is the popular choice at home and at school.
- Fifty-one percent do not look at food labels when making food choices, or when shopping with parents.
- Sixty-six percent are concerned about having to eat foods they believe don’t taste good in order to follow a healthy diet.

Physical Activity

Among the survey respondents...

- About one-third report they like everything about Physical Education (PE)*.
- “Fitness evaluations” and “getting sweaty” were the most common reasons they did not like PE.
- Over half say they participate in sedentary activities during recess like talking to friends or playing games inside.
- Only 13 percent have PE on a daily basis. Sixty-five percent have PE class 2-3 times a week.
- Almost half are willing to increase activities such as biking or playing outdoors to become more physically active.
- Sixty-nine percent understand that staying healthy and having a strong body are benefits of being active.
- Forty-five percent spend time after school watching television.
- Thirty-nine percent ride to school in a car. Twenty-three percent walk to school and 21% ride their bike to school.

**The term “Physical Education” was used in the survey, rather than “Health Enhancement,” because children are more familiar with that term.*



The following recommendations are made to teachers and other school personnel based on the results of these surveys:

- Demonstrate how “healthy” foods can taste good by doing taste tests in class with different types of vegetables, fruit, low-fat milk, and whole wheat bread.
 - Emphasize with students the benefits of eating well now.
Eating habits can affect energy level, sports performance and strength.
 - Continue to deliver the “5 A Day” message whenever possible.
- Offer lessons on making healthy choices based on food label information.
 - Advocate for 1% milk as the standard milk choice.
 - Emphasize with students the benefits of being active now—
to stay healthy and keep their body strong.
- Participate in the National “Turn Off Your TV Week” (last week in April) as a class and encourage physical activities as an alternative. Website: www.tv-turnoff.org
 - Involve your school in the National “Walk Our Children to School Day” in October.
Website: www.walktoschool-usa.org
 - Schedule in-class physical activity breaks to show your students how much fun it is to be active.
 - Provide more opportunities for children to be active by providing before-school and after-school physical activity programs.

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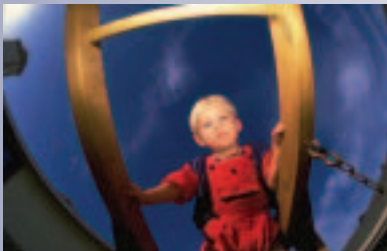
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For more information about the surveys or the Montana Cardiovascular Health Program, contact Crystelle Fogle at (406) 444-2672 or Lynda Blades at (406) 444-7324. A copy of the "Montana Cardiovascular Disease Prevention and Control Plan 2000" can be accessed at: <http://www.dphhhs.state.mt.us/hpsd>.

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