

Body Mass Index Baseline Study
Polk County, Iowa
June 2008

Background

Childhood overweight in American children is at an epidemic level. Data on childhood weight is available nationally and for some specific groups at state level but local data is difficult to find. Additionally, local data that is available may not have been gathered in a consistent manner making it difficult to merge and quantify childhood weight in a county or school district. In November, 2006, Healthy Polk 2010 held a town hall meeting to discuss childhood overweight and its impact on the citizens of Polk County. As a result of this community discussion it was determined there was a need for a base-line study of the current level of childhood overweight in the county.

A second concern for childhood overweight is the reaction parents have when told they have an overweight child. When weight data is gathered in a school setting by the school nurse, just like any health screening, schools feel responsible to share the data with parents. With most screening results, parents are appreciative of the information and willing use the information to benefit their child. When weight information is provided, especially overweight, parents often respond negatively. For a variety of reasons, they feel it is their fault that a child is overweight.

Action

The Body Mass Index Baseline Study (BMI Project) focused on two aspects of childhood overweight.

1. BMI—collecting BMI data for a baseline understanding of childhood overweight in Polk County. BMI was collected for first and fifth graders in four school districts in Polk County. Children in first grade were measured because this is the age with the largest overall change in BMI. Early deposition of fat can also predispose youth to be future weight issues. Children in fifth grade were measured to provide a second point of data that may reflect their BMI status as they approach the adolescent growth spurt.

December, 2007, nurses in Des Moines, West Des Moines, Saydel and Southeast Polk school districts were trained in standard measurement protocol by Dr. Greg Welk, Associate Professor in Health and Human Performance and Dr. Michelle Ihmels, Post-doctorate at Iowa State University. The training established procedures to ensure that the data was collected in a reliable and valid manner. A vital part of the project was providing a quality Stadiometer and scale for each school. Having the tools to keep is a great incentive for nurses to continue taking measurements and sharing with the BMI project.

January-April, 2008, school nurses measured students and provided the raw data to Drs. Welk and Ihmels. In June, 2008, an initial report of BMI was provided for the Healthy Polk 2010 members.

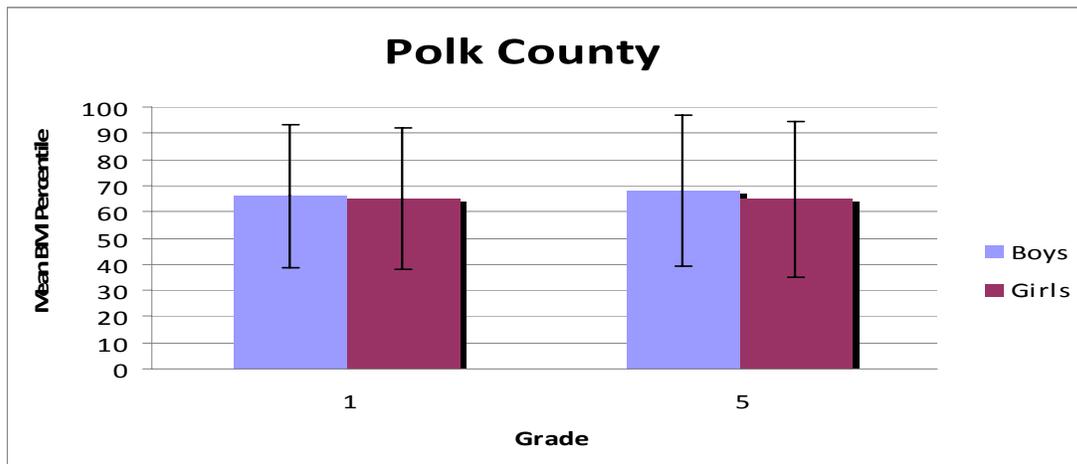
2. **Focus Groups--Investigate how to work with parents when sharing BMI findings.** Sharing of BMI data with parents has been controversial in many school districts so it is important to consider the most appropriate way to do this. Focus groups were conducted to obtain input from parents about how this information should be presented or used. Supporting families was the theme of the focus groups since many parents feel overly responsible for the overweight child. The findings from the focus groups will be used to help school districts determine how to share the individual data. Two focus groups were held with one group recruited from Des Moines School District and the second from West Des Moines, Saydel and Southeast Polk Districts.

Harvest Research Center, Des Moines, Iowa, provided leadership with the focus groups by developing the focus group questions, recruiting participants, conducting focus groups and preparing a final report. The complete report is available on www.Healthypolk.org.

ISU Extension took the lead in securing funds for the project, chairing the planning meetings, recruiting schools to participate, worked with the researchers to secure findings and dissemination of findings.

Findings

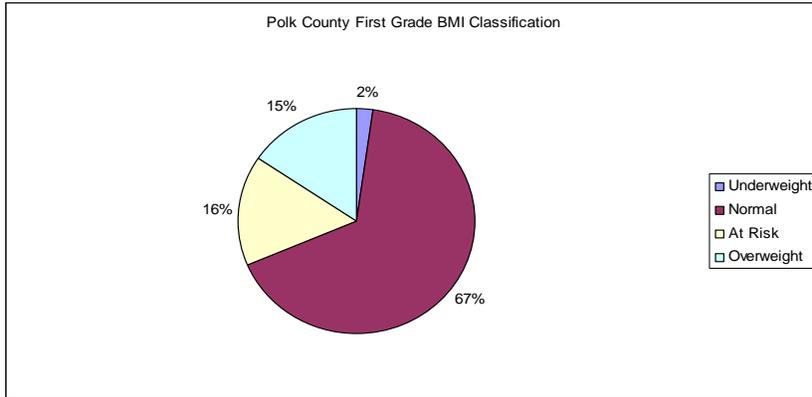
Body Mass Index Measurement Project



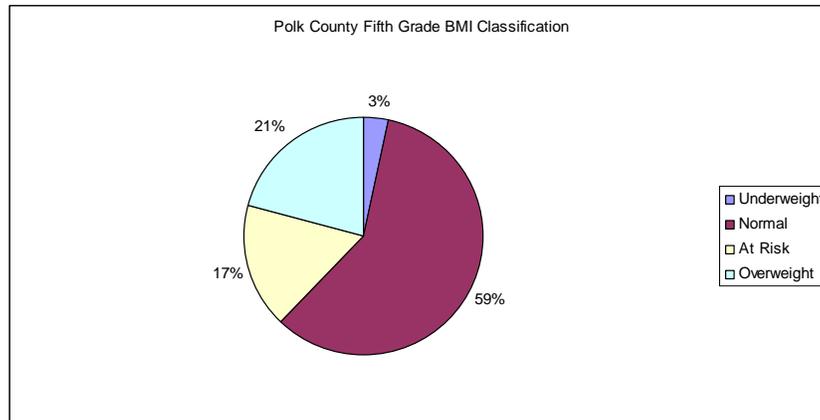
There were 6378 students in the four districts within Polk County in 1st and 5th grades with computed BMI values which represent 94% of the total students in those grades. The mean BMI percentile for 1st grade males was 66.1%. The mean BMI percentile for 1st grade females was 64.9%. The mean BMI percentile for 5th grade males was 68.2%. The mean BMI percentile for 5th grade females was 64.9%.

Of the 3195 1st grade students, 66.3% of the BMI values were in the normal range based on the CDC standards. Another 2.3% were classified as underweight, while 16.0% were

considered *at-risk for overweight*. Finally, 15.5% of the students were classified as *overweight*.



Of the 3183 5th grade students, 58.9% of the BMI values were in the normal range based on the CDC standards. Another 3.3% were classified as underweight, while 17.0% were considered *at-risk for overweight*. Finally, 20.8% of the students were classified as *overweight*.



Unfortunately there were fewer students in the 5th grade cohort classified as normal (7.4% less) while there were 6.3% more students classified as *at-risk for overweight* or *overweight*. These values reflect the national trend of children moving from normal weight to *at-risk for overweight* or *overweight* as they age.

All Polk County Students by BMI Group

BMI group	grade		Total	
	1	5		
Underweight 0	Count	72	104	176
	% within grade	2.3%	3.3%	2.8%
Normal 1	Count	2118	1876	3994
	% within grade	66.3%	58.9%	62.6%
At-Risk 2	Count	510	541	1051
	% within grade	16.0%	17.0%	16.5%

Overweight	3	Count	495	662	1157
		% within grade	15.5%	20.8%	18.1%
Total		Count	3195	3183	6378

Focus Groups

Based on the assessment of the focus group research results, there were several key areas that were consistent in both groups and will play a key role in how successful the schools will be in providing individual data to parents and helping them use the data.

Awareness of School involvement in Weight Screening

The most visible problem regarding, “how to best communicate to the parents” is awareness. A majority of the parents were not aware that the schools had a BMI screening program. Therefore, the schools have to do a better job marketing the programs.

Technique for dissemination of BMI data

The second most common theme of concern was how this information will be disseminated. Parents recommended that the results remain confidential (even from the child). Plus, it should be sealed and delivered in the mail to their home address. Not in the child’s backpack where they may not receive it or the child may read it.

BMI Screening and Lifestyle changes

Consistent with what some of the parents stated, it is also recommended that the BMI screening be promoted as part of a, “Lifestyle Change.” In order for the nutrition and fitness changes to be successful and effective long-term, there has to be a lifestyle change in eating habits and activities, both individually and as a family. The BMI data is just the first step in this lifestyle change.

In addition, the parents indicated that the programs should be “Full-Programs.” In other words, they did not want to just receive information that informs them about their child’s BMI without providing strategies for solutions.

Communications and BMI screening

All the parents indicated that they preferred to be informed prior to when the BMI screenings are conducted, not after the fact. Reviewing several samples of communication pieces currently used, participants found

- a letter to parents about BMI screening needed to not only be informative about their child’s BMI but also needed education on how to use the data
- One exemplar titled ‘Fitness Gram’ not only included BMI data but also other fitness data. This was an important feature according to parents. They did not like to have the BMI separated from other fitness data.
- a checklist of family behaviors was found useful as a guide for what they needed to consider doing as a family

The parents said the best way to communicate with them is through letters, conferences, and via emails.

Education

The final recommendation is that the schools consider conducting workshops on nutrition, fitness, and on the BMI screening procedures. This would provide parents an opportunity, and a choice, to find out more about programs that can help.

Future

Presently BMI data collected through this project will be managed by the Polk County Health Department. Requests for the data will be provided at the county level. Schools districts and individual school buildings will be able to access their specific data.

While we have 65% of the targeted students in the first year data we would like to recruit other districts to participate in the data collection. In late summer, 2008, the findings will be presented to the Polk County School Nurse Consortium group. Included in the presentation will be an offer to schools not participating to join the project and receive training as well as the specific equipment needed to provide accurate data. Des Moines Schools report that they are committed to continuing to submit data on their first and fifth graders and have purchased equipment for their middle and high schools as well.

Using the focus group findings, we want to pursue a process that would allow a fitness report card feature that might be able to be used by Physical Education teachers at conferences or with the regular report card. This will mean involving and engaging Physical Education teachers in the development and planning process. We are discussing ways to encourage this next step in making the BMI data part of the lifestyle changes needed for our children.

Partners

School Districts and School Nurses- Of the ten school districts in Polk County, four choose to participate in this project. Approximately 65% of the potential students in Polk County were included in this first sample. Nurses participated in training for accurate measurement, provided data to ISU researchers and will receive the findings for their school.

Polk County Health Department-In addition to participating in the planning for the project, the health department will be the depository of the data. Access for schools, and others will be provided through the health department.

ISU & ISU Extension- Researchers from ISU provided training to nurses, manipulation of the data sent from nurses and provides findings from the data for schools and districts. The local ISU Extension staff worked with the school nurses to provide the equipment and training.

Funding

Funding was provided by the Polk County Board of Supervisors and Mid-Iowa Health Foundation with in-kind support from the four school districts and ISU Extension. The PEP grant, managed by ISU Extension provided partial funding for equipment in Des Moines, Saydel and Southeast Polk Schools.

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