

Healthy Eating And Living (HEAL) Body Mass Index Screening Study

Ulster County Health Department
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The estimated rates of obesity have increased nationwide over the past several years, impacting children, adolescents and adults (Rubenstien, 2005). In hand with this trend, several studies have demonstrated an increase in the prevalence of heart disease, and type-2 diabetes, preventable chronic diseases that are now developing in younger individuals (Botton, 2007; Thompson, 2007).

Little data has been collected at the county level to determine the extent of the childhood overweight and obesity problem. In February 2007, the Healthy Eating And Living (HEAL- Ulster County) initiative was created by the Ulster County Health Department (UCHD), yet made possible through funding and support from the Ulster County Legislature's Health Services Committee Chairman Robert Parete and help from key individuals throughout the county, to help determine the scope of the problem in Ulster County. That same month, the Westchester County Department of Health as well as the Orange County Department of Health were contacted in an effort to draw on their previous BMI research methods to aid in the UCHD's Body Mass Index (BMI) study.

In March of 2007, the UCHD, along with Legislator Robert Parete, sent out a survey to all school districts in Ulster County to determine if they collected height and weight measurements on their students, what grades they collected the data for, and if they would be willing to participate in a BMI screening study. Follow-up letters, calls and emails were sent to those districts who did not respond to the survey to encourage their

participation. In addition, follow-up calls were also made to those districts that were not willing to participate in the survey to help identify any barriers for a future study.

School districts who expressed willingness to partner with the UCHD on the project were contacted. Letters were sent to school nurses in the school districts willing to participate, asking them to record the requested information in a form created by the UCHD. The form included school contact information, each individual student's grade, the month and year they were born, the date the measurements were collected, height in inches, weight in pounds, and gender. For confidentiality purposes, there were no names or student identification numbers given. To be consistent with the recommendation in the *New York State Strategic Plan for Overweight and Obesity Prevention* (New York State Department of Health [NYSDOH], 2005), the UCHD decided to obtain data for grades 1 and 3.

The nurses then recorded the data from the 2006-2007 school year. The data submitted were either taken by the child's personal physician or the school's health practitioner. The collected data was submitted to the UCHD either via mail or fax. Schools were given the option to submit their data electronically; however, no schools took advantage of that.

In Ulster County there are nine school districts with 38 public and private schools with first and or third grade students, approximately 3,700 students. During April 2007 to February 2008, the UCHD collected and analyzed data from five of the nine Ulster

County school districts, representing 26 of the 38 public and private elementary schools in grades one and three in the county. Data was submitted on 2,170 students, 1,063 first graders, and 1,107 third graders. However, due to incomplete data, 2,105 students' information was used in the BMI calculations; 1,027 first graders and 1,078 third graders.

Each data set was calculated using an Excel BMI Calculator (EBMIC) designed by the Centers for Disease Control and Prevention (CDC) to determine each child's BMI and BMI-for-age percentile. With the EBMIC, BMI was calculated by dividing the weight in pounds by height in inches squared and multiplied by a factor of 703 (Centers for Disease Control and Prevention [CDC], n.d.). Due to the fact that children's body fat changes with age and differs between girls and boys, once each child's BMI were calculated, their percentile ranking was calculated using the EBMIC. The percentile ranking helps to determine if a child is either underweight (less than the 5th percentile), healthy weight (5th percentile to less than the 85th percentile), at risk of overweight (85th percentile to less than the 95th percentile), overweight (equal to or greater than the 95th percentile), or extremely overweight (greater than 99th percentile) (CDC, n.d.).

Of the 2,105 children included in the study, 2% were underweight, 61.85% were of a healthy weight, 16.58% were at risk of becoming overweight, 19.57% were overweight with 4.75% being extremely overweight. In total 36.15% of the children (18.48% males, and 17.67% females), or 1 in 3, are overweight or at risk of overweight. (See tables)

According to the 2003-2004 National Health and Nutrition Examination Survey (NHANES) data, the national average of overweight children in that age category (6-11) was 37.2% (Ogden, 2006).

One of the goals for Healthy People 2010 is to “promote health and reduce chronic disease associated with diet and weight” by reducing the proportion of children aged 6-11 who are overweight or obese to 5% (United States Department of Health and Human Services, 2000). To help achieve that goal in New York State (NYS), the NYSDOH worked with key stakeholders and experts throughout New York to develop the *New York State Strategic Plan for Overweight and Obesity Prevention*. In their plan ten goals were made to help reduce overweight and obesity. The goals include increasing the awareness of overweight and obesity as a major public health threat; increase early recognition of overweight and/or excessive weight gain, improve management (medical and non-medical) of people who are overweight or obese and those with obesity-related diseases; increase initiation, exclusivity and duration of breastfeeding during infancy; improve lifelong healthy eating; increase lifelong physical activity; decrease exposure to television and other recreational screen time; increase policy and environmental supports for physical activity and healthy eating, including breastfeeding; increase and maintain effective public health responses to the obesity epidemic in NYS; expand surveillance and program evaluation to prevent overweight and obesity. For more information about the objectives created to reach these goals visit:

http://www.health.state.ny.us/prevention/obesity/strategic_plan/strategic_plan_index.htm

(NYSDOH, 2005).

In 2007, New York State amended subdivision 1 of sections 903 and 904 of the Education Law to include that each health certificate shall state a student’s BMI and weight category, for every student who submits a health certificate, or has a health appraisal, beginning at the start of the 2008 school year. A representative sample of

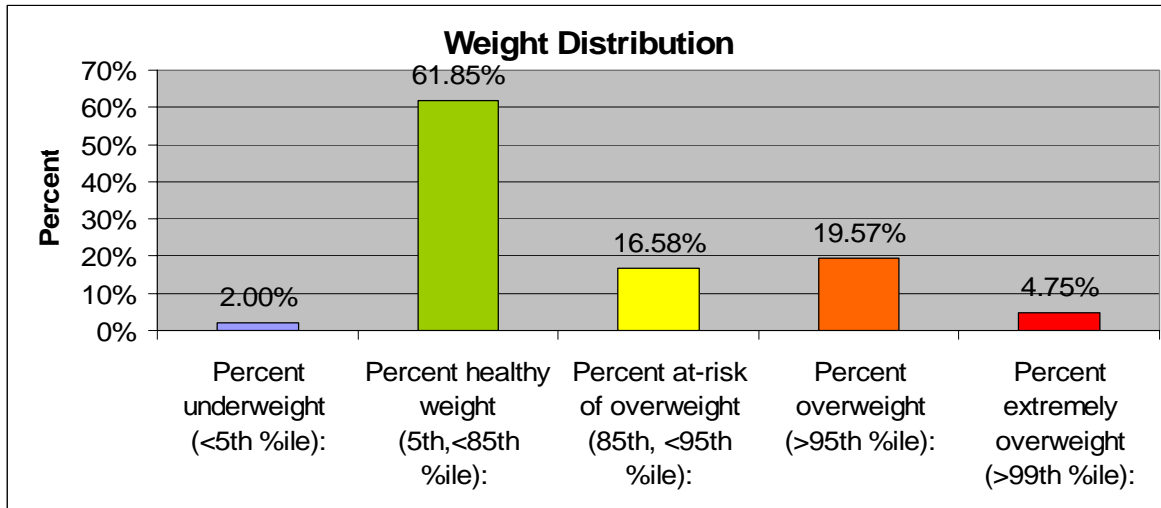
schools will participate in a NYSDOH survey to determine the prevalence of the different weight categories. From the collected data, NYSDOH will then develop a report of child obesity and obesity related diseases (Education Law, 2007). Once the data becomes available from NYSDOH, the UCHD will utilize the data to determine how best to help Ulster County residents maintain and achieve healthy weights.

Ulster County Elementary School Aged Children (1, 3) who participated in the study
by Sex and Grade

All Participating Schools 2006-2007 School Year

Grade	Number of Cases	Female		Male		Total	
		Number	%	Number	%	Number	%
1	1027	497	48.39%	530	51.61%	1027	100.00%
3	1078	533	49.44%	545	50.56%	1078	100.00%
Total	2105	1030	48.93%	1075	51.07%	2105	100.00%

Percent of Ulster County Elementary School Aged Children (1, 3) by Body Weight Status
All Participating Schools 2006-2007 School Year



Ulster County Elementary School Aged Children (1, 3) Overweight and At-Risk for
Overweight by Sex and Grade

All Participating Schools 2006-2007 School Year

Grade	Number of Cases	Overweight and at risk for overweight					
		Male		Female		Total	
		Number	%	Number	%	Number	%
1	1027	192	18.69%	180	17.53%	372	36.22%
3	1078	197	18.26%	192	17.83%	389	36.09%
Total	2105	389	18.48%	372	17.67%	761	36.15%
*(2003-2004) National Estimates (Age 6-11)	981	169	36.50%	197	38.00%	366	37.20%

*Note. From "Prevalence of Overweight and Obesity in the United States, 1999-2004", by Ogden, C. L., Carroll, M. D., Curtin, L. R., McDowell, M. A., Tabak, C. J., Flegal, K. M., 2006, *The Journal of the American Medical Association*. 295(13): 1550-1552.

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