Introduction

This Briefing provides insights on the degree of awareness parents in Hennepin County may have on the issue of childhood obesity4 and its relevance for their own children. The findings are drawn from the SHAPE 2006 – Child Survey, which collected information on the health of Hennepin County children and key factors that affect their health. More than 4,000 households with children aged 0 to 17 participated in the SHAPE 2006 – Child Survey. The questionnaire and the data collection strategy for the SHAPE 2006 – Child Survey are available on our website at: www.hennepin.us/SHAPE.

The great disconnect on childhood obesity

The SHAPE 2006 – Child Survey included a series of questions aimed at gauging the prevalence of childhood obesity in Hennepin County, and at determining what parents2 know or might think they know about their children’s weight status.3 The questions were included in the survey because of the substantial health risks associated with childhood obesity, and because there are recent public health intervention activities that start with raising parental awareness to help limit these risks. Yet, though current intervention strategies are based on building parental awareness and linking this knowledge to the health of their own children, there appears to be a significant “disconnect.”4

Defining “healthy weight” for children: BMI percentiles

For children and young adults under age 20, the standards for defining current “weight status” and “healthy weight” are based on BMI (body mass index)5 percentiles. To determine the child’s weight status, the child’s BMI score is calculated and then compared to a set of growth charts displaying normative standards for the child’s gender by age group.6 The weight status categories defined by the CDC’s National Center for Health Statistics are displayed in Figure 1.

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"There is a disconnect between public awareness of childhood obesity as a public health problem and the ability to recognize it in one’s own children.”

--Sandra G. Boodman
The Washington Post
January 8, 2008
What do parents really know about the height and weight of their children?

In the field testing and community consultation phases that proceeded implementation of the *SHAPE 2006 – Child Survey*, preliminary findings suggested that especially for older children, parents were much less likely to be able to give reasonably reliable reports of their child’s height and weight. For this reason, the SHAPE team opted to focus on young children (aged 0 to 5) as the primary subjects for collecting data on children’s heights and weights.

Yet, even among parents of children aged 0 to 5 who were at least *somewhat confident* that they could accurately report their child’s height or weight, the survey results found that nearly one in four parents provided heights and weights that were *highly incongruent* (i.e., too tall for the weight given, or too heavy for the height given) or were otherwise *biologically implausible*. Overall, the *SHAPE 2006 – Child Survey* found that one in three parents of children aged 2 to 5 were unable to report a height or weight value that could be considered reasonably reliable.

Do the heights and weights reported by parents provide adequate estimates for determining their child’s weight status?

After completing data reasonability checks, the heights and weights of the children aged 2 to 5 years were used to calculate BMI percentiles. These values were then classified using the CDC’s definitions for the *weight status categories*. As displayed in Figure 2, these results appear to be quite alarming. Even when the height and weight values have been pre-screened for reasonability, the remaining data yield an estimate for the percentage of Hennepin County children aged 2 to 5 who would be considered “overweight” that is nearly twice the rate reported by the National Health and Nutrition Examination Survey (NHANES).

This difference (13.9 percent versus 25.0 percent estimated to be overweight) suggests that when parents’ reports are used as a substitute for direct measurements, errors are likely to occur. The NHANES approach to gathering children’s weight and height data (based on using standardized measurement instruments administered by

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**Figure 1. Weight status categories defined in terms of BMI percentiles**

<table>
<thead>
<tr>
<th>Weight Status Categories</th>
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<tbody>
<tr>
<td>Underweight</td>
<td>Less than the 5th percentile</td>
</tr>
<tr>
<td>Healthy weight</td>
<td>From the 5th percentile to less than the 85th percentile</td>
</tr>
<tr>
<td>At risk of overweight</td>
<td>From the 85th percentile to less than the 95th percentile</td>
</tr>
<tr>
<td>Overweight</td>
<td>Equal to or greater than the 95th percentile</td>
</tr>
</tbody>
</table>


**Figure 2. Estimated percentages of children aged 2 to 5 who would be classified as “overweight” comparing NHANES 2003-04 results to SHAPE 2006 findings**

<table>
<thead>
<tr>
<th>For Children aged 2 to 5</th>
<th>Percent estimated to be overweight*</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHANES 2003-04</td>
<td>13.9 percent Considered to be highly accurate</td>
</tr>
<tr>
<td>National findings based on heights and weights measured by professionals</td>
<td></td>
</tr>
<tr>
<td>SHAPE 2006 – Child Survey</td>
<td>25.0 percent NOT considered to be highly accurate</td>
</tr>
<tr>
<td>Based on heights and weights reported by parents without direct measurements</td>
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*CDC definition of “overweight” is equal to or greater than the 95th BMI percentile.*
professional staff in mobile examination centers) provides a more reliable assessment of children’s weight status.

Parents’ subjective view of their child’s weight status

The SHAPE 2006 – Child Survey also included an opportunity for parents to provide their own subjective opinion of their child’s overall weight status by asking the following question: Do you consider your child to be overweight, underweight, or about the right weight?

As shown in Figure 3, most parents consider their children to be about the right weight; 82.7 percent of all children were reported to be about the right weight. Very few parents of children aged 0 to 5 years old (less than two percent) chose the term overweight to characterize their child’s weight status. Overall, among all children (aged 0 to 17 years old), only 8.4 percent of parents chose the term overweight to describe their child.

What are doctors or other health professionals telling parents about their child’s weight status?

Parents of all of the children in the SHAPE 2006 – Child Survey were asked if they had been recently told about their child’s weight status by a doctor or health professional. They were asked: Has a doctor or other health professional recently told you that your child weighs too much, too little, or is at the right weight? As shown in Figure 4, the results indicate that for 18 percent of children aged 0 to 17, parents reported that their child’s doctor or health professional had not said anything about the child’s weight status. This suggests that another potential source of the “disconnect” may be due to a lack of information about the child’s weight status from a health professional. Although it is possible that a health professional did provide information about the child’s weight status in recent conversations with the parent, one out of six parents either missed receiving the information or could not recall having had that discussion.

*Less than one half of one percent of all cases indicated that the child has not been to a doctor.
Source: SHAPE 2006
The gap between reality and perception

Even when parents acknowledge having been told some information by a doctor or health professional about the status of their child’s weight recently, their own subjective view often does not correspond with the professional interpretation they were given.

As shown in Figure 5, when the doctor or health professional said the child was at the right weight, 6.4 percent of the children’s parents still gave a different interpretation (did not agree). When the child’s doctor or other health professional indicated that the child weighed too much 16.0 percent gave an answer that disagreed. For children who were said to weigh too little, nearly one out of four (24.3 percent) had parents who reported that they considered the child to be the right weight or overweight. This suggests that a further source of the disconnect may come from parents disregarding professional opinions on the subject of their child’s weight status.

Notes:
1. The CDC's classification of children's weight status does not use the term obesity. Yet, the presence of this term in popular discussions and journalistic treatments of children's weight status (as a public health issue) make it an important term in the current discussion.
2. Here and throughout, "parent" has been used as a generic term for the adult in the household most knowledgeable about the child's health. In most cases this term is referring to the child's biological, adoptive or step parents, although in a small number of cases, the survey was answered by another adult/guardian in the household.
3. The questions included the following: a) How tall is your child without shoes? b) How confident are you in the height you just reported? c) How much does your child weigh without shoes? d) How confident are you in the weight you just reported? e) Do you consider your child to be overweight, underweight, or about the right weight? f) Has a doctor or other healthcare professional recently told you that your child weighs too much, too little, or is at about the right weight?
5. Body mass index (BMI) is calculated using a standard formula: BMI = (weight in kilograms) ÷ (Height in meters)^2 or BMI = 703 * (weight in pounds) ÷ (Height in inches)^2
8. For more information on the data reliability testing procedures please contact the SHAPE team.

Figure 5. Percentage of children whose parent’s response disagrees with the assessment given by a doctor or health professional of the child’s weight status, Hennepin County Children, 2006

<table>
<thead>
<tr>
<th>Doctor or health professional has recently said:</th>
<th>Percentage of children whose parents disagreed with the doctor or health professional:</th>
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</thead>
<tbody>
<tr>
<td>Child is the right weight</td>
<td>6.4 percent of children aged 0 to 17</td>
</tr>
<tr>
<td>Child weighs too much</td>
<td>16.0 percent of children aged 0 to 17</td>
</tr>
<tr>
<td>Child weighs too little</td>
<td>24.3 percent of children aged 0 to 17</td>
</tr>
</tbody>
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Source: SHAPE 2006

Acknowledgments

The SHAPE project would like to thank the many individuals, community organizations, and subject-area experts who provided advice and support for the development of SHAPE 2006. A partial list of those who provided assistance to the SHAPE 2006 project can be found on the SHAPE web site listed below. The SHAPE project would especially like to thank the more than 10,000 residents of Hennepin County who generously took the time to complete the SHAPE survey.

For More Information

SHAPE 2006 is a collaborative project between the Hennepin County Human Services and Public Health Department and the University of Minnesota School of Public Health.

For more information on this Briefing or other topics related to the SHAPE project, or to receive this information in an alternate format, please contact SHAPE@co.hennepin.mn.us or 612-348-6150.

www.hennepin.us/shape