

## Weight/Height Status Screening: BMI (Body Mass Index)

### **QUALIFIED SCREENERS**

7-005.01 For the purposes of the school officials verifying that a qualified screener is carrying out the required screening activity, the qualified screener is a person who follows the competencies for accurate, reliable measurement as described in 7-004 and found in Attachment 2 (and incorporated in these guidelines), **and** who meets **one** of the following descriptions (7-005.02 through 7-005.04):

7-005.02 The screener has been determined competent to perform the screening method by a licensed health care professional within the previous three years. Documentation in writing of such competency determination shall include:

7-005.02A The name of the individual who successfully completed the competency determination and the date the determination was conducted;

7-005.02B The type of screening with type(s) of equipment used in the competency determination for the respective screenings; and

7-005.02C The name and license number of the licensed health professional conducting the competency assessment; OR

7-005.03 The screener will receive direct supervision from a licensed health care professional while screening; OR

7-005.04 Screening is conducted by a licensed health care professional, as follows:

7.005.04A A Nebraska-credentialed health care professional registered nurse, licensed practical nurse, advanced practice registered nurse-nurse practitioner, physician assistant, or physician, are authorized to perform health screening at school.

7.005.04B Other licensed health professionals authorized to conduct specific screenings in addition to health professionals identified in 7-005.01 are:

Hearing: Audiologists and speech language pathologists.

Vision: Optometrists.

Dental Health: Dentists and dental hygienists.

7-005.05 Record of persons qualified to screen

The school must keep on file for a minimum of three (3) years the name, profession, license number, or written verification of competency in the screening method, for each screener permitted by the school to perform health screening.

## COMPETENCIES

### **WEIGHT/HEIGHT STATUS SCREENING COMPETENCIES: Body Mass Index Essential Steps for accurate measurement.**

<b>COMPETENCY</b>	<b>KEY POINTS AND PRECAUTIONS</b>
1. Assure students' privacy needs are met.	<i>A cubicle or stall-style approach to provide visual privacy is suggested. Making a line for students to stand behind while waiting helps reduce crowding and teasing around the scale. Avoid statements about a student's weight that others will be able to hear.</i>
2. Assemble equipment and prepare environment for measurements.	
3. Assure scale balances correctly at "0" pounds, or scale shows "0" when empty.	
4. Stadiometer is correctly placed with "0" at floor level	
5. Students remove shoes and heavy outer clothing prior to measurement.	<i>Excessive shoes and excessive clothing will affect accuracy of measurement. When BMI is calculated, height is used in the denominator. Errors in measurement can have a larger effect on accuracy than expected.</i>
6. For weight measurement, student stands in center of weighing platform, bearing full weight equally on both feet, no shoes.	
7. Measure weight in pounds to nearest quarter pound (0.25).	
8. For height measurement, student stands straight and looking straight ahead with back touching stadiometer surface.	<i>Measurement surface touching student's head should be at least 3" wide. Press down sufficiently to flatten hair on top of head. Have student look straight ahead, ears in (horizontal) line with nose.</i>
9. Immediately recheck height. If second measure is not within ¼" (.25 ") of first measure, recheck a third time.	<i>Accurately measure height in inches to nearest ¼ (0.25)".</i>
10. Record results.	<i>BMI is calculated from height and weight measurements, gender, birth date and date of measurement. The CDC group BMI</i>

	<i>calculator is found at <a href="http://www.cdc.gov">www.cdc.gov</a>. Use the search field to locate “BMI group calculator”.</i>
11. Carry out rescreen and notification procedures per local school practice/policy.	<i>See guidelines for more information. Aggregate information about weight/height status of students may be useful for evaluating School Wellness Policies, or contributing to community-level efforts to promote healthy living.</i>

**WHO MUST BE SCREENED**

BMI Calculation through measurement of height and weight is the only condition prescribed by the Department of Health and Human Services for the addition to school health screening requirements (Neb. Rev. Stat. 79-248).

Children in preschool programs and Kindergarten, 1<sup>st</sup> through 4<sup>th</sup> grades, 7<sup>th</sup> grade, and 10<sup>th</sup> grade are to be weighed and measured annually, with corresponding calculation of body mass index (BMI) as the measure of interest for interpretation.

Additional indications for screening:

1. New to district at any time, with no previous screening results available.
2. Student enters the student assistance process at any grade.
3. Periodic screenings as specified by the student’s Individualized Education Plan (IEP)
4. Nurse concern, i.e. sudden wt. loss/gain, change in stature or appearance; parent or teacher concern; audiologist referral.
5. Unremediated concerns from previous year.

**NOTIFICATION OF NEED FOR FURTHER EVALUATION**

These guidelines do not include general guidelines for parent notification of BMI status. The primary use of these data will be in the aggregate, used to assess the food and activity environments provided at school, and also as an evaluation measurement of School Wellness Policy implementation.

Local schools, often working with local community partners, may choose to undertake the planning and coordination needed to share BMI data with families, and make practical suggestions on improving the food and activity environments of the home, and the use of community and/or medical resources. Weight-reduction diets for children and adolescents are generally not advised unless under the supervision of a physician.

If there is a concern about a child's BMI and overall health status, the school nurse or medical provider is encouraged to consider more assessment data beyond BMI measure alone. Additional considerations might include a medical history and blood pressure assessment.

IHP for the overweight/obese student  
Communication with parent and recommendation for medical evaluation  
Foster Healthy Weight in Youth  
Direct the family to community resources for wellness, nutrition, and fitness

## **DATA**

Data Goals of Screening are:

- a) Identify baseline measures (proportion of children screened who do not pass) and monitor trends over time.
- b) Understand health disparities affecting Nebraska's school aged children (compare results by group).
- c) Use screening data as an indicator of the quality of the screening practice (if passing rate is lower than expected, review screening process).
- d) Compare measures across time and location.
- e) Explore the relationship between the condition, academic performance, and absenteeism (compare absenteeism and performance for those who do not pass with those that do pass the screening).
- f) Understand the need for vision services for children in Nebraska; begin to identify barriers to care and systemic approaches to improving access to vision care.

The focus of interpretation of BMI is the population or group of children, not the individual child. The most significant application or use of aggregate BMI measures obtained on grades of children or other groups may be as an evaluation tool for the School Wellness Policy and identifying community level or systems-level needs to address the underlying issues of inadequate physical activity and unhealthy nutrition.

Web-based tools are strongly recommended for the rapid calculation of BMI and assignment of percentile ranking – the intended measure for calculation. The use of the BMI calculator provided by the Centers for Disease Control and Prevention is strongly recommended. Use the group calculator to graph and interpret the distribution of BMI percentile for up to 2000 children. Find the calculator: [http://www.cdc.gov/healthyweight/assessing/bmi/childrens\\_bmi/tool\\_for\\_schools.html](http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/tool_for_schools.html).

Nationwide estimates are that 15% of US children today are obese. Variation is emerging among racial/ethnic, socio-economic, and gender groups. The risk of obesity rises with age in the US population, and obese children face severe risks.

Obesity is strongly associated with risk for cardiovascular disease, cancer, and diabetes, so the outlook for a population with increasing proportions of obese members is sobering indeed. School-level aggregate data can be valuable to community efforts to improve wellness and activity resources.

## **BACKGROUND INFORMATION**

In light of a childhood obesity epidemic in the United States, periodic height and weight measurement in groups or populations of children with calculation and interpretation of body mass index (BMI) may be most useful in the aggregate as a measure of severity of the community-level problem. Aggregate BMI measures are used to evaluate and measure the effects of school-level interventions to improve food and activity environments and practices at school.

Evidence shows that children who are obese have higher levels of absenteeism and lower educational outcomes compared to non-obese peers. The effect varies in groups of children by gender, socio-economic status, and race. Children who are obese are more likely to have asthma or diabetes type 2 compared to their non-obese peers.

Height and weight measurement to calculate BMI percentile is more complex than it would seem. Individual privacy, promoting positive self-image among children of all sizes and shapes, and appropriate communication with students, parents/guardians, and medical providers can all prove challenging. Understanding the availability of community resources to help families engage in healthy eating and physical activity behaviors are also part of the puzzle. Referrals should only be undertaken with careful forethought and preparation. Sources at the end of this guideline may be useful to those responsible for planning.

Addressing height and weight issues in an image-conscious society is a challenge at any age, and children and adolescents may be particularly sensitive about how they perceive themselves physically in comparison to their media ideas or peers. School nurses will find this aspect of screening to be rich in opportunities to teach and role model appropriate attitudes and behaviors about weight and height. It is essential for school nurses to place a strong emphasis on “good health in all shapes and sizes,” emphasizing good nutrition, rest, fluids, physical fitness, and normal development as the keys to life long healthy appearance.

Height and weight measurement also occurs at school through fitness testing projects in physical education. Collaboration in these efforts by school nurses and other health services personnel is encouraged, in order to assure accuracy and consistency in method, documentation, interpretation, and communication.

## **RESOURCES**

### **Resources for parents**

#### **Anticipatory resources about healthy weight and changing needs**

#### **Resources for schools that want to do more**

#### **Resources related to psychosocial issues: bullying, disordered eating, school phobia, depression**

### **Bibliography**

Center for Health and Health Care in Schools. 2007. Childhood overweight: what the research tells us. [www.healthinschools.org](http://www.healthinschools.org)

Longjohn M, AR Shean, P Card-Hgginson, PR Nader, and M Mason. 2010. Learning from state surveillance of childhood obesity. Health Affairs 29(3); 463-472.

Mosca, NW. Making a difference for overweight children. National Association of School Nurses: Castle Rock. 2004.

The Role of Michigan Schools in Promoting Healthy Weight. Sept. 2001.

US Preventive Services Task Force. Screening and Interventions for Overweight in Children and Adolescents. <http://www.ahrq.gov/clinic/uspstf/uspsobch.htm>

Expert Committee Recommendations on the Assessment, Prevention and Treatment of Child and Adolescent Overweight and Obesity – 2007.

Nihiser AJ, Lee SM, Wechsler H, McKenna M, Odom E, Reinhold C, Thompson D, Grummer-Strawn L. Body Mass Index Measurement in Schools. Journal of School Health. 2007; 77:651 – 671. Available at: [www.cdc.gov/healthyYouth/Overweight/BMI](http://www.cdc.gov/healthyYouth/Overweight/BMI).

[www.cdc.gov/HealthyYouth/KeyStrategies](http://www.cdc.gov/HealthyYouth/KeyStrategies).

## **FORMS**

Documentation of Competency Assessment  
Competency Criteria Quick Reference