



# Sugary Drinks – Facts and Figures

This is an evolving document with frequent updates.

To ensure you are using the latest version or for questions please contact Suzanne Morikawa at [Suzanne.Morikawa@cdph.ca.gov](mailto:Suzanne.Morikawa@cdph.ca.gov).

## Purpose:

This tool was developed to assist intermediaries developing nutrition education materials, presentations and speaking points to promote consumption of healthy beverages.

The science-based statements and citations included in this document have been reviewed by the *Network for a Healthy California (Network)* - Research and Evaluation Section, and provide verifiable support as you develop materials and presentations with *Network* funding.

*Network* funded materials must still follow standard approval processes; this tool only provides a list of acceptable and accredited facts and figures to incorporate into materials.

## Categories of Statements:

- Health Effects of Sugary Drinks
- Consumption
- Retail Environment
- Drink Specific: Water, Juice, and Sports Drinks
- Behavior Change Recommendations

## How to Use These Statements:

The statements provided have been pulled directly from the sources and are acceptable to be used as they are presented below. You will find many acceptable variations and combinations of statements. Do not change the wording of these statements in any way. Do not paraphrase or combine statements. Do not interchange any general or specific terms. When using a statement always cite all of the sources listed beside that statement.

## Definitions:

**Empty Calories:** Calories from solid fats and/or added sugars that add few or no nutrients.

U.S. Department of Agriculture. Choose MyPlate. <http://www.choosemyplate.gov/weight-management-calories/calories/empty-calories.html>. Accessed June 27, 2013.

**Sugary Drinks:** Liquids that are sweetened with various forms of sugars that add calories. These beverages include, but are not limited to, soda, fruit ades and fruit drinks, and sports and energy drinks.

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans*, 2010. Washington, DC: U.S. Government Printing Office; December 201



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Statement	Source(s)
<b>Effects of Sugary Drinks</b>	
<p>Women who drink more than two sugary drinks a day are 40% more likely to have a heart attack or die from heart disease.</p>	<ul style="list-style-type: none"> <li>Fung TT, Malik V, Rexrode KM, Manson JE, Willett WC, Hu FB. Sweetened beverage consumption and risk of coronary heart disease in women. <i>Am J Clin Nutr.</i> Apr 2009;89(4):1037-1042.</li> </ul>
<p>Adults who drink one or more sugary drinks a day are 27% more likely to be overweight than adults who do not drink sugary drinks.</p>	<ul style="list-style-type: none"> <li>Babey SH, Jones M, Yu H, Goldstein H. <i>Bubbling Over: Soda Consumption and Its Link to Obesity in California.</i> Los Angeles, CA: UCLA Center for Public Health Advocacy; 2009.</li> </ul>
<p>Research has shown that for each additional sugary drink a child consumes, the risk of obesity increases by 60%.</p>	<ul style="list-style-type: none"> <li>Ludwig DS, Peterson KE, Gortmaker SL. Relation between consumption of sugar-sweetened drinks and childhood obesity: A prospective, observational analysis. <i>Lancet.</i> 2001;357:505-508.</li> </ul>
<p>Strong evidence shows that children and adolescents who consume more sugary drinks have higher body weight compared to those who drink less.</p>	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
<p>Extra calories from added sugar—like those in sugary drinks— contribute significantly to overweight and obesity. In fact, sugary drinks are the largest contributor of added sugar in the diet.</p>	<ul style="list-style-type: none"> <li>Guthrie JF, Morton JF. Food sources of added sweeteners in the diets of Americans. <i>J Am Diet Assoc.</i> Jan 2000; 100(1):43-51.</li> </ul>
<p>Drinking sugary drinks nearly doubles the risk of dental cavities in children.</p>	<ul style="list-style-type: none"> <li>Sohn W, Burt BA, Sowers MR. Carbonated soft drinks and dental caries in the primary dentition. <i>J Dent Res.</i> Mar 2006;85(3):262-266.</li> </ul>



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<b>Effects of Sugary Drinks (continued)</b>	
<p>People who drink one or more sugary drinks per day have a 26% higher risk for developing type 2 diabetes than those who do not drink sugary drinks or who drink less than one serving a month.</p>	<ul style="list-style-type: none"> <li>Malik VS, Popkin BM, Bray GA, Despres JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. <i>Diabetes Care</i>. Nov 2010; 33(11): 2477-2483.</li> </ul>
<p>Sugary drinks increase the risk factors for developing diabetes.</p>	<ul style="list-style-type: none"> <li>Malik VS, Popkin BM, Bray GA, Despres JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. <i>Diabetes Care</i>. Nov 2010; 33(11):2477-2483.</li> </ul>
<p>Sugary drinks contribute to increases in chronic diseases such as type 2 diabetes and heart disease.</p>	<ul style="list-style-type: none"> <li>Malik VS, Popkin BM, Bray GA, Despres JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. <i>Diabetes Care</i>. Nov 2010; 33(11):2477-2483</li> <li>Fung TT, Malik V, Rexrode KM, Manson JE, Willett WC, Hu FB. Sweetened beverage consumption and risk of coronary heart disease in women. <i>Am J Clin Nutr</i>. Apr 2009;89(4):1037-1042.</li> </ul>
<p>Obesity contributes significantly to the nation's rising medical care costs. In 2006 the estimated cost to California attributable to overweight and obesity was \$21 Billion, compared to \$8.4 Billion in 2000.</p>	<ul style="list-style-type: none"> <li>California Center for Public Health Advocacy. <i>The Economic Costs of Overweight, Obesity, and Physical Inactivity among California Adults-2006</i>. Sacramento, CA: The California Center for Public Health Advocacy; 2009.</li> <li>Sugerman SB, Foerster SB, Adkins SE, Carman JS, Hooker SP. <i>The Economic Costs of Physical Inactivity, Obesity, and Overweight in California Adults: Health Care, Workers' Compensation, and Lost Productivity</i>. Sacramento, CA: California Department of Health Services, Cancer Prevention and Nutrition Section and Epidemiology and Health Promotion Section; 2005.</li> </ul>



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<b>Effects of Sugary Drinks (continued)</b>	
Consumption of excess calories requires additional physical activity to keep from gaining weight. A 154 lb. individual would have to walk for nearly an hour to burn off the 240 calories in a 20-ounce cola.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Sugary drinks have been linked to poor diet quality, weight gain, obesity, and type 2 diabetes in adults.	<ul style="list-style-type: none"> <li>Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. <i>Am J Clin Nutr</i>. Vol 84; 2006:274-288.</li> <li>Vartanian LR, Schwartz MB, Brownell KD. Effects of soft drink consumption on nutrition and health: a systematic review and meta-analysis. <i>Am J Public Health</i>. Apr 2007;97(4):667-675.</li> </ul>
<b>Consumption</b>	
Sugary drinks are the single largest food category contributing added sugar to the American diet.	<ul style="list-style-type: none"> <li>Guthrie JF, Morton JF. Food sources of added sweeteners in the diets of Americans. <i>J Am Diet Assoc</i>. Vol 100; 2000:43-51.</li> </ul>
46% of added sugar in the diets of Americans comes from sugary drinks.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U. S. Government Printing Office; December 2010.</li> </ul>
Soda, energy drinks, and sports drinks are a major source of added sugar, and calories, in American diets.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture. 10 tips nutrition education series. <a href="http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf">http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf</a>. Published June 2011. Accessed June 5, 2012.</li> </ul>



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Consumption (continued)	
Sugary drinks account for 22% of the empty calories consumed by children and teens.	<ul style="list-style-type: none"> <li>Guthrie JF, Morton JF. Food sources of added sweeteners in the diets of Americans. <i>J Am Diet Assoc.</i> Jan 2000;100(1): 43-51.</li> <li>Reedy J, Krebs-Smith SM. Dietary sources of energy, solid fats, and added sugars among children and adolescents in the United States. <i>J Am Diet Assoc.</i> Oct 2010;110(10):1477-1484.</li> </ul>
In California, 62% of adolescents, 41% of children and 24% of adults drink one or more sodas per day.	<ul style="list-style-type: none"> <li>Babey SH, Jones M, Yu H, Goldstein H. <i>Bubbling Over: Soda Consumption and Its Link to Obesity in California.</i> Los Angeles, CA: UCLA Center for Public Health Advocacy; 2009.</li> </ul>
Each year, the average California adolescent consumes the equivalent of 39 pounds of sugar from sugary drinks.	<ul style="list-style-type: none"> <li>Babey SH, Jones M, Yu H, Goldstein H. <i>Bubbling Over: Soda Consumption and Its Link to Obesity in California.</i> Los Angeles, CA: UCLA Center for Public Health Advocacy; 2009.</li> </ul>
Sugary drink intake by adults has more than doubled in the last 30 years, translating to an extra 77 calories from sugary drinks per day.	<ul style="list-style-type: none"> <li>Popkin BM. Patterns of beverage use across the lifecycle. <i>Physiol Behav.</i> Apr 2010;100(1):4-9.</li> </ul>
The typical bottle of soda has tripled in size—from 6.5 ounces in the 1950s, to 34 or even 64 ounces today.	<ul style="list-style-type: none"> <li>Young LR, Nestle M. Expanding portion sizes in the US marketplace: Implications for nutrition counseling. <i>J Am Diet Assoc.</i> Feb 2003;103(2):231-234.</li> </ul>
In 2008 and 2009, Californians averaged about a serving of sugary drinks per day (0.8 to 1.1 servings). Half of those surveyed reported drinking sugary drinks on a typical day.	<ul style="list-style-type: none"> <li>Keihner AJ, Linares AM, Rider CD, Sugerman S, Mitchell PR, Hudes, M. <i>Education, Diet and Environmental Factors Influence Sugar-Sweetened Beverage Consumption among California Children, Teens, and Adults.</i> Sacramento, CA: California Department of Public Health; 2012.</li> </ul>



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<b>Consumption (continued)</b>	
Consumption of sugary drinks is highest among males aged 12–19 (273 kcal per day).	<ul style="list-style-type: none"> <li>Ogden CL, Kit BK, Carroll MD, Park S. Consumption of sugar drinks in the United States, 2005–2008. NCHS data brief, no 71. Hyattsville, MD: National Center for Health Statistics; 2011.</li> </ul>
Among adult women, 40% consume sugary drinks on any given day.	<ul style="list-style-type: none"> <li>Ogden CL, Kit BK, Carroll MD, Park S. Consumption of sugar drinks in the United States, 2005–2008. NCHS data brief, no 71. Hyattsville, MD: National Center for Health Statistics; 2011.</li> </ul>
About half of the population aged 2 and older consumes sugary drinks on any given day.	<ul style="list-style-type: none"> <li>Ogden CL, Kit BK, Carroll MD, Park S. Consumption of sugar drinks in the United States, 2005–2008. NCHS data brief, no 71. Hyattsville, MD: National Center for Health Statistics; 2011.</li> </ul>
Among boys aged 2–19, 70% consume sugary drinks on any given day.	<ul style="list-style-type: none"> <li>Ogden CL, Kit BK, Carroll MD, Park S. Consumption of sugar drinks in the United States, 2005–2008. NCHS data brief, no 71. Hyattsville, MD: National Center for Health Statistics; 2011.</li> </ul>
Low-income persons consume more sugary drinks in relation to their overall diet than those with higher income.	<ul style="list-style-type: none"> <li>Ogden CL, Kit BK, Carroll MD, Park S. Consumption of sugar drinks in the United States, 2005–2008. NCHS data brief, no 71. Hyattsville, MD: National Center for Health Statistics; 2011.</li> </ul>
<b>Retail Environment</b>	
With over 60 brands offering more than 650 products in a wide variety of outlets, sugary drinks are widely available for public consumption.	<ul style="list-style-type: none"> <li>Harris JL, Schwartz MB, Brownell KD. <i>Sugary Drink FACTS: Evaluating Sugary Drink Nutrition and Marketing to Youth</i>. New Haven, CT: Rudd Center for Food Policy and Obesity; 2011.</li> </ul>



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<b>Retail Environment</b>	
<p>Beverage companies spend more than \$608 million every year to sell their products. Ads for sugary drinks are on TV, at the movies, on billboards, at sporting events, in video games, and even on the internet.</p>	<ul style="list-style-type: none"> <li>Dorfman L. Sugar water gets a facelift: What marketing does for soda. Berkeley Media Studies Group. <a href="http://www.bmsg.org/sites/default/files/bmsg_framing_brief_sugar_water_gets_a_facelift.pdf">http://www.bmsg.org/sites/default/files/bmsg_framing_brief_sugar_water_gets_a_facelift.pdf</a>. Published Sept 2009. Accessed July 2012.</li> </ul>
<p>In 2008, adolescents and young adults (ages 12 – 24) accounted for more than \$3 billion in annual energy drink sales.</p>	<ul style="list-style-type: none"> <li>Parker-Pope T. Taste for quick boost tied to taste for risk. The New York Times. <a href="http://www.nytimes.com/2008/05/27/health/27well.html?_r=1&amp;ref=tara_parkerpoppe">http://www.nytimes.com/2008/05/27/health/27well.html?_r=1&amp;ref=tara_parkerpoppe</a>. Published May 2008. Accessed July 2012.</li> </ul>
<b>Drink Specific: Water</b>	
<p>Every system in your body depends on water, it helps flush toxins from your body, carries nutrients to your cells, and aids in many other important functions.</p>	<ul style="list-style-type: none"> <li>Mayo Foundation for Medical Education and Research. Water: How much should you drink every day? <a href="http://www.mayoclinic.com/health/water/NU00283">http://www.mayoclinic.com/health/water/NU00283</a>. Published October 2011. Accessed July 2012.</li> </ul>
<b>Drink Specific: Juice Drink</b>	
<p>Sweetened juice products with minimal juice content, such as juice drinks, are considered sugar-sweetened beverages rather than fruit juice.</p>	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture. 10 tips nutrition education series. <a href="http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf">http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf</a>. Published June 2011. Accessed June 5, 2012.</li> </ul>



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<b>Drink Specific: Sports Drink</b>	
<p>The American College of Sports Medicine recommends water as the best choice for hydration during exercise. Sports drinks are recommended for hydration only after intense exercise lasting for more than 60 minutes.</p>	<ul style="list-style-type: none"> <li>Sawka MN, Burke LM, Eichner ER, Maughan RJ, Montain SJ, Stachenfeld NS. American College of Sports Medicine position stand. Exercise and fluid replacement. <i>Med Sci Sports Exerc.</i> Feb 2007;39(2):377-390.</li> </ul>
<p>The American Academy of Pediatrics states that water is the best way to keep kids hydrated and that sports drinks are unnecessary for children who exercise less than three hours in normal weather conditions.</p>	<ul style="list-style-type: none"> <li>Ahmad A. Water is top choice for keeping kids hydrated. <i>AAP News.</i> Aug 2008;29(8):29.</li> </ul>
<b>Behavior Change Recommendations</b>	
<p>Drink water instead of sugary drinks</p>	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture. 10 tips nutrition education series. <a href="http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf">http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf</a>. Published June 2011. Accessed June 5, 2012.</li> </ul>
<p>Cut calories by drinking water or unsweetened beverages.</p>	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture. 10 tips nutrition education series. <a href="http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf">http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf</a>. Published June 2011. Accessed June 5, 2012.</li> </ul>
<p>Make the switch to fat-free or lowfat (1%) milk</p>	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture. 10 tips nutrition education series. <a href="http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf">http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf</a>. Published June 2011. Accessed June 5, 2012.</li> </ul>





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Behavior Change Recommendations (continued)	
Cut back on foods and beverages high in added sugars, including sugary drinks.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture. 10 tips nutrition education series. <a href="http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf">http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf</a>. Published June 2011. Accessed June 5, 2012.</li> </ul>
Sugary drinks provide excess calories and few essential nutrients to the diet and should be limited to only be consumed when nutrient needs have been met and without exceeding daily calorie limits.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Reduce intake of sugary drinks by drinking fewer sugar-sweetened beverages and/or consuming smaller portions.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Limit calorie intake from solid fats and added sugars, like those found in sugary drinks.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Choose beverages with less added sugars.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Select 100% fruit juices when choosing juice as a beverage.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Cut back on foods and drinks with added sugars or caloric sweeteners.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>



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<b>Behavior Change Recommendations (continued)</b>	
Drink few or no sugary drinks such as: sodas, sports drinks, energy drinks and fruit drinks.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Choose water, fat-free milk, 100% fruit juice, or unsweetened tea or coffee as drinks rather than sugary drinks.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Use the Nutrition Facts label to choose beverages with less total sugars, and use the Ingredients list to choose foods with little or no added sugars.	<ul style="list-style-type: none"> <li>U.S. Department of Agriculture and U.S. Department of Health and Human Services. <i>Dietary Guidelines for Americans</i>, 2010. Washington, DC: U.S. Government Printing Office; December 2010.</li> </ul>
Children and adolescents are more likely to consume the recommended amount of important nutrients such as Vitamins A, C, and B12 , as well as folate, calcium, and magnesium when they drink milk and 100% fruit juice than if they drink sodas.	<ul style="list-style-type: none"> <li>Ballew C, Kuester S, Gillespie C. Beverage choices affect adequacy of children’s nutrient intakes. <i>Arch Pediatr Adolesc Med</i>. 2000;154(11):1148-1152.</li> </ul>