Preventing and Managing Childhood Obesity

MICHIGAN SCHOOL NURSE GUIDELINES AND RESOURCES

Original Date of Issue: 2016
Foreword

These guidelines contain recommendations for minimum standards of care and current best practices for the health service topics addressed. They have been reviewed by the School Nurse Practice Subcommittee of the Michigan Statewide School Nurse Task Force as a means to provide consistent and safe care to the students. Specific laws and regulations that direct school nursing practice or other health services are identified in the guidelines. There is no guarantee that the use of guidance in this document will lead to any particular result or outcome. The information in this document was researched in August, 2016.

Purpose

This document will provide guidelines and resources for the prevention and management of childhood obesity in schools.

Overview

The Institute of Medicine (2012) reported that two-thirds of adults and almost one-third of children in the United States are overweight or obese, representing young and old, urban and rural, and majority and minority populations. Daniels, Hassink & the Committee on Nutrition (2015) indicated that due to the numerous medical and psychosocial complications of obesity and the burden of pediatric obesity on current and future health care costs, obesity is recognized as a public health priority. The Centers for Disease Control and Prevention (CDC) (2015a) reported that childhood obesity is associated with health related consequences, such as, heart disease caused by high blood pressure and/or high cholesterol, Type 2 diabetes, asthma, sleep apnea and social discrimination. The CDC (2015a) identified a study of 5- to 17-year-olds that showed almost 60% of overweight children had at least one cardiovascular disease risk factor while 25 percent of overweight children had two or more CVD risk factors. The CDC (2015a) defined overweight as a body mass index (BMI) at or above the 85th percentile for children and teens below the 95th percentile for children and teens of the same sex. Obese was defined as a BMI at or above the 95th percentile for children and teens of the same age and sex (CDC, 2015a).

The CDC (2015a) indicated that causes of childhood obesity are similar to those of adults, such as behavior (dietary patterns, physical activity, inactivity, medication use, other exposures) and genetics. Additional contributing factors in our society included the food and physical activity environment, education and skills, and food marketing and promotion (CDC, 2015a). In 2011-2012, the prevalence of obesity among children and adolescents was higher among Hispanics (22.4%) and non-Hispanic blacks (20.2%) than among non-Hispanic whites (14.1%) (CDC, 2015b). The prevalence of obesity was lower in non-Hispanic Asian youth (8.6%) than in youth who were non-Hispanic white, non-Hispanic black or Hispanic. The CDC (2015b) continued to report that obesity prevalence among children whose adult head of household completed college was approximately half that of those whose adult head of household did not complete high school (9% vs 19% among girls; 11% vs 21% among boys) in 1999 – 2010.
The Institute of Medicine (IOM) (2012) recognized schools as uniquely positioned to be a national focal point for obesity prevention because children spend up to half of their waking hours in school and consume between one-third and one half of their daily calories there. McGuire (2012) provided a summary of the IOM report: *Accelerating progress in obesity prevention: Solving the weight of the nation.* McGuire (2012) reported that one of the five goals was to make schools a national focal point for obesity prevention. Government entities were urged to work coordinately with parents, teachers, and the business community to make educational facilities more accessible and effective centers for health enhancement that may involve requiring additional opportunities for physical education and rigorous activity in schools, the provision of only healthy foods and beverages in educational facilities, and offering more extensive nutrition science education to students. The U.S. Department of Health and Human Services (USDHHS) Office of Disease Prevention and Health Promotion (ODPHP) (2016) found schools to be an ideal setting to provide physical activity to students. The report found significant evidence to recommend wide implementation of multi-component school-based programs (e.g., increased physical education lesson time, delivery by well-trained specialists, and instructional practices that provide substantial moderate-to-vigorous physical activity), as well as classroom activity breaks, activity sessions before and/or after school, and active transportation to school. Schroeder, Travers, & Smaldone, (2016) performed a systematic review and meta-analysis to examine school-based interventions involving nurses in a role beyond anthropometric measurement. The authors found that school nurses play a key role in implementing sustainable, effective, school-based obesity interventions (decrease in BMI).

In July, 2016, the United States Department of Agriculture (USDA)(2016a) announced additional efforts to make school environments healthier that included:

- The Smart Snacks in School final rule aligning the nutritional quality of snacks sold to children during the school day with the science-based improvements made to school lunches and breakfasts over the last five years. These include using practical, science-based nutrition standards that ensure children are offered more fruits, vegetables and whole grains.
- The Local School Wellness Policy (LWP) final rule that ensures any food or beverage marketed on school campuses during the school day meets the Smart Snacks standards. The LWP (USDA, 2016b) final rule also requires standards and nutrition guidelines for all foods and beverages sold to students on the school campus during the school day that are consistent with Federal regulations (school meal nutrition standards and the Smart Snacks in School nutrition standards), and standards for all foods and beverages provided, but not sold, to students during the school day (e.g., classroom parties, classroom snacks brought by parents, or other foods given as incentives).
- The Community Eligibility Provision (CEP) final rule under the Healthy, Hungry-Free Kids Act (HHFKA) allows schools and local educational agencies with high poverty rates to provide free breakfast and lunch to all students to promote access to healthy food and reduce administrative burdens on schools and families.
- The Administrative Review (AR) final rule updates the administrative review process used by state agencies to monitor federally-funded school meal programs. It safeguards the integrity of the programs, ensures taxpayer dollars are being spent as intended, and increases accountability and transparency by publicly posting how well school food authorities are complying with various requirements.
A healthy diet plays a significant role in obesity prevention. Implementing the *Dietary Guidelines for Americans* in schools would increase the consumption of fruit, vegetables, and whole grains; reduce sugar sweetened beverages, fats, and added sugars; and ensure age-appropriate portions (IOM, 2012). The USDHSS ODHP (2014) described a healthful diet in Healthy People 2020 that included:

- Consuming a variety of nutrient-dense foods within and across the food groups, especially whole grains, fruits, vegetables, low-fat or fat-free milk or milk products, and lean meats and other protein sources.
- Limiting the intake of saturated and trans fats, cholesterol, added sugars, sodium (salt), and alcohol.
- Limiting the caloric intake to meet caloric needs.

The role of parents in obesity prevention and management is variable. Robinson and Sutin (2016) examined whether parental perceptions of child weight status are protective against weight gain across childhood and found that parental identification of overweight was not protective and is associated with more weight gain. Lofton, Julion, McNaughton, Bergren, & Keim, (2016) completed a systematic review using the PEN-3 model to evaluate culturally adapted obesity prevention interventions targeting African American youth and found value in joint parent-youth interventions, building relationships between African American youth and mentors, and emphasizing healthful activities that the youth preferred. Lee and Kubik (2015) indicated that parents whose children participated in the school district’s BMI screening program found the information provided in the BMI notification letter about height, weight, and related health education helpful. The authors also found that parents of overweight children reported supporting healthy lifestyle changes for their children including limiting snacks and sweetened beverages, limiting TV and video games, and increasing exercise or physical activity after receiving the information. This study also suggests that parents of normal weight children also benefit from BMI screening and parent notification as they also limited snacks and sweetened beverages, TV and video games, and increased exercise or physical activity in response to the BMI letter (Lee & Kubik, 2015).

**Michigan and National Data**

**Michigan Data**

The Youth Risk Behavior Survey (YRBS) is a school-based study used to obtain a nationally representative sample of public and private high school students in the United States. The 2015 Michigan Youth Behavior Risk Survey (YRBS) (CDC, 2016a) reported that 16% of students were overweight (at or above the 85th percentile but below the 95th percentile for BMI) and 14.3% were obese (above the 95th percentile for BMI).

**National Data**

The CDC (2016a) reported that in 2015, nationally, 13.9% of high school students were obese or above the 95th percentile for BMI and 16% of high school students were overweight. Additional data can be retrieved from [https://nccd.cdc.gov/youthonline/App/Default.aspx](https://nccd.cdc.gov/youthonline/App/Default.aspx).
The CDC (2015b) also reported that for children and adolescents aged 2-19 years, the prevalence of obesity is about 17% and affects about 12.7 million children and adolescents. The prevalence of obesity among children aged 2 to 5 years decreased significantly from 13.9% in 2003-2004 to 8.4% in 2011-2012.

Legal Framework for Obesity Prevention in Schools

**Federal Law**

<table>
<thead>
<tr>
<th><strong>Public Law 108-265 Section 204</strong></th>
<th>LOCAL WELLNESS POLICY – became law June 30, 2004 as part of the Child Nutrition and WIC Reauthorization Act of 2004. Local education agencies shall establish a local school wellness policy. The policy includes goals for nutrition education, physical activity, nutrition guidelines for all foods sold on campus, assure that school meals meet USDA regulation, establish plan for measuring implementation of wellness policy, involve students, parents, representatives of school food authority and others.</th>
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<tr>
<td><strong>Food and Drug Administration (FDA) Food Safety Modernization Act (FSMA)</strong></td>
<td>The FDA Food Safety Modernization Act (FSMA) enables FDA to better protect public health by strengthening the food safety system.</td>
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<tr>
<td><strong>USDA Healthy, Hunger-Free Kids Act of 2010</strong></td>
<td>The legislation authorizes funding and sets policy for USDA’s core child nutrition programs. The Healthy, Hunger-Free Kids Act allows USDA an opportunity to make real reforms to the school lunch and breakfast programs by improving the critical nutrition and hunger safety net for millions of children. Includes all final rules to HHFKA of 2010 as of July 2016. The USDA recently announced guidance for schools in ensuring access to healthy food, nutrition standards for foods sold at school, and greater integrity for school wellness policies. Includes final rules on &quot;Smart Snacks in School&quot;, &quot;Local School Wellness Policy&quot;, &quot;Community Eligibility Provision&quot; &amp; &quot;Administrative Review&quot;.</td>
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Federal Guidelines

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<th>Dietary Guidelines for Americans</th>
<th>The Dietary Guidelines for Americans is the cornerstone of Federal nutrition policy and nutrition education activities.</th>
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<tr>
<td>Physical Activity Guidelines for Americans</td>
<td>The Department of Health and Human Services issued the federal government's first-ever Physical Activity Guidelines for Americans in 2008 to help Americans understand the types and amounts of physical activity that offer important health benefits.</td>
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Michigan Law

| §380.1502 | Requires that health and physical education for pupils of both sexes be established and provided in all public schools for students attending public school who are physically fit and capable of doing so must take the course in physical education. |

Michigan Model Policy

| Model Policy for Michigan | Michigan State Board of Education Model Local Wellness Policy. Note: A new model policy is expected during the spring of 2017 that will align with the new requirements in the final rule. |

School Nurse’s Role

The National Association of School Nurses (NASN) (2013) described the role of the school nurse as collaboration with students, families, school personnel, and health care providers to promote healthy weight and identify overweight and obese youth who may be at risk for health problems. NASN (2013) further delineated the role as referral and follow-up with students as well as advocating for changes. School nurses can follow the NASN Framework for the 21st Century School Nursing Practice principals of Public Health and Care Coordination to promote healthy weight and prevent obesity in children attending school (Maughan, Bobo, Butler, Schantz, & Schoessler, 2015; NASN, 2016a). Key tenets and responsibilities of public health practiced by school nurses include surveillance, outreach, population-based care, prevention, social determinants of health and health equity (NASN, 2016a). Care Coordination includes student care plans and collaborative communication. These principles provide guidance for school nurses preventing and managing childhood obesity in schools.


**Recommendations for Practice**

**Public Health**

**Surveillance**

1. Identify students who may need additional evaluation by conducting screenings for BMI and assessing students for possible risk factors (NASN, 2013). School nurses or other health professionals should be conducting the BMI screenings.
   - Lee and Kubik (2015) recommend parents receive screening results along with anticipatory guidance about healthy lifestyle practices.

2. The CDC (n.d.) provides a calculator that provides BMI and the corresponding BMI-for-age percentile on a CDC BMI-for-age growth chart and is recommended by the American Academy of Pediatrics (AAP) (Daniels et al., 2015).

**Outreach**

1. Advocate for using the *Whole School, Whole Community, Whole Child* (WSCC) model to promote healthy weight and prevent childhood obesity in the school setting. The CDC (2016b) suggested that collaborative actions engaging community support can promote academic success and healthy development for students (CDC, 2016b).
   - Advocate and support systems-level interventions targeting childhood obesity (Hoxie-Setterstrom, & Hoglund, 2011).

2. Support policies restricting the sale and marketing of sugar-sweetened beverages on school property (Tipton, 2016).

3. Identify community resources for overweight and obese students that include counseling and psychological support (NASN, 2016b).

4. Advocate for improving the nutritional value of school lunches with salad bars, fresh fruit and vegetables (Minges, Chao, Nam, Grey, & Whittemore, 2015).

5. Advocate for more opportunities for students to participate in structured or unstructured physical activity PA (Minges et al., 2015).

6. Identify community resources and programs that help prevent childhood overweight and obesity.

7. Develop newsletters, flyers, and/or information sheets that can be sent home to parents about healthy lifestyles (Minges et al., 2015).

8. Support open-gym nights for families, family activities (e.g. fun run) or family classes (e.g., how to prepare healthy snacks) (Minges et al., 2015).
Population-based Care

1. Collaborate with school administrators and community stakeholders to develop policies that promote physical activity and improved nutrition at school.


   - Understand that each local education agency participating in the National School Lunch Program or the School Breakfast Program is required to develop and implement a wellness policy as established by the Child Nutrition and WIC Reauthorization Act of 2004, and more recently by the Healthy, Hunger-Free Kids Act of 2010 (HHFKA)[PDF - 325.4 KB]. The CDC (2015c) provides minimum requirements. More information about developing a LWP can be found at http://www.fns.usda.gov/tn/local-school-wellness-policy

   - Utilize state and local data, such as the MIPHY, to guide decision making and policy formation (Mosca & Schantz, 2013).

2. Utilize local, state and national resources to advocate for school policies that promote healthy weight for students. NASN (2016b) provides a resource page for school nurses on childhood obesity retrieved from https://www.nasn.org/ToolsResources/ChildhoodObesity.

Prevention

1. Promote water, not sport drinks, as the principal source of hydration for children and adolescents. Ensure students have free access to water during school hours (Galemore, 2011; Tipton, 2016).

2. Teach parents how to help their children maintain a healthy weight and balance the calories consumed from foods and beverages with the calories used through physical activity and normal growth (CDC, 2016c; NASN, 2013; Daniels et al., 2015). Specific healthy eating recommendations to parents include:

   - Providing plenty of vegetables, fruits, and whole-grain products.

   - Including low-fat or non-fat milk or dairy products.

   - Choosing lean meats, poultry, fish, lentils, and beans for protein.

   - Serving reasonably-sized portions.

   - Encouraging family members to drink lots of water.

   - Limiting sugar-sweetened beverages.

   - Limiting consumption of sugar and saturated fat.
3. Encourage parents to help their children stay active. The CDC (2016c) recommends that children and teens participate in at least 60 minutes of moderate intensity physical activity most days of the week and preferably daily. The CDC (2016c) provided examples of moderate intensity physical activity:

- Brisk walking.
- Playing tag.
- Jumping rope.
- Playing soccer.
- Swimming.
- Dancing.

4. Encourage parents to reduce sedentary time for their children. The CDC (2016c) recommends no more than two hours per day of watching television, playing video games, or surfing the web (Daniels et al; 2015).

5. Encourage healthy foods and beverages such as water pitchers, fruits, vegetables, and other low calorie snacks (Daniels et al., 2015). The ideal beverages for children at all meals and during the day are low-fat milk and plain tap water (Daniels et al., 2015).

6. Educate parents about age-appropriate sleep durations as there is emerging evidence that obesity is associated with shorter sleep duration (Daniels et al., 2015).

7. Provide resources for parents and students such as:

- Healthychildren.org ([https://www.healthychildren.org/English/health-issues/conditions/obesity/Pages/default.aspx](https://www.healthychildren.org/English/health-issues/conditions/obesity/Pages/default.aspx)).
- Let’s Move ([http://www.letsmove.gov/eat-healthy](http://www.letsmove.gov/eat-healthy)).
- Choose MyPlate.gov ([https://www.choosemyplate.gov/supertracker-other-tools](https://www.choosemyplate.gov/supertracker-other-tools))

8. Advocate for Michigan’s model health education curriculum, the Michigan Model for Health®, that is used by a majority of school districts in Michigan. The curriculum includes model lessons on nutrition and physical activity. More information can be found at [http://www.michigan.gov/mmh](http://www.michigan.gov/mmh). Schroeder et al. (2016) recommended prevention programs for all members of the student body.

9. Advocate for resources (time, administrative support, funding, professional development) to implement obesity prevention programs (Schroeder et al., 2016).

**Care Coordination**

**Collaborative Communication**

1. Connect families to community resources such as food banks, Supplemental Nutrition Assistance Program (SNAP), and local opportunities that are safe and sustainable for physical activities (sports clubs, basketball courts, parks with walking or bicycle trails, playgrounds (Daniels et al., 2015).

2. Refer students to their medical home for further assessment and treatment (NASN, 2013).
3. Advocate for School-Based Health Centers as one model of a system of health care delivery that provides a health care “safety net” for children who are uninsured or underinsured or represent special populations who do not regularly access health care. Support access to services (AAP Council on School Health, 2012). Information about the Michigan Department of Health and Human Services Child and Adolescent Health Center Program (CAHC) can be found at [http://www.michigan.gov/mdhhs/0,5885,7-339-73971_4911_4912_44686----,00.html](http://www.michigan.gov/mdhhs/0,5885,7-339-73971_4911_4912_44686----,00.html).

**Student Care Plans**

1. Develop individualized health care plans for students with elevated BMI and facilitate interventions during the school day (Mosca & Schantz, 2013; NASN, 2013).

**Social Determinants of Health and Health Equity**

1. Understand that children who live in poverty have less access to quality health care and are at higher risk for chronic medical conditions such as asthma and obesity (Douge, 2015).

2. Ensure all school-based interventions be age appropriate and culturally sensitive. Loften et al. (2016) discussed the PEN-3 model that was founded on the premise that cultural beliefs and practices influence health behaviors and consist of three major domains: 1) cultural identity, 2) relationships and expectations, 3) cultural empowerment.

**Red Flags**

1. The school district’s Local Wellness Policy doesn’t address the following:
   - Specific goals for nutrition promotion and education, physical activity, and other school-based activities that promote student wellness.
   - Standards and nutrition guidelines for all foods and beverages sold to students on the school campus during the school day that are consistent with Federal regulations (school meal nutrition standards and the Smart Snacks in School nutrition standards).
   - Standards for all foods and beverages provided, but not sold, to students during the school day (e.g., in classroom parties, classroom snacks brought by parents, or other foods given as incentives). And,
   - Policies for food and beverage marketing that allow marketing and advertising of only those foods and beverages that meet the [Smart Snacks in School nutrition standards](http://www.michigan.gov/mdhhs/0,5885,7-339-73971_4911_4912_44686----,00.html).

2. Lack of availability of safe parks and playgrounds to promote physical activity for students and families (Mosca & Schantz, 2013).
3. Ensure there is a parent notification process, follow-up component and referral guidelines when screening for BMI in the school setting (Mosca & Schantz, 2013). Explaining to parents what will be done, why screening is necessary, and when screening will occur is helpful (Mosca & Schantz, 2013). BMI screenings should be conducted by a health professional.


References


Minges, K.E., Chao, A., Nam, S., Grey, M., & Whittemore, R. (2015). Weight status, gender, and race/ethnicity: Are there differences in meeting recommended health behavior guidelines for


