

Problem:

Dental caries, the most common chronic childhood disease, is preventable and impacts more than 50 percent of children and adolescents in the United States.^{1,2} The Centers for Disease Control and Prevention (CDC) has reported that many children make poor eating choices that put them at risk for health and social problems.^{3,4} In addition, poor nutritional intake and frequent consumption of carbonated, sugar sweetened beverages has been associated with an increased risk for dental caries.^{5,6}

Nutritional deficiencies negatively affect children’s school performance, their ability to concentrate and perform complex tasks, and can also negatively impact their behavior.⁷ The U.S. food industry spends nearly \$1.6 billion each year advertising its products to young people; and the majority of these products are for foods that are high in calories, fat, sugar and/or sodium.⁸ This targeted marketing increases school-age children’s risk for dental caries and negatively impacts their overall health.^{9,10}

School children have access to sugar sweetened beverages (SSB) and less healthy foods throughout the day from vending machines, school canteens, at fundraising events, school parties and sports events.³ In fact, a child on average consumes six cans of soda each week¹¹ – about 60 teaspoons of added sugar each week. Increased consumption of SSBs has also resulted from aggressive marketing campaigns. Beverage companies in 2013 spent \$866 million to advertise high-sugar drinks and energy drinks using not just traditional media, but also enhanced social media.¹² Inadequate nutrition during childhood can have detrimental effects on children’s cognitive development and on productivity in adulthood.⁴

Healthy People 2020, a ten-year agenda to improve the health of all Americans, identifies priorities for health improvement along with measurable goals and objectives applicable at national, State, and local levels. Objective OH-1 is “Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth,” with a target of a 10 percent improvement.¹ In the U.S. from 1999-2004:

- 54% of children aged 6-9 years of age had dental caries experience in at least one primary or permanent tooth
- 54% of adolescents aged 13-15 years of age had dental caries experience in at least one permanent tooth

While there has been progress in reducing dental caries over the past 25 to 30 years, it remains a serious problem. In addition to poverty, race, ethnicity and geography,¹³ poor nutritional intake and the availability of unhealthy eating choices contribute to the presence of dental caries among school-aged children.

Methods:

Healthy eating helps young people to grow, develop, and do well in school. For children and adolescents, it contributes to success in maintaining a healthy weight, preventing dental caries, and also helps prevent health problems later in life.¹⁴

The Child Nutrition and WIC Reauthorization Act of 2004 mandated that every public school district participating in the National School Lunch and/or School Breakfast Programs establish a wellness policy.¹⁵ As part of the wellness policy, schools were required to adopt nutrition guidelines for all foods and beverages available on each campus during the school day, with the objective of promoting student health.¹⁶ These guidelines were reinforced by the Healthy, Hunger-Free Kids Act of 2010.¹⁷

School wellness policies give schools the opportunity to restrict the availability and consumption of confections and other sugar-based foods and to educate and model health eating behaviors. Students learn healthy nutritional practices at an early age; as such, schools play a significant role in promoting healthy living habits, which contributes to optimal oral health.

Schools and school-based prevention programs should include nutrition education in their curriculum and have the responsibility to ensure that foods and beverages served on campus meet U.S. Department of Agriculture, Food and Nutrition Service requirements. Due to budget problems within school districts across the country, administrators were accepting funding from food and beverage companies in exchange for the exclusive rights to sell their products within the schools. In 2006, in part because of local legislative efforts that began in California,¹⁸ the largest vendors and their professional association agreed to halt nearly all sales of soda and only sell water, unsweetened juice, and low-fat milks to elementary and middle schools, and diet soda to high schools.¹⁹ Because of this agreement, access to soda by students decreased by more than 50 percent since the 2006-2007 school year.²⁰

In 1996, the CDC published seven guidelines to improve lifelong healthy eating habits.²¹ Updated and expanded in 2011 to include physical activity,²² the guidelines reflect the following strategies: (1) establish coordinated school nutrition policy promoting healthy eating; (2) establish comprehensive health education curriculum for all school levels including preschool; (3) provide nutrition education; (4) coordinate school food services with nutrition education and with other components of the school health program; (5) hire staff that are trained appropriately to promote healthy eating habits; (6) involve family and community to support and reinforce nutrition; and (7) regularly evaluate the effectiveness of the program. The Healthy, Hunger-Free Kids Act of 2010 also called for expanded access to drinking water in schools, especially during meal times.²³

Schools are in a good position to assist their students to improve their eating habits by implementing effective nutrition education, policies, programs and support services.²⁴ Working in partnership, teachers, parents, school health personnel, and all health care professionals from the community have an opportunity to promote and enhance age and culturally appropriate nutrition education and nutritional offerings. These partnerships can contribute to optimal oral health and overall health among school-age children.

Evidence-based health promotion programs in schools that include age-appropriate nutrition education services aimed at promoting healthy lifestyles can also have an impact on reducing dental caries and should be implemented in all schools.²⁵

Policy Statement

The Association of State and Territorial Dental Directors (ASTDD) fully supports and endorses the inclusion and expansion of oral health in school nutrition curricula and the promotion of healthy foods served on campus following evidence-based practices to reduce the risk of dental caries and to promote health and well-being.

-
- ¹ US Department of Health and Human Services. Healthy People 2020 [online]. 2010. Accessed March 13, 2014.
- ² Dye BA, Tan S, Smith V, et al. Trends in oral health status: United States, 1988-1994 and 1999-2004. *Vital Health Stat* 11. April 2007;(248):1-92.
- ³ Centers for Disease Control and Prevention. Overweight and obesity: a growing problem, 2012. www.cdc.gov/obesity/childhood/problem.html. Accessed January 25, 2015.
- ⁴ U.S. Department of Health and Human Services. 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, January 2010.
- ⁵ Majewski RF. Dental caries in adolescents associated with caffeinated carbonated beverages. *Pediatrics*. 2001; 23:198-203
- ⁶ U.S. Department of Health and Human Services. U.S. Surgeon General's Report, Oral health in America: a report of the Surgeon General. Rockville, MD: National Institute of Dental and Craniofacial Research. 2000.
- ⁷ Center on Hunger, Poverty and Nutrition Policy. Statement on the link between nutrition and cognitive development in children. Medford, MA: Tufts University, Center on Hunger, Poverty and Nutrition Policy; 1994.
- ⁸ Kaiser Permanente. The weight of the nation: community activation kit: topics – food marketing to children. http://share.kaiserpermanente.org/static/weightofthenation/docs/topics/WOTNCommActTopic_Food_Marketing_F.pdf. Accessed January 25, 2013
- ⁹ Kaiser LL, Townsend MS. Food insecurity among US children: Implications for nutrition and health. *Top Clin Nutr*. 2005;20(4):313-320.
- ¹⁰ Centers for Disease Control and Prevention. Promoting healthy eating and physical activity for a healthier nation. www.cdc.gov/healthyyouth/publications/pdf/pp-ch7.pdf. Accessed October 5, 2013.
- ¹¹ Sturm E, Powell LM, Chiqui JF, Chaloupka FJ. Soda taxes, soft drink consumption, and children's body mass index. *Health Affairs*. 2010; 29:1052-1058.
- ¹² Harris JL, Schwartz MB, LaDolce M, et al. Sugar Drink FACTS 2014. Sugary drink marketing to youth: Some progress but much room to improve. New Haven, CT: Yale Rudd Center for Food Policy and Obesity; 2014. http://www.sugarydrinkfacts.org/resources/SugaryDrinkFACTS_ReportSummary.pdf. Accessed January 26, 2015.
- ¹³ National Conference of State Legislators. Children's Oral Health. <http://www.ncsl.org/research/health/childrens-oral-health-policy-issues-overview.aspx>. Accessed September 30, 2013.
- ¹⁴ Dietary Guidelines Advisory Committee. Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans. 2010, Alexandria, VA: Center for Nutrition Policy and Promotion, 2010. <http://health.gov/dietaryguidelines/dga2010/dietaryguidelines2010.pdf> Accessed October 6, 2013.
- ¹⁵ Public law 108–265, June 30, 2004. <http://www.fns.usda.gov/sites/default/files/108-265.pdf>
- ¹⁶ Alliance for a Healthier Generation. Alliance School Beverage Guidelines Implementation Toolkit. https://schools.healthiergeneration.org/wellness_categories/healthy_vending/steps_to_move_forward. Accessed October 4, 2013.
- ¹⁷ US Department of Agriculture, Food and Nutrition Service. <http://www.fns.usda.gov/school-meals/local-school-wellness-policy>. Accessed March 7, 2015.
- ¹⁸ The California Endowment. Public Policy Case Study. Banning Junk Food and Soda Sales in the State's Public Schools, 2006. Available at http://publichealthadvocacy.org/_PDFs/legislation/banning_junk_food_soda_sales.pdf. Accessed February 15, 2015.
- ¹⁹ American Beverage Association, School Beverage Guidelines-2006. <http://www.ameribev.org/nutrition-science/school-beverage-guidelines> (accessed on February 22, 2015)
- ²⁰ Allukian Jr., M, Horowitz A, Wong C. "Oral Health" (Chapter 20) in *Social Injustice in Public Health*. 2nd ed. Levy B, Sidel V. Oxford University Press; Cary, NC, 2013.
- ²¹ Centers for Disease Control and Prevention. Guidelines for school health programs to promote lifelong healthy eating. Recommendations and Reports. *MMWR* 1996;45(No. RR-9):1-41. Accessed February 17, 2015.
- ²² Centers for Disease Control and Prevention. School health guidelines to promote healthy eating and physical activity. Recommendations and Reports. *MMWR*, September 16, 2011/60(RR05):1-71. Accessed February 17, 2015.
- ²³ http://www.whitehouse.gov/sites/default/files/Child_Nutrition_Fact_Sheet_12_10_10.pdf
- ²⁴ Centers for Disease Control and Prevention. Promoting healthy eating and physical activity for a healthier nation. Available at www.cdc.gov/healthyyouth/publications/pdf/pp-ch7.pdf. Accessed October 5, 2013.
- ²⁵ Centers for Disease Control and Prevention. Adolescent and school health: nutrition, physical activity and obesity. Available at www.cdc.gov/healthyyouth/npao/strategies.htm. Accessed October 2, 2013.