

REPORT 3 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH (A-17)  
Strategies to Reduce the Consumption of Beverages with Added Sweeteners  
Resolution 417-A-16  
(Reference Committee D)

EXECUTIVE SUMMARY

Background. Resolution 417-A-16, “Changing Public Policy to Assist Obesity Goals,” introduced by the California Delegation and referred by the House of Delegates, asked that our American Medical Association support efforts to limit the consumption of foods and beverages that contain added sweeteners, including but not limited to, ending corn subsidies for the production of high fructose corn syrup. This report provides an update on the health outcomes associated with the consumption of beverages with added sweeteners and examines the effectiveness of strategies that have been utilized to reduce the consumption of sugar-sweetened beverages (SSBs).

Methods. Literature searches were conducted in the PubMed database for English-language articles published between 2007 and 2017 using the search terms “sugar-sweetened beverage,” “diet beverage,” and “artificial sweetener” with the terms “consumption,” “health,” “disease,” and “risk.” The search term “sugar-sweetened beverage” was also used with the terms “tax,” “portion,” “purchase,” “school,” “workplace,” “hospital,” “subsidies,” “label,” “packaging,” “marketing,” and “guidelines.” To capture reports not indexed on PubMed, a Google search was conducted using the same search terms. Internet sites managed by federal and state agencies and relevant public health organizations were also reviewed. Additional articles were culled from the reference lists contained in the pertinent articles and other publications.

Results. SSB consumption has decreased over the last several years, but it continues to exceed recommended consumption limits. In both adults and children, intake of SSBs has been strongly and consistently associated with increased body weight and a number of related cardiometabolic conditions. Several strategies have been implemented and/or proposed to reduce the consumption of SSBs. These strategies include restricting opportunities to purchase SSBs at medical centers, public venues, workplaces, and schools; controlling portion sizes; redesigning the agricultural subsidies system; taxing SSBs; and improving consumer awareness using plain packaging and warning labels. A number of these strategies appear to be effective in reducing consumption and improving health outcomes.

Conclusion. The most effective strategies for reducing consumption of SSBs appear to be restricting access in schools and potentially other settings, taxing beverages with added sugars, including warning labels on packaging, and using plain packaging. Other strategies are promising, but lack effectiveness data or require systems changes. The Council proposes a number of recommendations supporting the implementation of evidence-based strategies aimed at reducing the consumption of SSBs, encouraging continued research into other strategies that appear to be promising in reducing consumption, and encouraging physicians to familiarize themselves with clinical practice guidelines on counseling about SSB intake and follow them as appropriate.

## REPORT OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH

CSAPH Report 3-A-17

Subject: Strategies to Reduce the Consumption of Beverages with Added Sweeteners  
(Resolution 417-A-16)

Presented by: Bobby Mukkamala, MD, Chair

Referred to: Reference Committee D  
(Corliss Varnum, MD, Chair)

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1 Resolution 417-A-16, “Changing Public Policy to Assist Obesity Goals,” introduced by the  
2 California Delegation and referred by the House of Delegates, asked:

3  
4 That our American Medical Association support efforts to limit the consumption of foods and  
5 beverages that contain added sweeteners, including but not limited to, ending corn subsidies for  
6 the production of high fructose corn syrup.

### 8 BACKGROUND

9  
10 At the 2006 Annual and Interim Meetings of the AMA House of Delegates, two reports by the  
11 Board of Trustees addressed the issue of taxes on sugar-sweetened beverages (SSBs).<sup>1,2</sup> Both  
12 reports recommended that the AMA support adoption of small local, state, and federal taxes on soft  
13 drinks sweetened with caloric sugars, with a substantial portion of the revenue from these taxes  
14 being earmarked for the prevention and treatment of obesity, as well as public health and medical  
15 programs that serve vulnerable populations. However, these recommendations were not adopted.  
16 The Council on Science and Public Health (CSAPH) issued a report at the 2012 Annual Meeting  
17 examining the literature that had emerged since 2006 to determine if limiting consumption of  
18 beverages with added sweeteners is likely to improve health outcomes, and, if so, whether taxation  
19 of sweetened beverages would be an effective public health strategy to help reduce consumption.<sup>3</sup>  
20 Policy H-150.933, adopted from that report, supports the use of taxes as a means by which  
21 consumer education campaigns and other obesity-related programs could be financed.

22  
23 This report provides an update on the health outcomes associated with the consumption of  
24 beverages with added sweeteners and examines the effectiveness of strategies that have been  
25 utilized to reduce the consumption of SSBs. Although Resolution 417-A-16 refers to efforts to  
26 reduce the consumption of foods and beverages with added sweeteners, the CSAPH has focused  
27 this report on beverages because they are a common source of non-nutritive calories (“empty  
28 calories”),<sup>4</sup> and represent a well-recognized target for reducing sugar consumption and addressing  
29 obesity.<sup>5</sup>

### 31 METHODOLOGY

32  
33 Literature searches were conducted in the PubMed database for English-language articles published  
34 between 2007 and 2017 using the search terms “sugar-sweetened beverage,” “diet beverage,” and

“artificial sweetener” with the terms “consumption,” “health,” “disease,” and “risk.” The search term “sugar-sweetened beverage” was also used with the terms “tax,” “portion,” “purchase,” “school,” “workplace,” “hospital,” “subsidies,” “label,” “packaging,” “marketing,” and “guidelines.” To capture reports not indexed on PubMed, a Google search was conducted using the same search terms. Internet sites managed by federal and state agencies and relevant public health organizations were also reviewed. Additional articles were culled from the reference lists contained in the pertinent articles and other publications.

## CURRENT AMA POLICY

The AMA has adopted a number of policies addressing obesity as a major public health problem, with several of them specifically addressing nutrition and SSBs (see Appendix). Relevant to access to SSBs, the AMA supports the availability of nutritious beverages in schools and health care facilities and supports the removal of SSBs from the Supplemental Nutrition Assistance Program (SNAP) (Policies D-150.987, H-150.960, H-150.944, D-150.978, and D-150.975). The AMA also acknowledges that taxes on SSBs are one means by which consumer education campaigns and other obesity-related programs could be financed in a stepwise approach to addresses the obesity epidemic. Where taxes on beverages with added sweeteners are implemented, the revenue should be used primarily for programs to prevent and/or treat obesity and related conditions, such as educational advertising campaigns and improved access to potable drinking water, particularly in schools and communities disproportionately affected by obesity and related conditions, as well as on research into population health outcomes that may be affected by such taxes (Policy D-150.933).

Regarding subsidies, the AMA supports: (1) the creation of a new advisory board to review and recommend U.S. Farm Bill budget allocations to ensure any government subsidies are only used to help produce healthy food choices and sustainable foods and (2) efforts to ensure that federal subsidies encourage the consumption of products low in fat and cholesterol (Policies H-150.932, and H-150.944).

Regarding consumer education, the AMA: (1) encourages national efforts to educate the public about the health risks of being overweight and obese and provide information about how to achieve and maintain a preferred healthy weight, and supports requiring meaningful yearly instruction in nutrition, including instruction in the causes, consequences, and prevention of obesity, in grades 1 through 12 in public schools (Policies D-150.953 and H-170.961).

Regarding the role of the physician, the AMA: (1) supports including education in basic principles and practices of physical activity and nutrition counseling in undergraduate and graduate medical education and through accredited continuing medical education programs; (2) urges physicians to assess their patients for overweight and obesity during routine medical examinations and discuss with at-risk patients the health consequences of further weight gain; and (3) encourages physicians to become knowledgeable of community resources and referral services that can assist with the management of overweight and obese patients (Policy H-150.953).

## CONSUMPTION PATTERNS

### *Calorically Sweetened Beverages*

Definitions of terms used throughout this report can be found in Table 1, and are discussed in more detail in the Council’s 2012 report.<sup>3</sup> SSBs generally refer to all non-alcoholic beverages that contain any amount of added caloric sweeteners, excluding 100 percent fruit and vegetable juices,

1 infant formulas, and dietary aids for medical conditions, although some studies also exclude  
2 sweetened milk and milk substitutes.<sup>3</sup>

3  
4 The 2015-2020 Dietary Guidelines for Americans highlight the lack of nutritional value in SSBs  
5 and make recommendations to reduce consumption, including choosing beverages with no added  
6 sugars, such as water, reducing portion size of SSBs, and drinking SSBs less often.<sup>4</sup> While added  
7 sugar consumption has decreased over the last several decades, it still exceeds recommended  
8 limits.<sup>6,7</sup> The American Heart Association (AHA) recommends that adult men consume no more  
9 than 9 teaspoons of added sugar daily, that adult women consume no more than 5 teaspoons daily,  
10 and that children consume no more than 6 teaspoons daily.<sup>8,9</sup> Yet the average adult consumes  
11 approximately 22, and the average child approximately 19, teaspoons daily.<sup>8,9</sup> Seventy percent of  
12 Americans report added sugar intake above the AHA recommended guideline of 10 percent of  
13 daily caloric consumption.<sup>4</sup>

14  
15 Thirty-three percent of calories from added sugars are consumed in the form of beverages.<sup>7</sup> While  
16 SSB consumption has decreased over the last several years, it continues to exceed recommended  
17 consumption limits.<sup>10-12</sup> Nearly half of adults consume at least one SSB on a given day, despite the  
18 recommendation that adults should choose beverages with no added sugars.<sup>4,11</sup> The AHA  
19 recommends that children and adolescents limit their intake of SSBs to less than one per week,<sup>9</sup> but  
20 nearly two-thirds of youth consume at least one SSB on a given day.<sup>12</sup> Among adults, total calories  
21 consumed from SSBs decreases with increasing age, with adults aged 20-39 years consuming about  
22 three times the number of calories from SSBs as adults aged 60 years and over.<sup>11</sup> Among all adult  
23 age groups, men consume approximately 50 percent more calories from SSBs than women.<sup>11</sup>  
24 Among all youth age groups, boys consume about 35 percent more calories from SSBs than girls,  
25 although the difference in those aged 2-5 years is small.<sup>12</sup>

26  
27 Adult men have higher mean calorie intake from SSBs than adult women across all race and origin  
28 groups. Hispanic men and non-Hispanic black men have the highest mean calorie intake from  
29 SSBs, followed by non-Hispanic white men and non-Hispanic Asian men.<sup>11</sup> Non-Hispanic black  
30 women have the highest calorie intake from SSBs, followed by Hispanic, non-Hispanic white, and  
31 non-Hispanic Asian women.<sup>11</sup> Children also exhibit differences in calorie intake from SSBs across  
32 race and origin. Non-Hispanic white, non-Hispanic black, and Hispanic boys have higher mean  
33 calorie intake from SSBs on a given day than non-Hispanic Asian boys.<sup>12</sup> Non-Hispanic black girls  
34 had the highest calorie intake from SSBs, followed by non-Hispanic white, Hispanic, and non-  
35 Hispanic Asian girls.<sup>12</sup>

36  
37 Socioeconomic status also appears to impact consumption. Among young adults, those with lower  
38 education are likely to consume more SSBs than those with higher education, and those with low  
39 and middle incomes are likely to consume more SSBs than those with high incomes.<sup>13</sup>

40  
41 Although 100 percent fruit juice is not typically considered a SSB, it does have high sugar and  
42 calorie content.<sup>4</sup> However, U.S. Dietary Guidelines consider 100 percent fruit and vegetable juices  
43 as servings of fruits and vegetables, not as added sugars.<sup>4</sup> Furthermore, increased consumption of  
44 micronutrient-rich 100 percent juices and milk are thought to improve other health outcomes.<sup>14</sup>  
45 Nevertheless, attention to serving sizes is warranted. The 2015-2020 Dietary Guidelines for  
46 Americans recommend that 100 percent fruit juice be consumed within recommended food group  
47 amounts and calorie limits.<sup>4</sup>

48  
49 *Non-Calorically Sweetened Beverages*



Consumption of non-calorically sweetened beverages (also referred to as low-calorie or “diet” beverages) has increased over the past several decades, with about three percent of adults consuming such beverages in 1965 compared to 15-20 percent today.<sup>15-17</sup> The percentages of males and females consuming diet drinks are similar in all age groups except those aged 12-19 years; consumption among females in that age group is nearly twice as high as that of males.<sup>16</sup> Approximately 28 percent of non-Hispanic white adults consume a non-calorically sweetened beverage on a given day compared with approximately 10 percent of non-Hispanic black and approximately 14 percent of Hispanic adults.<sup>16</sup> Approximately 15 percent of non-Hispanic white, approximately seven percent of non-Hispanic black, and approximately eight percent of Hispanic children and adolescents consume a non-calorically sweetened beverage on a given day.<sup>16</sup>

Overweight and obese adults are more likely to consume non-calorically sweetened beverages than healthy-weight adults.<sup>17</sup> Adults and children living in households with higher incomes are more likely to consume non-calorically sweetened beverages than those with lower incomes.<sup>16</sup> Similarly, consumption of low-calorie sweeteners (in both foods and beverages) is more likely among those with higher educational attainment levels.<sup>16</sup>

## HEALTH EFFECTS OF SWEETENED BEVERAGES

### *Calorically Sweetened Beverages*

The health effects of SSB consumption are well documented by the literature, and are reviewed in detail in the 2012 CSAPH report.<sup>3</sup> Figure 1 illustrates many of the known health effects of SSBs.

In both adults and children, intake of SSBs has been strongly and consistently associated with increased body weight and a number of related cardiometabolic conditions.<sup>5,18-20</sup> Adults with the highest SSB intake are 1.5 times more likely to be obese or overweight compared to those with the lowest intake,<sup>21</sup> and higher body mass index (BMI) is seen in children consuming just one SSB daily.<sup>22</sup> In adults and children, SSB intake is associated with increased blood pressure, triglyceride levels, total cholesterol, and fatty liver; and with decreased HDL cholesterol.<sup>8,9,23-25</sup> SSBs also have been associated with markers of inflammation and oxidative stress, dental caries, and kidney stones.<sup>5,8,9,19,26</sup>

Consumption of SSBs is related to increased risk of type 2 diabetes, cardiovascular disease, and metabolic syndrome.<sup>19,26-31</sup> It is expected that 20.9 million people will develop type 2 diabetes over the next 10 years in the United States, with 1.8 million cases due to consumption of SSBs.<sup>27</sup> Sugars in SSBs acutely increase glucose levels, a risk factor for type 2 diabetes, while fructose in SSBs promotes hepatic lipogenesis and furthers insulin resistance.<sup>19,27</sup> Drinking one SSB per day is associated with an 18 percent increase in incidence of type 2 diabetes, and fruit juice consumption is associated with a 7 percent increase in incidence.<sup>27</sup> Stroke and myocardial infarction risk also increase with incrementally increased consumption of SSBs.<sup>30</sup>

Beyond the strong and consistent associations of SSBs with cardiometabolic conditions, other concerns with their consumption exist. SSB consumption often displaces consumption of other foods and beverages rich in micronutrients, such as skim milk and whole fruit, and minimizes consumers’ ability to meet the rest of their daily nutrient requirements without exceeding their calorie needs.<sup>5</sup> SSB consumption has been inversely associated with consumption of milk, calcium, fruit, and dietary fiber, and with overall dietary quality.<sup>5</sup>

### *Non-Calorically Sweetened Beverages*

The health effects of non-calorically sweetened beverages also are addressed in the 2012 CSAPH report.<sup>3</sup> Data on the health outcomes of consuming non-calorically sweetened beverages are not as robust as that for SSBs, and continue to be mixed. Modest benefits on weight loss, prevention of weight gain, blood pressure, and inflammatory markers have been seen with the use of non-caloric (or “artificial”) sweeteners.<sup>32-34</sup> In a trial in children, those consuming non-calorically sweetened beverages gained 35 percent less body fat than those consuming SSBs.<sup>35</sup> A study examining the dietary habits of those who regularly consume non-calorically sweetened beverages found that consumption is associated with more vegetable, whole-grain, and low-fat dairy consumption, but increased saturated fat and sodium intake.<sup>36</sup>

Others have reported an association of non-calorically sweetened beverages with body weight, cardiovascular disease, and metabolic syndrome.<sup>30,31</sup> One study found that at least daily consumption of non-calorically sweetened soda is associated with a 36 percent greater risk of metabolic syndrome and a 67 percent greater risk of type 2 diabetes compared with nonconsumption.<sup>37</sup> And among overweight and obese individuals, consumption of non-calorically sweetened beverages increases risk for end-stage renal disease.<sup>38</sup> However, in many cases, it is unknown whether the consumption of non-calorically sweetened beverages is causal of disease risk or is a surrogate for an unhealthy lifestyle.<sup>30,31</sup> Consumers of diet beverages may believe that the lack of calories allows them to consume more calories from other foods, and regular consumption of intensely sweet non-caloric sweeteners may foster a preference for sweet tastes and make less sweet, but healthier foods such as fruits, vegetables, and legumes, less appealing.<sup>20,39</sup>

## STRATEGIES TO REDUCE CONSUMPTION

Several strategies have been implemented and/or proposed to reduce the consumption of SSBs. Most strategies are focused on SSBs, and not non-calorically sweetened beverages, since the evidence on the health effects of such beverages remains mixed. In this section, selected strategies are summarized.

### *Limiting Access to Beverages with Added Sweeteners*

Limiting opportunities to purchase SSBs has been proposed in and implemented by hospitals, medical centers, public venues, workplaces, and schools. Below are brief summaries of limited access programs. With the exception of limiting access in schools, data are generally not available to describe changes in consumption patterns or health, mostly due to the recent implementation of the programs.

Hospitals and Medical Facilities. A number of hospitals and medical facilities have banned the sale of SSBs, limiting access by patients, visitors, and employees. Most have initiated such programs as a result of the established link between added sugar consumption and obesity and other adverse health outcomes. As institutions with missions to improve health, they have “led by example” in efforts offering healthier alternative beverages.<sup>40,41</sup> Although data on SSB consumption or health outcomes have not been reported, sales of SSBs have declined in places with restricted access programs. For example, after Nationwide Children’s Hospital in Columbus, Ohio, removed SSBs from vending machines and eateries, sales revenues for carbonated beverages declined by 17 percent while revenues for milk, juice, and coffee increased by 19, 22, and 13 percent, respectively.<sup>40</sup>

The movement to remove SSBs from hospitals and medical facilities is growing. The Healthy Hospital Food Initiative includes over 30 New York City hospitals that have pledged to decrease the availability and portion size of high-calorie beverages in vending machines.<sup>41</sup> Similarly, the

Partnership for a Healthier America is an initiative of over 150 hospitals, including Kaiser Permanente, Catholic Health Initiatives, Cleveland Clinic, and Centura Health, that have committed to increasing purchases of water, unflavored milk, teas, coffee, and 100 percent fruit and vegetable juices to 80 percent of beverage spending, limiting the amount of soft drinks and other high calorie drinks sold in cafeterias and vending machines.<sup>41</sup> The University of California San Francisco (UCSF) hospital and campus removed SSBs from cafeterias and vending machines beginning in 2015, and has enrolled more than 2,500 employees in a research study to track resulting health outcomes.<sup>42</sup>

Workplaces. Millions of American consumers purchase foods and beverages from workplace cafeterias and vending machines. Therefore, limiting access to SSBs in the workplace has been proposed as a strategy to reduce consumption, and one that workplace wellness programs have promoted. However, it is not known how many workplaces have such policies in place. The National Academies of Sciences, Engineering and Medicine (formerly the Institute of Medicine) and the CDC recommend that government agencies use nutrition standards to guide the foods and beverages sold at their buildings and workplaces, however, only approximately 3 percent of municipalities have standards in place.<sup>43</sup> In workplaces that have implemented restricted access programs, it is unclear how consumption and health outcomes among employees have been affected, but studies such as the one being conducted by UCSF are underway.<sup>42</sup> Employees have reported mixed support for restricted SSB access programs.<sup>42,44</sup>

Public Venues. Banning the sale of SSBs in public venues, especially those frequented by children, such as parks, recreation centers, and zoos, has been discussed as a strategy to reduce consumption. It is unclear how many of these settings have implemented such programs, or whether they have resulted in reduced SSB consumption. Carson, California, a city in Los Angeles County, recently implemented a “healthy vending policy” that changes the types of beverages available in park vending machines.<sup>45</sup> After implementation of the policy, only seven percent of beverages available in park vending machines were SSBs, down from 70 percent prior to policy implementation.<sup>45</sup> It is not known how this change has affected purchasing or consumption.

Schools. In most schools, students are able to purchase snacks and beverages outside of the federal school meals programs through a la carte options in the cafeteria, vending machines, school stores, and snack bars. Policies restricting the ability to purchase SSBs through those mechanisms have been implemented in many schools.<sup>46</sup> Importantly, under the Smart Snacks in School nutrition standards developed as part of the Healthy Hunger-Free Kids Act of 2010, schools are now required to follow standards for foods and beverages sold during the school day.<sup>47</sup> Implemented starting in the school year 2014-2015, the standards limit the sale of beverages to only plain or carbonated water, lowfat and nonfat milk, 100 percent fruit/vegetable juice, and in high schools, low- or no-calorie flavored or carbonated beverages.<sup>47</sup>

Several studies on the effectiveness of school SSB purchase restrictions have shown that restrictions lead to decreased consumption. In a recent study of 12 large urban school districts, students attending high schools with restricted SSB access were 28 percent less likely to consume SSBs than students in high schools without restricted access.<sup>48</sup> Similarly, a ban on the sale of SSBs in high schools in the Boston Public School system led to an approximately 30 percent decline in consumption.<sup>49</sup> Other studies on restricted access in school settings have reported results that were insignificant or mixed.<sup>46,50,51</sup> For example, schools that have banned only the sale of sugar-sweetened sodas, rather than all SSBs, have not experienced the same declines in consumption because students appear to compensate by consuming non-soda SSBs.<sup>51</sup> In addition, policies based on increasing the availability of alternative healthier beverages (such as water) without restricting access to the purchase of SSBs do not appear to impact consumption of SSBs; a recent study that

assessed the impact of increasing water availability in the school cafeteria did not result in a statistically significant decrease in SSB purchases.<sup>52</sup> Nationwide implementation of the Smart Snacks in School nutrition standards should enable longer-term and more robust studies of consumption patterns and changes in health outcomes.

Early Childcare Centers. In young children (aged 2-5 years), high SSB intake is associated with higher BMI and obesity by the age of five years.<sup>8</sup> Exposure to SSBs in infants younger than 12 months also is associated with obesity by the age of six years.<sup>8</sup> It is therefore recommended that early childcare centers limit children's intake of SSBs. The American Academy of Pediatrics (AAP), American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education recommend that children drink water in place of fruit drinks, soda, or other sweetened drinks (but water should not be a substitute for milk at meals or snacks where milk is a required food component), and that childcare facilities provide ready access to drinking water.<sup>53</sup> It is also recommended that, in addition to water, facilities serve only 100 percent fruit juice or 100 percent fruit juice diluted with water to children 12 months of age or older, but that juice consumption should be no more than a total of four to six ounces a day for children aged one to six years.<sup>54</sup>

Thirteen states have childcare licensing laws that limit access to SSBs in childcare settings.<sup>55</sup> Data on the effectiveness of limiting SSB access in early childcare settings are sparse. A trial in Italian childcare centers tested a multicomponent intervention that included increased consumption of fruits and vegetables, more active play, reduced screen time, and no access to SSBs.<sup>56</sup> It found that children in the intervention group had better health behavior scores than those in the non-intervention group, but BMI was not affected.<sup>56</sup> Restricted access appears to be successful in reducing consumption; children at childcare centers that comply with SSB serving restrictions consume fewer SSBs.<sup>57</sup> Research is needed to determine whether restricted access policies result in improved health outcomes for young children.

### *Controlling Portion Sizes*

Portion sizes have expanded far beyond the serving sizes used as standards for dietary guidance and food labels, making it difficult for consumers to understand how many calories they are consuming.<sup>58,59</sup> Reducing portion sizes through public policy has therefore become a strategy to reduce calorie consumption and fight obesity. However, initiatives have been met with opposition. In 2012, the New York City Board of Health responded to the connection between consuming SSBs and the obesity epidemic by approving a rule setting a maximum cup or container size of 16 fluid ounces for sugary drinks sold in the food service establishments subject to its jurisdiction.<sup>60</sup> The American Beverage Association, American Restaurant Association and other interested parties filed suit challenging the law as a violation of the separation of powers doctrine under the state constitution or to declare the regulation unlawfully arbitrary and capricious.<sup>61</sup>

The state Supreme Court granted the order to enjoin and permanently restrain the city from implementing or enforcing the regulation on the grounds that the New York City Board of Health exceeded the scope of its regulatory authority.<sup>61</sup> The New York State Court of Appeals agreed with the decision of the lower court. Since portion control for SSBs has not been implemented in any U.S. jurisdictions, studies have not been conducted to determine the effectiveness of the strategy in reducing consumption.

### *Redesigning Agricultural Subsidies*

1 Federal agricultural subsidies partially finance the production of corn, soybeans, wheat, rice,  
 2 sorghum, dairy, and livestock; financing of dairy and livestock are in part via subsidies on feed  
 3 grains.<sup>62,63</sup> A large proportion of these subsidized commodities are converted into high-fat meat and  
 4 dairy products, refined grains, high-calorie juices and soft drinks (sweetened with corn sweeteners),  
 5 and processed and packaged foods.<sup>62,63</sup> Approximately 5 percent of corn is converted into high-  
 6 fructose corn syrup (HFCS).<sup>62</sup> Incentives or support for fruit and vegetable production have  
 7 traditionally not been offered.<sup>63,64</sup>

9 Evidence and opinions about the impact of agricultural subsidies on health are mixed. A number of  
 10 researchers have attributed the growth in U.S. obesity rates to agricultural policies.<sup>65</sup> A 2002  
 11 modeling study estimated that 40 percent of the growth in BMI between 1970 and 2000 was  
 12 attributable to increases in the supply of farm commodities.<sup>66</sup> A more recent study found that more  
 13 than half of all calories consumed by adults in the U.S. originate from subsidized commodities, and  
 14 further, that those consuming the highest amounts of foods made from subsidized commodities  
 15 have a 14 to 41 percent higher probability of cardiometabolic risk as measured by BMI, abdominal  
 16 adiposity, C-reactive protein, and lipid levels.<sup>62</sup> While these findings suggest that changing  
 17 consumption levels of food from subsidized commodities may reduce cardiometabolic risk, they do  
 18 not definitively point to agricultural subsidies as a direct cause of cardiometabolic risk. Others  
 19 point out that although subsidies do impact commodity prices, they have a smaller impact on  
 20 consumer prices, and therefore are not the sole factor influencing consumption.<sup>65,67</sup>

22 Overproduction and low prices are not driven by subsidies alone, but instead by a complex system  
 23 of policies that promote the production of crops that lend themselves to large-scale production,  
 24 easy storage, and long distance shipping.<sup>64</sup> Therefore, removing subsidies is not considered as an  
 25 “easy fix” for overproduction and low prices.<sup>64</sup> Modeling studies have predicted that the  
 26 elimination of agricultural subsidies would result in price decreases for all commodities except  
 27 wheat and corn, resulting in a slight reduction in consumption of cereal and bakery products, but  
 28 potentially increasing meat and dairy consumption since prices for livestock feed would be  
 29 lower.<sup>63,68</sup> Sugar prices would likely decrease, resulting in lower prices of sweetened foods due to  
 30 reduced caloric sweetener prices.<sup>68</sup> Taken together, evidence suggests that eliminating subsidies  
 31 would have only a mild impact on consumption and obesity.<sup>63</sup> However, redesigning the subsidy  
 32 system to provide increased support to farms growing sustainable, biodiverse crops could address  
 33 obesity by increasing the availability of fresh produce by bringing prices closer to those of less  
 34 healthy alternatives.<sup>62,63,69</sup>

36 With regard to the increased consumption of SSBs, corn subsidies have been pointed to as a culprit  
 37 since many SSBs contain HFCS, a caloric sweetener produced from corn starch. Eliminating corn  
 38 subsidies has been proposed as a mechanism to drive up the price of corn, and in turn increase the  
 39 prices of HFCS and SSBs, thereby potentially reducing consumption.<sup>70</sup> However, others note that  
 40 most of the cost of HFCS is in manufacturing rather than raw materials, so while eliminating corn  
 41 subsidies could result in an increase in the price of corn, the price of HFCS would likely increase  
 42 only a small amount, affecting SSB prices minimally.<sup>70</sup>

#### 44 *Taxing Beverages with Added Sugars*

46 A detailed discussion of taxing SSBs can be found in the 2012 CSAPH report.<sup>3</sup> Briefly, a number  
 47 of U.S. and international jurisdictions have considered and/or implemented taxing SSBs as a  
 48 strategy to reduce their consumption and to generate funding for obesity prevention initiatives.  
 49 Sales tax approaches have little impact on purchasing and consumption; such small price increases  
 50 (less than 10 percent) do not tend to influence consumer behavior.<sup>71,72</sup> However, excise taxes,  
 51 which tax beverage producers and wholesalers and usually result in increased shelf prices, appear

to be a more effective strategy to deter purchasing.<sup>20</sup> Excise taxes lead to an approximately 15-25 percent increase in purchase price.<sup>73</sup>

In the jurisdictions for which data are available, purchases and consumption of SSBs have decreased following implementation of an excise tax. For example, in January 2014, Mexico implemented an excise tax of one Mexican peso per liter (5.5 U.S. cents) to all non-alcoholic beverages with added sugar.<sup>74,75</sup> During 2014 and 2015, the tax resulted in a 7.6 percent decrease in sales of SSBs and a 2.1 percent increase in sales of untaxed beverages (diet sodas, bottled water; unsweetened dairy beverages, unsweetened dairy beverage substitutes, and unsweetened fruit juices).<sup>74</sup> In March 2015, the city of Berkeley, California, implemented an excise tax of \$0.01 per ounce on the purchase of SSBs. In the time since the tax began, SSB consumption decreased 21 percent compared to a 4 percent decrease in comparison cities (nearby cities that did not have SSB taxes in place), and water consumption increased 63 percent compared to an increase of 19 percent in comparison cities.<sup>76</sup> And in January of 2017, the city of Philadelphia, Pennsylvania, began levying a \$0.015 per ounce excise tax on SSBs. Although data on the tax's impact on purchasing and consumption are not available at this time, news outlets have reported that purchases have declined.<sup>77,78</sup> Oakland, California; San Francisco, California; Boulder, Colorado; and Cook County, Illinois; have passed SSB tax measures, but they have not yet gone into effect.

Although data are not yet available to directly demonstrate the health effects of reduced purchasing and consumption as a result of tax strategies, modeling studies have predicted significant improvements. Assuming a 10 percent reduction in consumption of SSBs predicted to occur following long-term implementation of the excise tax in Mexico, it is projected that approximately 189,300 new cases of type 2 diabetes, 20,400 incident strokes and heart attacks, and 18,900 deaths over 10 years among adults aged 35-94 years would be prevented.<sup>79</sup> Further, the reduction in consumption is projected to save \$983 million (US dollars) in healthcare costs, primarily due to the prevention of diabetes cases.<sup>79</sup> Modeling studies have predicted that in Ireland, a 10 percent excise tax on SSBs would result in a 1.3 percent reduction in the number of obese adults.<sup>80</sup> Similarly, a 20 percent increase in purchase price of SSBs in the United Kingdom would result in a 1.3 percent decrease in the number of obese adults.<sup>81</sup> And in Germany, it is predicted that a 20 percent sales tax would result in a 4 percent reduction in obesity.<sup>82</sup> In all of the aforementioned modeling studies, the health impacts are predicted to affect young adults most.<sup>79-82</sup>

In the United States, a national \$0.01 per ounce excise tax on SSBs is estimated to reduce consumption by 20 percent and BMI by 0.16 unit in youth and 0.08 unit in adults.<sup>83</sup> Over a 10 year span, the tax is estimated to result in 101,000 fewer disability-adjusted life years, 871,000 more quality-adjusted life years, and \$23.6 billion in health care cost savings.<sup>83</sup> A separate study focused on preventing childhood obesity estimates that a \$0.01 per ounce excise tax on SSBs implemented nationally over a 10 year period would prevent more than 575,000 cases of childhood obesity and would save more than \$30 for each dollar spent on implementation.<sup>84</sup> The Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES) has modeled the health and fiscal impacts of a \$0.01 per ounce SSB excise tax in 15 large US cities, and estimates that once the tax is fully implemented in all 15 cities, 115,000 cases of adult and childhood obesity would be prevented over a 10 year period, and a 6 percent reduction of type 2 diabetes incidence could be expected over a one-year period.<sup>85</sup>

It is important to note that direct evidence of the impact of taxes has come from only a few sources, and that modeling has generated the bulk of predicted outcomes. Robust evidence on health impacts will need to be developed by long-term study of locations in which taxes have been implemented. Nevertheless, the initial studies in Mexico and Berkeley, California, combined with modeling studies and cost effectiveness analyses, suggest that taxing SSBs is an effective strategy

to reduce purchasing and consumption, and could lead to improved health outcomes and cost savings. The Council is not aware of evidence suggesting any health harms from taxes on SSBs, but does acknowledge that economic concerns exist. SSB taxes may disproportionately burden low-income individuals for whom food costs represent a greater proportion of their income.<sup>86</sup> Additionally, excise taxes must either be absorbed by distributors and retailers, or passed on to consumers; both impact the financial bottom line of the distributor and retailer, potentially resulting in lower wages or layoffs for employees.<sup>77</sup>

### *Improving Consumer Information*

Warning Labels. Warning labels have been utilized to inform consumers about the health hazards that may result from the consumption or use of a product. Warning labels on cigarette packages and alcohol products have been required in the United States under federal law for decades, though the content of the warnings for cigarette packages have changed over time. Several jurisdictions, including Baltimore, Maryland, and the states of California, Hawaii, New York, Vermont, and Washington have considered legislation to require warning labels on SSB packaging. Most of the proposed warning labels would include a variation of this text: “SAFETY WARNING: Drinking beverages with added sugar contributes to obesity, diabetes, and tooth decay.”

In 2015, San Francisco, California, became the first jurisdiction in the U.S. to require warning labels on advertisements for SSBs. The warning reads, “WARNING: Drinking beverages with added sugar(s) contributes to obesity, diabetes, and tooth decay. This is a message from the City and County of San Francisco.”<sup>87</sup> The ordinance defines “advertisement” as including any logo that identifies, promotes, or markets a SSB for sale or use that is any of the following: (a) on paper, poster, or a billboard; (b) in or on a stadium, arena, transit shelter, or any other structure; (c) in or on a bus, car, train, pedicab, or any other vehicle; or (d) on a wall, or any other surface or material.<sup>87</sup> The American Beverage Association, California Retailers Association, and the California State Outdoor Advertising Association filed suit against the city and county of San Francisco arguing that the ordinance violated their First Amendment rights by forcing them to include a warning that they would not otherwise give.<sup>88</sup> The court found that the warning required by the ordinance is “factual and accurate, and the City had a reasonable basis for requiring the warning given its interest in public health and safety,” and therefore denied the request for a preliminary injunction.<sup>88</sup> The city of Baltimore, Maryland, is considering legislation that would require businesses that sell or advertise sugar-sweetened sodas, energy drinks, sports drinks, juices, coffees and teas to post signs warning consumers that they contribute to tooth decay, obesity and diabetes.<sup>89</sup>

Several studies have been undertaken to determine the influence that SSB warning labels have on preferences and consumption. In surveys of adolescents and young adults, warning labels improved recognition of the sugar content of SSBs and significantly reduced reported probability of purchasing SSBs.<sup>90,91</sup> Graphic warning labels have a greater impact on purchase preferences than text labels.<sup>91</sup> Health warning labels on SSBs also appear to improve parents’ understanding of health harms associated with overconsumption of such beverages; parents are significantly less likely to purchase SSBs with warning labels compared to those with no warning labels or with calorie-only labels, and parents perceive SSBs with warning labels to be less healthy than those without.<sup>92</sup> Research from tobacco warning labels suggests that warning labels are most effective when the label covers more than 30 percent of the package and includes a picture.<sup>93</sup>

Packaging and Marketing. Packaging and branding that appeal to children have been shown to influence children’s taste preferences,<sup>94-96</sup> so plain packaging has been proposed as a strategy to reduce children’s interest in and consumption of SSBs. Evidence on the impact of plain packaging

on SSB preference is beginning to emerge. In a study of adolescents and young adults aged 13-24 years, plain packaging significantly reduced likelihood of purchasing SSBs even more so than warning labels and a 20 percent price increase.<sup>91</sup>

In 2010, beverage companies spent \$948 million in advertising for sugary drinks and energy drinks.<sup>97</sup> Since young children are unable to differentiate information from advertising, they are especially vulnerable to commercial advertising, leading to calls for the reduction or restriction of marketing unhealthy foods to children.<sup>67,98,99</sup> An Australian cost effectiveness study predicted that banning television advertisements for energy-dense, nutrient-poor foods and beverages during children's peak viewing time would result in cost-savings and health gains.<sup>100</sup> In response to concerns about industry advertising to children, the Council of Better Business Bureaus launched the Children's Food and Beverage Advertising Initiative in 2006, under which companies voluntarily agreed to reduce their advertising to children or focus on advertising healthier products.<sup>98</sup> Between 2003 and 2009, exposure to television advertisements of beverages decreased more than 40 percent.<sup>99,101,102</sup> Although television advertising of beverages to children has become less frequent, advertising efforts have shifted to websites, social media sites, and smart phone apps frequented by children, and use features that are intended to appeal to children, such as colorful images, animation, games, videos, and music.<sup>97,98</sup>

### *Physician Counseling*

Physicians play an important role in educating their patients about the harmful effects of SSBs and their contribution to obesity, and counseling them to reduce consumption. The U.S. Preventive Services Task Force recommends offering or referring adults who are overweight or obese and have additional cardiovascular disease risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity; healthy beverage choices are highlighted as a way to promote a healthful diet.<sup>103,104</sup> Similarly, the AAP recommends that physicians' health-promotion efforts be aimed at removing all sweetened beverages from the diets of children.<sup>105</sup> AHA guidelines provide recommendations for the upper limit of SSB intake.<sup>8,9</sup>

Physicians have the potential to strongly influence their patients' beverage choices. A recent survey of parents determined that a primary care physician's recommendation to limit the consumption of SSBs would be one of the strongest motivators for parents to limit their children's consumption.<sup>106</sup> More than 98 percent of respondents reported that they would be very likely or likely to follow SSB consumption advice from a physician, and 90 percent reported that they would prefer to receive information regarding their child's diet from physicians, as opposed to a health educator or a brochure (approximately 30 and 23 percent preference, respectively).<sup>106</sup> However, SSB consumption is not discussed by physicians as often as is recommended. Among respondents of the aforementioned survey, only approximately 60 percent reported that their pediatrician discussed SSB consumption during an office visit.<sup>106</sup> Additionally, physicians' personal characteristics impact the type of counseling they provide to their patients. Physicians who do not consume SSBs themselves are more likely to discuss SSB consumption with their patients than physicians who do consume SSBs,<sup>107</sup> and those who believe that SSBs are an important cause of obesity are more likely to counsel their obese patients to reduce consumption than those who place less importance on SSBs as a causal factor of obesity.<sup>108</sup>

### DISCUSSION AND CONCLUSIONS

SSB consumption has been strongly and consistently associated with increased body weight, as well as a number of related cardiometabolic conditions including type 2 diabetes and coronary



heart disease. Limiting consumption of SSBs is therefore likely to improve health outcomes, and a number of strategies have been proposed and/or implemented toward that end.

The most effective strategies for limiting purchasing and consumption of SSBs appear to be restricting access in schools and potentially other settings, taxing beverages with added sugars, including warning labels on packaging, and using plain packaging. Other strategies are promising, but lack effectiveness data or require systems changes. For example, controlling the portion sizes that can be purchased in some public venues may reduce consumption, but few data exist to make that conclusion. Similarly, broad agreement exists for the need to redesign agricultural subsidies to, at a minimum, provide incentives for farms to increase fruit and vegetable production, potentially increasing their availability and decreasing their prices compared to products made from currently subsidized crops. However, the subsidies system is complex, and significant changes to it are not likely to occur in the face of disagreements about how subsidies impact SSB consumption and health outcomes. Meaningful and long-term declines in SSB consumption will likely require a combination of strategies, including physician counseling of patients.

The Council supports the implementation of evidence-based strategies aimed at reducing the consumption of SSBs, including restricting purchases in schools, taxes on SSBs, plain packaging, and warning labels. The Council also encourages continued research into other strategies that appear to be promising in reducing SSB consumption, and encourages physicians to familiarize themselves with clinical practice guidelines on counseling about SSB intake and follow them as appropriate. At this time, evidence is insufficient to determine whether restricting access to non-calorically sweetened beverages improves health outcomes. Consequently, the Council encourages continued research into that topic. Current policy addresses a number of strategies that are intended to reduce SSB consumption, and the Council recommends updates to several of those policies to reflect current evidence about effective strategies.

## RECOMMENDATIONS

The Council on Science and Public Health recommends that the following statements be adopted in lieu of Resolution 417-A-16 and the remainder of this report be filed:

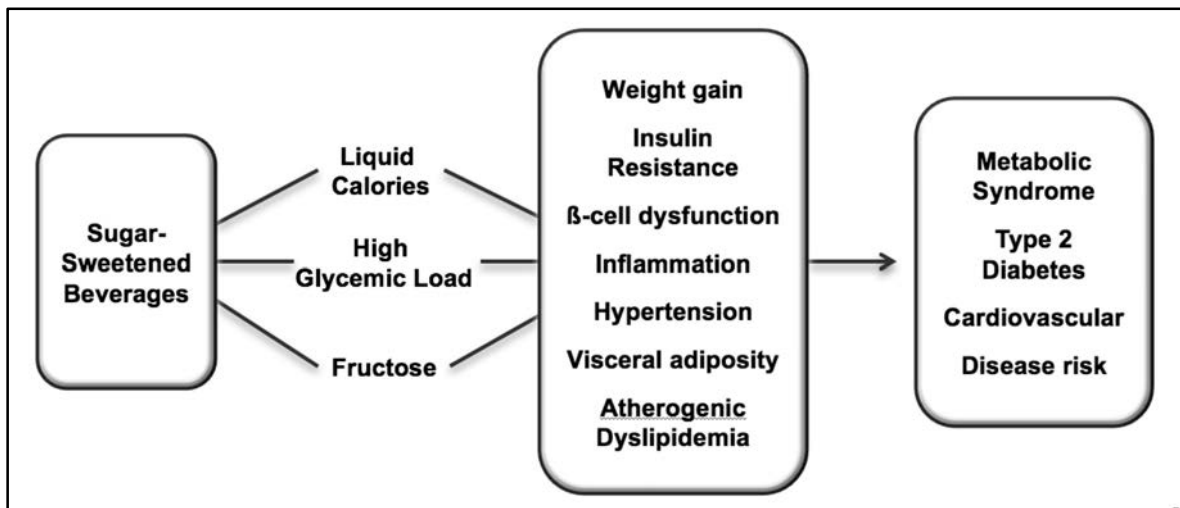
1. That our AMA acknowledge the adverse health impacts of sugar-sweetened beverage (SSB) consumption, and support evidence-based strategies to reduce the consumption of SSBs, including but not limited to, excise taxes on SSBs, removing options to purchase SSBs in primary and secondary schools, the use of warning labels to inform consumers about the health consequences of SSB consumption, and the use of plain packaging. (New HOD Policy)
2. That our AMA encourage continued research into strategies that may be effective in limiting SSB consumption, such as controlling portion sizes; limiting options to purchase or access SSBs in early childcare settings, workplaces, and public venues; restrictions on marketing SSBs to children; and changes to the agricultural subsidies system. (New HOD Policy)
3. That our AMA encourage hospitals and medical facilities to offer healthier beverages, such as water, unflavored milk, coffee, and unsweetened tea, for purchase in place of SSBs and apply calorie counts for beverages in vending machines to be visible next to the price. (New HOD Policy)

- 1       4. That our AMA encourage physicians to (a) counsel their patients about the health  
2       consequences of SSB consumption and replacing SSBs with healthier beverage choices, as  
3       recommended by professional society clinical guidelines; and (b) work with local school  
4       districts to promote healthy beverage choices for students. (New HOD Policy)  
5
- 6       5. That Policy H-150.933, "Taxes on Beverages with Added Sweeteners," which encourages  
7       consumer education about SSBs, encourages SSB tax revenues to be used for obesity  
8       prevention, and advocates for continued research into the potentially adverse effects of  
9       consumption of non-calorically sweetened beverages, be reaffirmed. (Reaffirm HOD  
10      Policy)  
11
- 12      6. That Policy H-150.960, "Improving Nutritional Value of Snack Foods Available in  
13      Primary and Secondary Schools," be amended by addition and deletion to read as follows:  
14      H-150.960, Improving Nutritional Value of Snack Foods Available in Primary and  
15      Secondary Schools  
16      The AMA supports the position that primary and secondary schools should follow federal  
17      nutrition standards that replace foods in vending machines and snack bars, ~~which that~~ are  
18      of low nutritional value and are high in fat, salt and/or sugar, including sugar-sweetened  
19      beverages, with healthier food and beverage choices ~~which that~~ contribute to the nutritional  
20      needs of the students. (Modify HOD Policy)  
21
- 22      7. That Policy H-150.944, "Combating Obesity and Health Disparities," be amended by  
23      addition and deletion to read as follows:  
24      H-150.944 Combating Obesity and Health Disparities  
25      Our AMA supports efforts to: (1) reduce health disparities by basing food assistance  
26      programs on the health needs of their constituents; (2) provide vegetables, fruits, legumes,  
27      grains, vegetarian foods, and healthful dairy and nondairy beverages in school lunches and  
28      food assistance programs; and (3) ensure that federal subsidies encourage the consumption  
29      of ~~products~~ foods and beverages low in fat, added sugars, and cholesterol. (Modify HOD  
30      Policy)

Fiscal note: Less than \$1000

Table 1. Terms used in the report.<sup>3</sup>

<b>Term</b>	<b>Definition</b>
Added Sugars	Refers to sugars and syrups put in foods during preparation or processing, or added at the table. May include caloric sweeteners like fructose, corn syrup, dextrose, honey, molasses, malt syrup, maple syrup, sucrose, and various nectars. Non-caloric sweeteners generally are not considered as “added sugars.”
Caloric/Nutritive Sweetener	Provide calories and sugars in the form of carbohydrates, and include natural sugars.
Non-caloric/Non-nutritive Sweetener	Sweetener products that have an intense sweetness, are generally used in very small amounts, and have zero or a very negligible amount of calories. May include aspartame, sucralose, saccharin, stevia, or monk fruit, all of which are FDA approved.
Sugar-Sweetened Beverage	Refer to non-alcoholic beverages with added sugar or other caloric sweeteners. These include soda, fruit punch, lemonade, sweetened powdered drinks, sports and energy drinks, and sweetened teas and coffees.

Figure 1. Summary of adverse health impacts of SSB consumption.<sup>19</sup>

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Appendix. Current policies addressing obesity and SSBs.

D-150.975 Eligibility of Sugar-Sweetened Beverages for SNAP

Our AMA will: (1) publish an educational brief to educate physicians about the effects of sugar-sweetened beverages (SSBs) on obesity and overall health, and encourage them to educate their patients in turn, (2) encourage state health agencies to include educational materials about nutrition and healthy food and beverage choices in routine materials that are currently sent to Supplemental Nutrition Assistance Program (SNAP) recipients along with the revised eligible foods and beverages guidelines, and (3) work to remove SSBs from SNAP. Res. 238, A-13; Reaffirmation A-14.

D-150.987 Addition of Alternatives to Soft Drinks in Schools

Our AMA will seek to promote the consumption and availability of nutritious beverages as a healthy alternative to high-calorie, low nutritional-content beverages (such as carbonated sodas and sugar-added juices) in schools. Res. 413, A-05 Reaffirmation, A-07 Reaffirmation A-12, Reaffirmation A-13.

H-150.960 Improving Nutritional Value of Snack Foods Available in Primary and Secondary Schools

The AMA supports the position that primary and secondary schools should replace foods in vending machines and snack bars, which are of low nutritional value and are high in fat, salt and/or sugar, with healthier food choices which contribute to the nutritional needs of the students. Res. 405, A-94 Reaffirmation, A-04 Reaffirmed in lieu of Res. 407, A-04, Reaffirmed: CSA Rep. 6, A-04, Reaffirmation A-07, Reaffirmation A-13.

D-150.974 Support for Nutrition Label Revision and FDA Review of Added Sugars

1. Our AMA will issue a statement of support for the newly proposed nutrition labeling by the Food and Drug Administration (FDA) during the public comment period. 2. Our AMA will recommend that the FDA further establish a recommended daily value (%DV) for the new added sugars listing on the revised nutrition labels based on previous recommendations from the WHO and AHA). 3. Our AMA will encourage further research into studies of sugars as addictive through epidemiological, observational, and clinical studies in humans. Res. 422, A-14

H-150.944 Combating Obesity and Health Disparities

Our AMA supports efforts to: (1) reduce health disparities by basing food assistance programs on the health needs of their constituents; (2) provide vegetables, fruits, legumes, grains, vegetarian foods, and healthful nondairy beverages in school lunches and food assistance programs; and (3) ensure that federal subsidies encourage the consumption of products low in fat and cholesterol. Res. 413, A-07, Reaffirmation A-12, Reaffirmation A-13.

D-150.978 Sustainable Food

Our AMA: (1) supports practices and policies in medical schools, hospitals, and other health care facilities that support and model a healthy and ecologically sustainable food system, which provides food and beverages of naturally high nutritional quality; (2) encourages the development of a healthier food system through tax incentive programs, community-level initiatives and federal legislation; and (3) will consider working with other health care and public health organizations to educate the health care community and the public about the importance of healthy and ecologically sustainable food systems. CSAPH Rep. 8, A-09, Reaffirmed in lieu of Res. 411, A-11, Reaffirmation A-12, Reaffirmed in lieu of Res. 205, A-12, Modified: Res. 204, A-13, Reaffirmation A-15.

#### H-150.933 Taxes on Beverages with Added Sweeteners

1. Our AMA recognizes the complexity of factors contributing to the obesity epidemic and the need for a multifaceted approach to reduce the prevalence of obesity and improve public health. A key component of such a multifaceted approach is improved consumer education on the adverse health effects of excessive consumption of beverages containing added sweeteners. Taxes on beverages with added sweeteners are one means by which consumer education campaigns and other obesity-related programs could be financed in a stepwise approach to addressing the obesity epidemic. 2. Where taxes on beverages with added sweeteners are implemented, the revenue should be used primarily for programs to prevent and/or treat obesity and related conditions, such as educational ad campaigns and improved access to potable drinking water, particularly in schools and communities disproportionately affected by obesity and related conditions, as well as on research into population health outcomes that may be affected by such taxes. 3. Our AMA will advocate for continued research into the potentially adverse effects of long-term consumption of non-caloric sweeteners in beverages, particularly in children and adolescents. CSAPH Rep. 5, A-12, Reaffirmation A-13.

#### D-440.954 Addressing Obesity

1. Our AMA will: (a) assume a leadership role in collaborating with other interested organizations, including national medical specialty societies, the American Public Health Association, the Center for Science in the Public Interest, and the AMA Alliance, to discuss ways to finance a comprehensive national program for the study, prevention, and treatment of obesity, as well as public health and medical programs that serve vulnerable populations; (b) encourage state medical societies to collaborate with interested state and local organizations to discuss ways to finance a comprehensive program for the study, prevention, and treatment of obesity, as well as public health and medical programs that serve vulnerable populations; and (c) continue to monitor and support state and national policies and regulations that encourage healthy lifestyles and promote obesity prevention. 2. Our AMA, consistent with H-440.842, Recognition of Obesity as a Disease, will work with national specialty and state medical societies to advocate for patient access to and physician payment for the full continuum of evidence-based obesity treatment modalities (such as behavioral, pharmaceutical, psychosocial, nutritional, and surgical interventions). BOT Rep. 11, I-06, Reaffirmation A-13, Appended: Sub. Res. 111, A-14, Modified: Sub. Res. 811, I-14.

#### H-440.902 Obesity as a Major Health Concern

The AMA: (1) recognizes obesity in children and adults as a major public health problem; (2) will study the medical, psychological and socioeconomic issues associated with obesity, including reimbursement for evaluation and management of obese patients; (3) will work with other professional medical organizations, and other public and private organizations to develop evidence-based recommendations regarding education, prevention, and treatment of obesity; (4) recognizes that racial and ethnic disparities exist in the prevalence of obesity and diet-related diseases such as coronary heart disease, cancer, stroke, and diabetes and recommends that physicians use culturally responsive care to improve the treatment and management of obesity and diet-related diseases in minority populations; and (5) supports the use of cultural and socioeconomic considerations in all nutritional and dietary research and guidelines in order to treat overweight and obese patients. Res. 423, A-98, Reaffirmed and Appended: BOT Rep. 6, A-04, Reaffirmation A-10, Reaffirmed in lieu of Res. 434, A-12, Reaffirmation A-13.

#### H-150.937 Improvements to Supplemental Nutrition Programs

Our AMA supports: (1) improvements to the Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) that are designed to promote adequate nutrient intake and reduce food insecurity and obesity; (2) efforts to decrease the price gap between calorie-dense, nutrition-poor foods and naturally nutrition-dense

foods to improve health in economically disadvantaged populations by encouraging the expansion, through increased funds and increased enrollment, of existing programs that seek to improve nutrition and reduce obesity, such as the Farmer's Market Nutrition Program as a part of the Women, Infants, and Children program; and (3) the novel application of the Farmer's Market Nutrition Program to existing programs such as the Supplemental Nutrition Assistance Program (SNAP), and apply program models that incentivize the consumption of naturally nutrition-dense foods in wider food distribution venues than solely farmer's markets as part of the Women, Infants, and Children program. Res. 414, A-10, Reaffirmation A-12, Reaffirmation A-13, Appended: CSAPH Rep. 1, I-13, Reaffirmation A-14, Reaffirmation I-14, Reaffirmation A-15.

#### H-170.961 Prevention of Obesity Through Instruction in Public Schools

Our AMA will urge appropriate agencies to support legislation that would require meaningful yearly instruction in nutrition, including instruction in the causes, consequences, and prevention of obesity, in grades 1 through 12 in public schools and will encourage physicians to volunteer their time to assist with such an effort. Res. 426, A-12.

#### H-150.953 Obesity as a Major Public Health Problem

Our AMA will: (1) urge physicians as well as managed care organizations and other third party payers to recognize obesity as a complex disorder involving appetite regulation and energy metabolism that is associated with a variety of comorbid conditions; (2) work with appropriate federal agencies, medical specialty societies, and public health organizations to educate physicians about the prevention and management of overweight and obesity in children and adults, including education in basic principles and practices of physical activity and nutrition counseling; such training should be included in undergraduate and graduate medical education and through accredited continuing medical education programs; (3) urge federal support of research to determine: (a) the causes and mechanisms of overweight and obesity, including biological, social, and epidemiological influences on weight gain, weight loss, and weight maintenance; (b) the long-term safety and efficacy of voluntary weight maintenance and weight loss practices and therapies, including surgery; (c) effective interventions to prevent obesity in children and adults; and (d) the effectiveness of weight loss counseling by physicians; (4) encourage national efforts to educate the public about the health risks of being overweight and obese and provide information about how to achieve and maintain a preferred healthy weight; (5) urge physicians to assess their patients for overweight and obesity during routine medical examinations and discuss with at-risk patients the health consequences of further weight gain; if treatment is indicated, physicians should encourage and facilitate weight maintenance or reduction efforts in their patients or refer them to a physician with special interest and expertise in the clinical management of obesity; (6) urge all physicians and patients to maintain a desired weight and prevent inappropriate weight gain; (7) encourage physicians to become knowledgeable of community resources and referral services that can assist with the management of overweight and obese patients; and (8) urge the appropriate federal agencies to work with organized medicine and the health insurance industry to develop coding and payment mechanisms for the evaluation and management of obesity. CSA Rep. 6, A-99, Reaffirmation A-09, Reaffirmed: CSAPH Rep. 1, A-09, Reaffirmation A-10, Reaffirmation I-10, Reaffirmation A-12, Reaffirmed in lieu of Res. 434, A-12, Reaffirmation A-13, Reaffirmed: CSAPH Rep. 3, A-13.

#### D-440.980 Recognizing and Taking Action in Response to the Obesity Crisis

Our AMA will: (1) collaborate with appropriate agencies and organizations to commission a multidisciplinary task force to review the public health impact of obesity and recommend measures to better recognize and treat obesity as a chronic disease; (2) actively pursue, in collaboration and coordination with programs and activities of appropriate agencies and organizations, the creation of a "National Obesity Awareness Month"; (3) strongly encourage through a media campaign the re-

establishment of meaningful physical education programs in primary and secondary education as well as family-oriented education programs on obesity prevention; (4) promote the inclusion of education on obesity prevention and the medical complications of obesity in medical school and appropriate residency curricula; and (5) encourage medical schools' accrediting bodies to study and report back on the current state of obesity education in medical schools, and through this report, identify organizations that currently provide educational resources/toolkits regarding obesity education for physicians in training and, in consultation with relevant specialty organizations and stakeholders, identify gaps in obesity education in medical schools and submit recommendations for addressing those gaps. Res. 405, A-03, Reaffirmation A-04, Reaffirmation A-07, Appended: Sub. Res. 315, A-15.

H-150.932 Reform the US Farm Bill to Improve US Public Health and Food Sustainability  
Our AMA supports the creation of a new advisory board to review and recommend US Farm Bill budget allocations to ensure any government subsidies are only used to help produce healthy food choices and sustainable foods, and that advisory committee members include physicians, public health officials and other public health stakeholders. Res. 215, A-13.

D-150.981 The Health Effects of High Fructose Syrup  
Our AMA:(1) recognizes that at the present time, insufficient evidence exists to specifically restrict use of high fructose corn syrup (HFCS) or other fructose-containing sweeteners in the food supply or to require the use of warning labels on products containing HFCS; (2) encourages independent research (including epidemiological studies) on the health effects of HFCS and other sweeteners, and evaluation of the mechanism of action and relationship between fructose dose and response; and (3) in concert with the Dietary Guidelines for Americans, recommends that consumers limit the amount of added caloric sweeteners in their diet. CSAPH Rep. 3, A-08, Reaffirmation A-13.