



## UNHEALTHY WEIGHT AMONG MALTREATED CHILDREN IN ILLINOIS

RESEARCH BRIEF | JESSE J. HELTON | August 2011

Unhealthy weight among children and adolescents in the United States continues to be a public health concern.<sup>1,2</sup> Children who are at an unhealthy high or low body mass index (BMI) are more likely to develop medical conditions as adults, including hypertension, cardiovascular disease, diabetes, orthopedic impairments, sleep apnea, depression, and certain cancers.<sup>3</sup> Unhealthy weight can also have a more immediate impact as well, leading to the development of type-2 diabetes, high blood pressure, high cholesterol, asthma, sleep apnea, low self-esteem, and poor academic functioning in adolescence.<sup>4</sup> Recent attention by medical authorities, the federal government, and the media has failed to address these concerns in a population that has more than its share of health problems: maltreated children. The purpose of this research brief is to examine rates of extremely low and high weight for children with a substantiated investigation of maltreatment. To do this, estimates of child weight will be compared between three groups: (1) children with substantiated allegations of maltreatment in Illinois, whose well-being the Children and Family Research Center has a special responsibility to monitor; (2) children with substantiated allegations of maltreatment nationally; and (3) all children in the U.S. population.

### Method

The data are derived from the 2010 Illinois and National Study of Child and Adolescent Well-Being (ISCAW and NSCAW), which sampled substantiated maltreatment investigation cases between March of 2008 and January of 2009. The ISCAW study of 818 maltreated cases was conducted as part of the larger NSCAW study. National estimates of child weight for all youth in the country were obtained from the National Health and Nutrition Examination Survey (NHANES) collected by the Centers for Disease Control (CDC). For the remainder of the brief, *maltreated children* refers to children two years of age and older who had a substantiated allegation of abuse or neglect, and *all children* refers to children two years of age and older who live in the U.S. Depending on what data were available for a given case, BMI-for-age or weight-for-age calculations are used to assess child weight status. These are based on growth charts developed by the CDC, with children at or above the 95th percentile considered *obese* and children at or below the 5th percentile considered *underweight*. For children over the age of 3, weight measurements were reported by the primary caregiver and should be considered estimates.

<sup>1</sup> U.S. Department of Health and Human Services. (2010). *The Surgeon General's Vision for a Healthy and Fit Nation*. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General.

<sup>2</sup> Federal Interagency Forum on Child and Family Statistics. *America's Children in Brief: Key National Indicators of Well-Being, 2010*. Washington, DC: U.S. Government Printing Office.

<sup>3</sup> National Institute of Health, National Heart, Lung, and Blood Institute. (1998). *Obesity Education Initiative. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults*. NIH Publication No. 98-4083

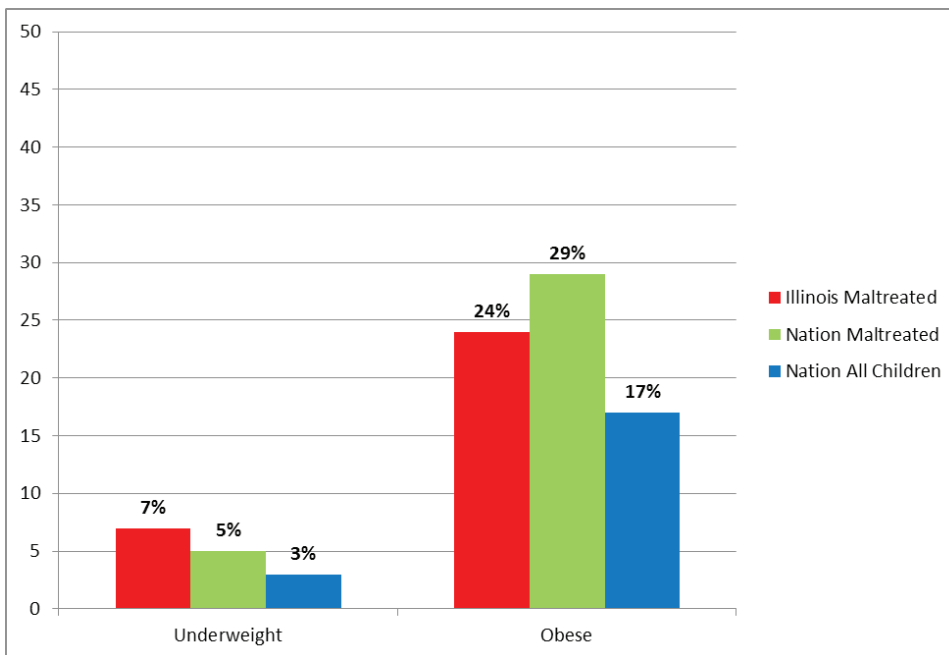
<sup>4</sup> Center for Disease Control. 2010. *Overweight and Obesity Consequences*. <http://www.cdc.gov/obesity/childhood/consequences.html>



**Results**

Figure 1 shows that 7% of maltreated children in Illinois are underweight, which is similar to maltreated children nationally (5%) and over twice the rate of children in the US population (3%). Further, 24% of maltreated children in Illinois are obese, which is similar to maltreated children nationally (29%) but about 1.5 times the rate of children in the US population (17%).

**FIGURE 1:** Child Weight Estimates by Geographic Location and Maltreatment



*Note: National estimates from 2007 and 2008 survey by the CDC for children 2-19 years of age*

**Risk of Underweight**

Age is an important factor in the risk of being underweight among maltreated children in Illinois (see Table 1): 6% of 2-5 year-olds and 9% of 6-11 year-olds are underweight, but only 4% of 12-17 year-olds. The rate of underweight for Illinois maltreated children 2-5 is two times greater than among the national population of children, and the rate for Illinois maltreated children 6-11 is three times greater than the rate among children at that age nationally. Another important factor is gender: substantially more males (11%) are underweight compared to females (4%). Racial differences, however, are not an important risk factor for underweight.

**Table 1:** Percent of Children who are Underweight

| Age                 | Illinois Maltreated | Nation Maltreated | Nation* |
|---------------------|---------------------|-------------------|---------|
| <i>Total (2-17)</i> | 7%                  | 5%                | 3%      |
| 2-5                 | 6%                  | 7%                | 3%      |
| 6-11                | 9%                  | 6%                | 3%      |
| 12-17               | 4%                  | 3%                | 4%      |

*\*National estimates are for children 2-19 years of age*



**Risk of Obesity**

Certain racial and gender differences emerged among maltreated children in Illinois. Significantly more African-American and Hispanic children are obese (25%) compared to White children (20%; see Figure 2). Further, substantially more African-American males (28%), African-American females (29%) and Hispanic males (32%) are obese compared to Hispanic females (9%), White males (16%), and White females (24%). Statistical tests suggests these gender/racial differences are tentative and should be considered trends and not conclusive. Age differences, however, are not an important risk factor for obesity.

**FIGURE 2.** Child Weight Estimates by Race and Gender for Maltreated Children in Illinois

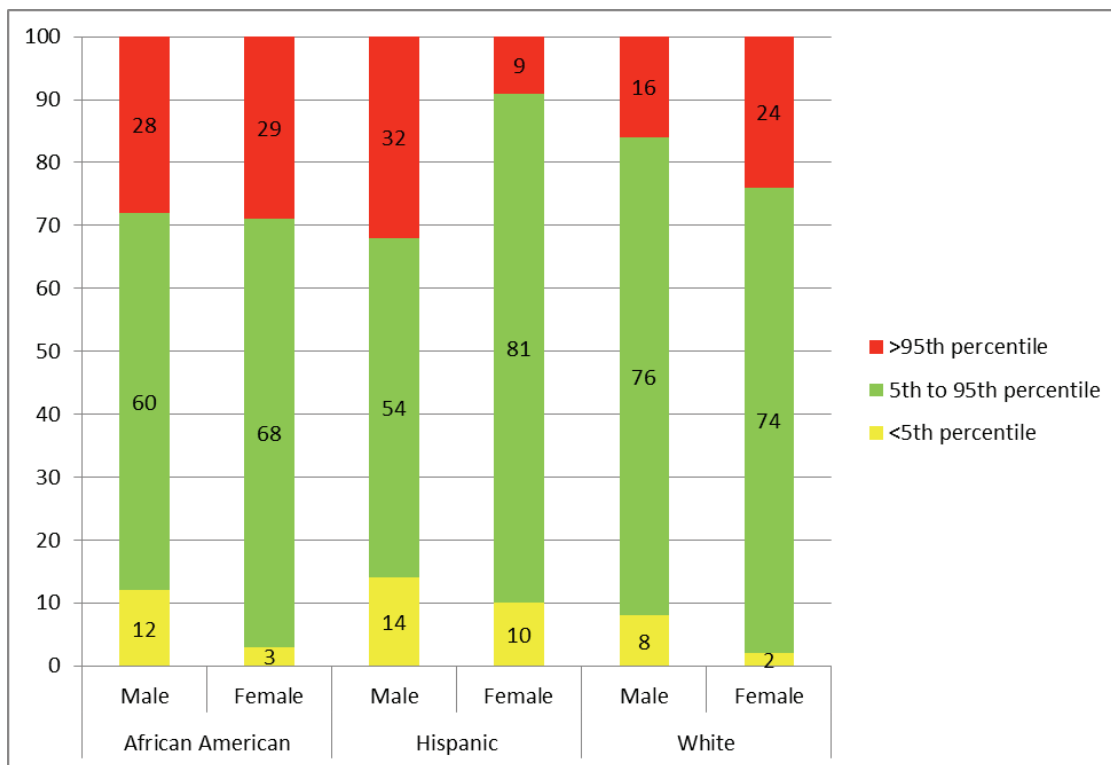


Table 2 compares the number of obese children by race and placement after investigation. Racial differences in child weight estimates varied by geographic location and placement setting:

- More African-American children in Illinois substitute care are obese (36.2%) compared to all other races in Illinois substitute care.
- More Hispanic children who remained in their home (“in-home”) in the rest of the nation are obese (35.9%) compared to all other races who remained in their home in the rest of the nation.

Analysis shows that African-American children in Illinois substitute care are just over 2 times more likely to be obese compared to White children in Illinois substitute care.



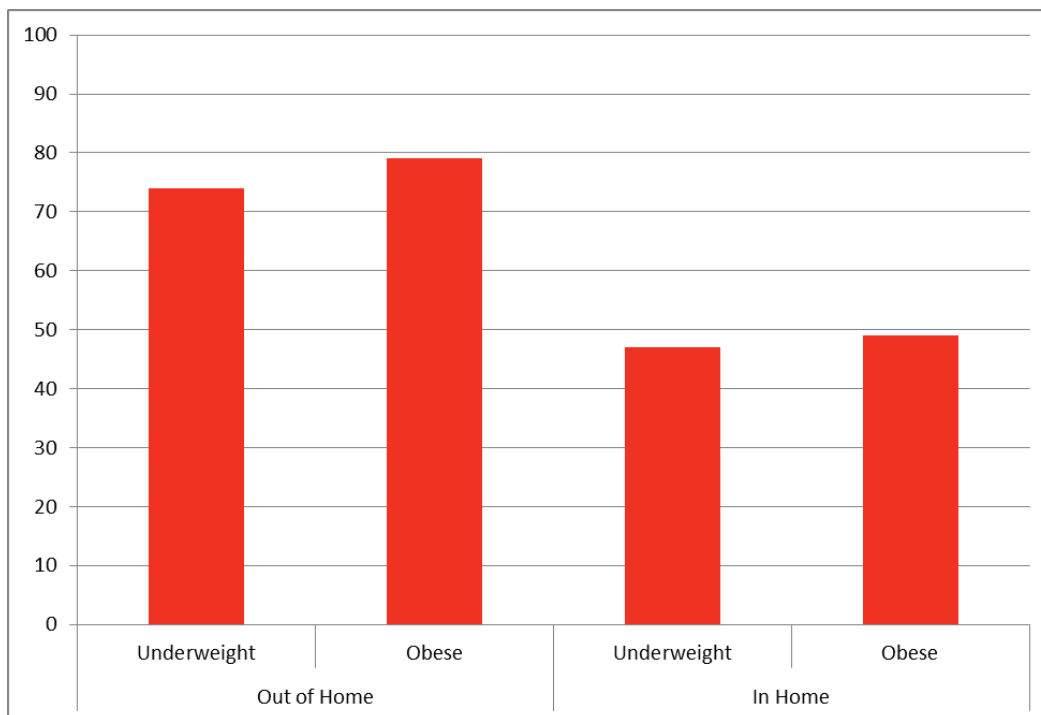
**Table 2: Percent of Children who are Obese by Race and Placement Decision**

|                  | Maltreated       |                          |                |                        | All Children |
|------------------|------------------|--------------------------|----------------|------------------------|--------------|
|                  | Illinois In-Home | Illinois Substitute Care | Nation In-Home | Nation Substitute Care | Nation       |
| All children     | 23.8             | 22.2                     | 27.9           | 32.3                   | 16.9         |
| African-American | 27.0             | <b>36.2</b>              | 20.0           | 29.4                   | 20.0         |
| White            | 21.1             | 15.3                     | 26.0           | 34.6                   | 15.3         |
| Hispanic         | 21.4             | N/A                      | <b>35.9</b>    | 33.7                   | 20.9         |

**Caregiver Recognition of Child Unhealthy Weight**

Caregivers play an important role in combating unhealthy weight by overseeing a child’s eating habits and physical activity, and are usually the first to identify early signs of a health problem. However, the ability to recognize a child’s weight problem may be difficult for caregivers. Data from the ISCAW show a difference between substitute caregivers and caregivers of children who remain in home. Figure 3 shows that 74% of substitute caregivers of underweight maltreated children in Illinois, and 79% of substitute caregivers of obese maltreated children in Illinois, report their child’s weight was about right for their age. These numbers drop to 47% and 49% of in-home caregivers. This suggests that much needs to be done to educate both substitute and biological caregivers of maltreated children in Illinois about healthy body weight.

**FIGURE 3: Percent of Caregivers Reporting their Child is at an Appropriate Weight**





### **Summary**

Several findings about unhealthy weight among maltreated children are important for policy and practice:

1. A disproportionate number of maltreated children, both in Illinois and in the nation, are at an unhealthy weight (i.e. underweight or obese) compared to national averages for all children.
2. Considerably more maltreated children in Illinois are underweight compared to all children nationally, with 6-11 year-olds and male children at the greatest risk.
3. 46% of Hispanic males and 40% of African-American males being served by Illinois DCFS are either underweight or obese.
4. In Illinois, African-American children in substitute care are at the highest risk for being overweight or obese.
5. In Illinois, only about 25% of substitute caregivers of underweight or obese children think their child has a weight problem, suggesting the need for caregiver education on children establishing and maintaining a healthy weight and lifestyle.

Much more work is needed to fully understand these preliminary findings. Because the racial and gender differences described above may reflect differences in the type of maltreatment being investigated, whether the allegation was indicated, and the socioeconomic context of the family, the role of these latter variables in the development of unhealthy weight needs to be explored. Nevertheless, these findings in themselves strongly suggest that many families with maltreated children need help dealing with their children's weight issues.

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