

Weighing and Measuring Students in School Settings

A Position Paper



October 2007

North Dakota
Healthy Weight Council

This position paper was developed by the North Dakota Healthy Weight Council. The Council addresses issues that encompass the promotion of healthy weight. Council members include more than 60 dietitians, nutritionists, nurses, physical activity educators, physicians and other health professionals who work in health-care institutions, schools, state agencies, nonprofit health-advocacy groups and private industry.

The Healthy Weight Council collaborates as part of *Healthy North Dakota*, a dynamic, statewide initiative that brings together partners and stakeholders to improve the health of every North Dakotan through prevention and wellness efforts.

For more information about the Healthy Weight Council, contact Katherine Black, North Dakota Department of Health, at 701.328.2496 or kblack@nd.gov.

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The Issue

Concern about the increasing number of overweight children is leading many schools to consider measuring heights and weights. These measurements used by physicians and other health professionals are valuable and beneficial tools in clinical settings. In school settings, however, the process of screening for these measures and the use of this information requires careful consideration. This paper provides schools with direction and insight into the issues and efficacy of taking height and weight measurements.

Position

The North Dakota Healthy Weight Council supports the physical and emotional well-being of all students and recommends that schools measure heights and weights only under special circumstances (see page 5).

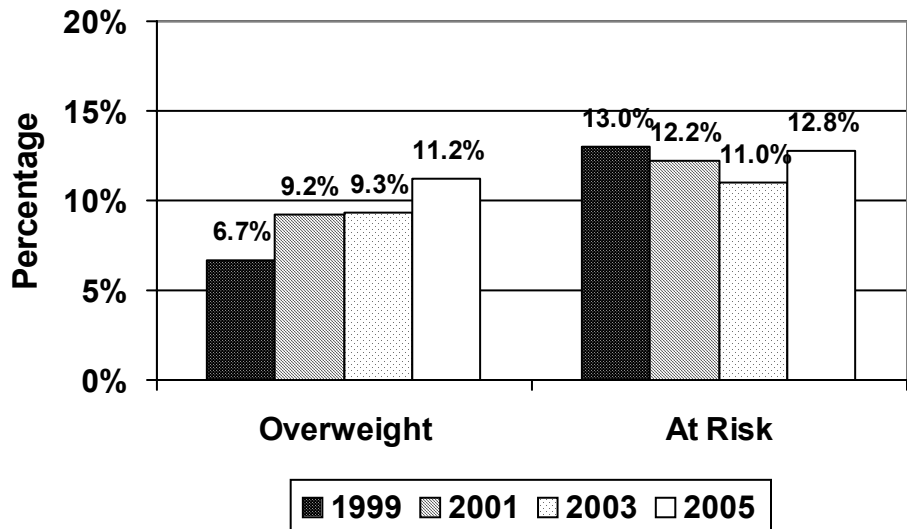
Rationale

The North Dakota Healthy Weight Council recognizes that students face weight-related health concerns:

1) Excessive weight and weight gain

Eleven percent of North Dakota high school students are classified as overweight (95th percentile or greater), and 13 percent are at risk of becoming overweight (85th to 95th percentile) (Figure 1). Nationwide, the proportion of young people who are overweight has more than tripled since 1980.¹

Figure 1: Overweight and At-Risk of Overweight, North Dakota Students Grades 9 Through 12, Youth Risk Behavior Survey 1999-2005²

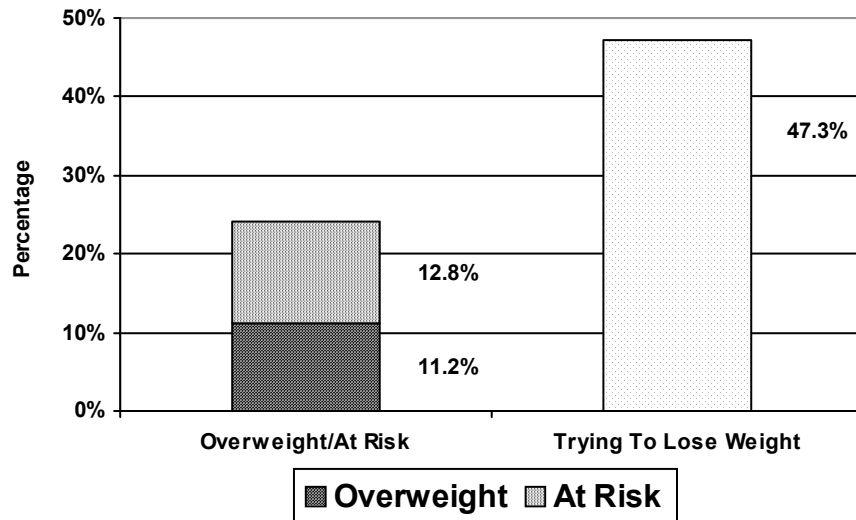


Social pressures about body size and unsafe weight-loss practices are affecting North Dakota students.

2) Social pressure for excessive slenderness and body size discrimination
 Students are inundated with messages from the media implying that a “normal” body shape should be extremely slender. This so-called “normal” or desirable body shape is biologically unachievable for the vast majority of students. Students who are overweight often are treated disrespectfully and subjected to bullying and name-calling.³

3) Unsafe weight-loss practices
 Students in North Dakota are attempting to conform to unrealistic body weight goals. Data from the 2003 Youth Risk Behavior Survey (YRBS) indicates a large percentage of North Dakota high school girls reported using dangerous weight-loss practices, including fasting (15.2%), using diet pills or other products (10.7%) and vomiting or taking laxatives (8.2%).² (The 2003 YRBS data is the most recent data, as data about weight-loss methods was not collected in the 2005 YRBS.)

Figure 2: Trying To Lose Weight vs. Reported Weight Status of North Dakota Students Grades 9 Through 12, Youth Risk Behavior Survey 2005²



Many students experience body-image humiliation and shame.

Data from the 2005 YRBS shows that about 47 percent of students reported trying to lose weight, compared to 24 percent of students who were identified as overweight and at risk of being overweight. (Figure 2)

Weighing and measuring students in school may cause harm by:

- Increasing the poor body image that students of all sizes and shapes already hold about their bodies in a weight-obsessed culture. This can lead to dieting, nutrient deficiencies, dangerous weight-loss efforts, dysfunctional eating and eating disorders – all of which pose health risks.⁴
- Having lasting, detrimental effects, especially for larger, underweight, shorter or taller students. Many students have experienced body-image humiliation and shame from peers, teachers and even parents. Having their height and weight documented openly in class or being pressured to share results with others can severely damage their self-esteem.⁵
- Increasing judgmental attitudes and size prejudice of peers.
- Emphasizing that weight, not health, is the overriding health issue.

Health in body, mind and spirit all are vital for a student's success in school.

Measurements and analysis of height and weight may be inaccurate and may misclassify many students.⁵

- The body mass index (BMI) for children is significantly different from the BMI for adults. While there is one standard for adults (BMI of 30 or higher indicates obesity), there are multiple standards for children. BMIs for children are gender and age specific, different for girls than for boys, and increase with age. Even the BMI of a normal-weight child will increase throughout the year.
- The BMI is a screening tool, not a diagnostic tool. Only trained health-care providers can properly interpret BMI, percentage of body fat, and the impact on individual health status. A high body weight and BMI does not necessarily mean high body fat. Thus, BMI can be used to screen, but not to diagnosis or to label students.⁵
- Students in various stages of puberty are extremely difficult to screen for being overweight. An increase in body fat often precedes a normal growth spurt. A qualified health-care provider will establish a child's maturation stage prior to making a diagnosis on a child's weight status. This is beyond the scope of most school personnel.

Promoting healthy lifestyles has the potential to benefit all students and staff, regardless of their weight status.

- Weight is one aspect of health and well-being. Wellness includes health in body, mind and spirit – which are all important to a student's success in school.
- Although weighing and measuring students has the potential to help a relatively small percentage of students who are overweight or underweight, it also has the potential to cause harm if not carried out in a considerate and sensitive manner.
- Screening for weight status costs money, time and effort. Schools may want to consider using resources for educating students about their choices regarding healthy lifestyles.

- Create environments that have the potential to improve the health of all who learn and work in schools. Provide healthful food offerings, increase opportunities for physical activity, and provide education to improve health-related attitudes, skills and behavior. School wellness strategies should include healthy menus and à la carte options, fundraisers, classroom celebrations and concessions, as well as increased physical education and physical activity at school.

The effectiveness of school-based programs to control obesity is unproven.

- An analysis of school-based programs to control obesity concluded that more evidence is needed to determine the effectiveness of school-based programs to control overweight and obesity.⁶

Special Circumstances for Taking Height and Weight Measurements

These special circumstances should be considered only when the student's emotional and physical well-being are ensured and protected. School boards and/or school administrators may consider measuring heights and weights under the following conditions and when an appropriate referral process* is in place:

- 1) The school is involved in a research project approved by an institutional review board for which height and weight measures are needed.
- 2) The school is involved in measuring heights and weights for surveillance to justify a program or grant. When this is done, only aggregate data is shared, rather than individual data.
- 3) The school is part of a health program in which policies and procedures are in place to provide appropriate referrals. A health program that addresses health in body, mind and spirit ensures that these needs are met for all students.
- 4) The students are involved in activities where weight is monitored and dehydration is a concern.

Schools that elect to take body mass index measurements are encouraged to follow the protocol outlined in this position paper (Appendix A) to ensure accurate measurement collection and the respectful treatment of students. Appropriate measurement techniques are described in Appendix B.

*An appropriate referral is defined as a referral to a medical-care provider who is trained to identify concerns and treat children and adolescents.

Summary

The North Dakota Healthy Weight Council supports the physical and emotional well-being of all students and recommends that schools measure heights and weights only under special circumstances (see page 5). The North Dakota Healthy Weight Council has provided this information to give schools direction and insight into the issues and efficacy of taking height and weight measurements.

Citation

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North Dakota Healthy Weight Council

The North Dakota Healthy Weight Council addresses issues that encompass the promotion of healthy weight. The council is comprised of more than 60 members – including dietitians, nutritionists, nurses, physical activity educators, physicians and other health professionals who work in health-care institutions, schools, state agencies, nonprofit health advocacy groups and private industry.



The Healthy Weight Council collaborates as part of *Healthy North Dakota*, a dynamic, statewide initiative that brings together partners and stakeholders to improve the health of every North Dakotan through prevention and wellness efforts. (See Appendix D.)

This position paper was developed by Healthy Weight Council members representing the following organizations:

- Bismarck-Burleigh Public Health
- Healthy Weight Network
- Hettinger Clinic/West River Health Clinic
- North Dakota Department of Health
- North Dakota Department of Public Instruction

For more information about the Health Weight Council, contact Katherine Black, North Dakota Department of Health, at 701.328.2496 or kblack@nd.gov.

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The North Dakota Healthy Weight Council extends sincere appreciation to the Michigan Department of Education and the University of California Berkeley for information adapted from their publications (as listed above).

Appendix A: Protocols and Safeguards for Taking Height and Weight Measurements⁷

The following three safeguards must be in place before school officials elect to conduct screenings.

- 1) Referral system: Step-by-step policies and procedures are in place for referring students for additional help and direction once a screening takes place and a weight concern is identified. An appropriate referral is to a medical-care provider who is trained to identify concerns and treat children and adolescents.
- 2) Staff training: All school staff involved in height/weight screenings are appropriately trained and demonstrate proficiency in all hands-on techniques, assessments and interpretations of all results.
- 3) Respectful screening: Design a screening process that protects the self-esteem of students and includes the following:
 - Give ample notice to parents of all students so they have the opportunity to provide input and exempt their child from participating if they wish to do so.
 - Conduct an educational session with all students before the screening takes place. This serves to preserve self-esteem and give reassurance about body image issues, especially with students who are most susceptible to discrimination and harassment.⁸
 - Maintain the privacy of the students throughout the screening process. Students should not be measured in front of other students. A screen, divider or separate office should be used to keep the measuring process and results private.
 - Do not label students using phrases or language that may lead a child to feel singled out. Language such as “too thin,” “too heavy,” “overweight” and “anorexic” should not be used before, during or after the screening process. Being particularly sensitive to how a child is addressed and how things are worded throughout the screening process is critical. Use neutral statements, such as “healthy bodies come in all sizes.” The same measurement equipment should

A height and weight screening process must ensure the protection of every student's self-esteem.

be used for all students, and no student should undergo additional measurements because of their appearance.

- Keep confidential all information gathered in the screening process. Only the staff members conducting the screening should know the results. The staff member conducting the screening could share the results with parents or caregivers of the student. When doing so, use respectful language and avoid making a diagnosis or attaching labels to the student.
- Provide a follow-up letter or meeting to families of students taking part in the screening (Appendix C).

Adapted from "The Role of Michigan Schools in Promoting Healthy Weight: A Consensus Paper," Michigan Department of Education, 2001

Appendix B: How To Take Measurements⁹

Equipment for Measuring Weight

Weight should be measured using a platform scale. This may be a beam scale or a digital (electronic load cell or strain gauge) scale and should be calibrated on a routine basis. Calibrating a scale is done by placing known weights on the scale to check for accuracy.

Procedure for Measuring Weight:

- 1) Ask the student to remove shoes and any outer clothing, such as jackets or sweaters.
- 2) Adjust the scale to zero before the student steps on the scale.
- 3) Ask the student to step onto the center of the platform of the scale. (Staff may recommend that students face outward so results are not apparent.)
- 4) Ask the student to stand as still as possible.
- 5) Record the measurement to the nearest $\frac{1}{4}$ pound or 100 grams.
- 6) Ask the student to step off the scale.

Equipment for Measuring Height

Height should be measured using a stadiometer or standing height board. This device has a flat vertical surface with a measuring rule attached, as well as a moveable headpiece. Either it has a permanent surface on which to stand, or the entire device is mounted on the wall or in a room with a level floor.

Procedure for Measuring Height:

- 1) Ask the student to remove shoes, hats and outer clothing. Also ask the student to take out ponytails and hairdos, as well as hair accessories that may hinder an accurate measurement.
- 2) Ask the student to stand erect. When the student stands erect, four contact points should be made between the body and stadiometer: head, upper back, buttocks and heels (Figure A). Show the student how to stand with feet together flat on the floor or foot piece, heels touching the base of the vertical board, and weight distributed evenly on both feet. Shoulders should be level, and arms and hands straight on either side.
- 3) Ask the student to adjust head angle by moving the chin up or down to align the head into the Frankfort Plane. This is an imaginary line from the lower margin of the eye socket to the notch above the tragus of the ear (the cartilage extending partially over the opening of the ear). The Frankfort Plane is best seen when the person doing the measuring is directly at eye level or at the side of the student. When aligned correctly, the Frankfort Plane is parallel to the horizontal headpiece and perpendicular to



Figure A: Four Contact Points

the vertical back piece of the stadiometer. NOTE: When the chin is correctly positioned, the back of the head may not make contact with the board.

- 4) Let the student know that you are going to adjust the headpiece so that it touches the crown of the head and is at a right angle. Remind the student to keep his or her feet flat on the floor.
- 5) Record the height to the nearest 1/8th inch or 0.1 centimeter.

Plotting on Growth Chart

Plotting of height/weight and BMI needs to be based on the 2000 CDC Growth Chart that is appropriate for age and sex (Figure B). (See www.cdc.gov/nccdphp/dnpa/bmi/bmi-for-age.htm.)

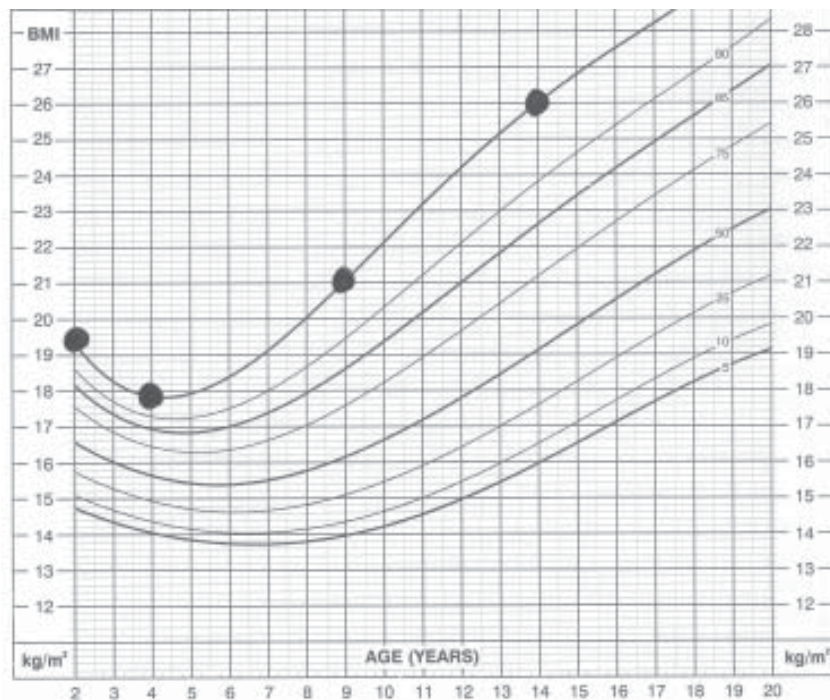


Figure B: BMI-for-Age Chart – Male: Sample Growth Record of One Student, CDC

Adapted from "Guidelines for Collecting Heights and Weights on Children and Adolescents in School Settings," University of California Berkeley, 2000

Appendix C: Sample Letter⁹

The following sample letter can be used to notify parents or guardians about a child's weight status.

Dear Parent/Guardian,

We recently weighed and measured the children in our school to determine how they are growing. Your child's weight was found to be [low/high/appropriate] for [his/her] height and age. If your child's weight was found to be [low/high], this does not necessarily mean your child is (underweight/overweight), but your child may be at risk for this condition. The best person to evaluate your child's weight status is [his/her] regular doctor or health-care provider.

We encourage you to make sure your child has annual medical checkups by a physician. The doctor will weigh and measure your child. The doctor may then ask questions about your child's growth since birth and about the heights and weights of your child's close biological relatives. If your child is at risk for [underweight/overweight], your doctor will discuss this with you. Please do not put your child on a diet. Ask your doctor for advice about good nutrition and physical activity and request a referral to see a registered dietitian.

If you do not have health insurance or access to health care, please contact us for information about possible medical services.

If you have questions, please call me at [phone number].

Cordially,

School nurse (or staff member in charge)

Adapted from "Guidelines for Collecting Heights and Weights on Children and Adolescents in School Settings," University of California Berkeley, 2000



Appendix D: *Healthy North Dakota*

What is *Healthy North Dakota*?

Healthy North Dakota is a statewide initiative that focuses on improving the health of every North Dakotan. A community-driven process, *Healthy North Dakota* is a dynamic statewide partnership that continues to grow as new stakeholders become engaged.

Why *Healthy North Dakota*?

Focusing on prevention and wellness will result in a healthier population, lower health-care costs and improved quality of life for all North Dakotans.

How does *Healthy North Dakota* work?

Healthy North Dakota works through an established framework supporting North Dakotans in their efforts to make healthy choices – in schools, workplaces, senior centers, homes and anywhere people live, work and play. This work is further expanded through the networks, memberships and professional relationships each individual and organization offers.

What is the history of *Healthy North Dakota*?

In his January 2002 State of the State address, Governor John Hoeven announced the new public health initiative, challenging each North Dakotan to take control of his or her health and lifestyle.

The *Healthy North Dakota* Summit was held in Bismarck in August 2002. One hundred and thirty people representing more than 75 organizations met to define wellness and identify priorities for North Dakota. The input gathered at the summit provides the framework for the statewide wellness plan.

What is the focus of *Healthy North Dakota*?

Summit participants identified the following topics as priorities for North Dakota:

Tobacco Use	Early Childhood
Substance Abuse/Mental Health	School Health
Healthy Weight - Nutrition	Aging
Healthy Weight - Physical Activity	Immunizations
Health Disparities	Cardiovascular Health
Worksite Wellness	Injury Prevention and Control
Community Engagement	Diabetes
Third-Party Payers/Insurance	Oral Health
Cancer	

Where is *Healthy North Dakota* today?

Today, committees comprised of more than 400 North Dakotans representing about 150 agencies, organizations and businesses from across the state are providing leadership in identifying the strategies for building a *Healthy North Dakota*.

For more information about *Healthy North Dakota*, contact Melissa Olson at 701.328.4908.