

Salud America!

The Robert Wood Johnson Foundation Research Network to Prevent Obesity Among Latino Children

Bridging the Gap

Research Informing Policies & Practices for Healthy Youth



RESEARCH REVIEW

September 2013

Sugar-Sweetened Beverage Consumption by Latino Youths and the Impact of Pricing

Abstract

The consumption of sugar-sweetened beverages (SSBs) has increased markedly over the past several decades. Currently, SSBs, including soft drinks, sports drinks, fruit-flavored drinks, and other caloric but non-nutritious beverages, represent almost half of the added sugar consumed each day by the U.S. population. Latino youths' consumption of SSBs is higher than the overall average, which contributes to increased rates of obesity, diabetes, and other health issues that disproportionately affect the Latino community. In response, pricing interventions, including SSB taxes, exclusion of SSBs from food assistance programs, and subsidization of healthier beverages have been proposed to reduce SSB consumption. Among these, SSB taxes

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For more information about *Salud America!*, visit www.salud-america.org, or Bridging the Gap, visit www.bridgingthegapresearch.org.

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Bridging the Gap is a nationally recognized research program of the Robert Wood Johnson Foundation dedicated to improving the understanding of how policies and environmental factors influence diet, physical activity and obesity among youth, as well as youth tobacco use.

have been proposed in several jurisdictions, with many earmarking the new revenues for obesity-prevention and other health-promotion efforts.

This comprehensive research review examines available evidence on the impact of taxes and prices on the consumption of SSBs and assesses the potential impact on childhood obesity among Latino youths.

Introduction

Americans consume a lot of sugar in the form of sugar-sweetened beverages (SSBs), including carbonated soda, sports and energy drinks, fruit juices and fruit drinks that contain less than 100 percent juice, and flavored milk. Young Americans—including young Latinos—drink far more of these beverages than they did a few decades ago.¹

In seeking ways to curb consumption and reduce obesity, questions have arisen about: what type of tax on SSBs, such as an excise tax or sales tax, would have greatest impact (see Table 1 for types of SSB taxes); where the tax would be levied; how large the tax would have to be to reduce consumption by sufficient levels to affect weight; the effect of reduced consumption on body mass index (BMI) and overall health; and any differential effects on consumption and/or weight among youths, particularly Latino and other minority youths.

Table 1
Types of SSB Taxes

Excise tax (specific and <i>ad valorem</i>)	An excise tax is a tax on a specific good or service ² and can be either a specific excise tax (based on quantity; for example a gallon of gasoline or a pack of cigarettes) or an <i>ad valorem</i> excise tax (based on the value or price of the item sold). Excise taxes are typically levied on producers or wholesalers, who pass on the cost to retailers and ultimately to consumers. Excise taxes are typically included in the shelf-price faced by consumers.
Tax	A sales tax is based on price and levied on consumers at the point of purchase. Sales taxes are generally not included in the shelf-price seen by consumers, but are instead added at the checkout.

This research review examines:

- Current SSB consumption patterns in the general population and among Latino children in particular.
- Evidence on the link between SSB consumption, obesity, and health.

- The types of taxes currently applied to SSBs, most notably sales taxes, which average just over 5 percent on carbonated soft drinks in the 34 states and Washington, D.C. that impose such taxes, up to a maximum of 7 percent.
- Studies that project the impact of larger taxes, such as proposals of a penny-per-ounce excise tax on SSBs. Projections about the effect of the tax vary and depend on the amount of the tax, what beverages it would be applied to, and how much substitution to other caloric food and beverages might take place. Most research concludes that some beneficial impact, albeit of varying degrees, would result from a tax that is higher than current sales tax rates.

In one national survey of knowledge, attitudes and behaviors related to taxing SSBs,³ more than one-third said they would support a tax, including 31.6 percent of Hispanic respondents, and more than one-third said they would cut back on consumption in response to a 20 percent tax on SSBs. Respondents with more education and income were more likely to support the tax.

One study projects that a tax that increases SSB prices by 40 percent would result in an increase of \$30 per year in a household's food expenditures. However, the authors pointed to the health benefits of the tax, noting that lower-income consumers who bear a greater share of the burden associated with obesity, cardiovascular disease, and diabetes would likely reduce consumption by more in response to the tax and, as a result, see greater health benefits. Moreover, researchers concluded that reductions in health care spending and/or spending of the new tax revenues on health and other programs targeting lower-income families can result in a net positive financial impact.⁴

The beverage industry has consistently opposed SSB taxes. Since 2009, dozens of jurisdictions have proposed legislation to levy significant SSB taxes, but to date, no such legislation has been adopted.⁵ Ballot measures to institute local excise taxes in two ethnically diverse communities in California were overwhelmingly defeated in November 2012. The American Beverage Association spent about \$4 million in its efforts to defeat these two ballot initiatives.^{6,7}

Methodology

Salud America! researchers conducted an initial literature search in PubMed, GoogleScholar, and Google using combinations of keywords that included "sugar sweetened beverages" AND "Latino," "Hispanic," "youth," and "adolescents." Further searching targeted economic aspects, by using terms such as "financial incentives" or "pricing" AND "sugar-sweetened beverages." Additional documents related to current events and policies were found using the term "soda tax." A further search was made using "pricing" AND "healthy beverages."

The initial search resulted in approximately 35 peer-reviewed papers and other articles. Researchers also examined reports from the Institute of Medicine and the Economic Research Service of the U.S. Department of Agriculture. References in all articles reviewed led to a search for additional specific papers. Researchers also

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incorporated studies identified as part of a recent systematic review of research on food and beverage pricing conducted between January 2007 and March 2012, which included searches from the above databases and others.⁸ This approach produced a comprehensive review of existing evidence on the impact of SSB taxes and prices on SSB consumption and obesity.

Key Research Results

- SSBs—soda, energy drinks, sports drinks, fruit drinks, and other beverages with added caloric sweeteners—provide a significant portion of the calories Americans consume each day.
- Minority youths, including Latinos, drink more SSBs than their non-Latino White peers.
- Greater consumption of SSBs contributes to higher body weight and related health problems, such as diabetes and liver issues, that disproportionately affect Latino youths.
- Individuals with lower socioeconomic status and U.S. immigrants with a higher degree of acculturation are more likely to consume more SSBs.
- The Latino population, including youth, is highly exposed to beverage company marketing efforts.
- Most states currently impose small sales or other taxes on carbonated soft drinks as a way to raise revenue, not explicitly to discourage consumption of such drinks or to prevent obesity.
- Increasing the prices of SSBs reduces SSB consumption.
- Some studies conclude that sizable SSB taxes would significantly reduce SSB consumption and, ultimately, the prevalence of obesity.

During 1988-1991, Hispanic children consumed about 71 calories per day from fruit drinks and soda; during 2007-2008, they consumed 111 calories from fruit drinks and soda, on average.

Studies Supporting Key Research Results

SSBs—soda, energy drinks, sports drinks, fruit drinks, and other beverages with added caloric sweeteners—provide a significant portion of the calories Americans consume each day.

Soda, energy drinks, and sports drinks rank third for children and adolescents ages 2-18 and fourth for adults⁹ as a source of calories consumed during the course of the day, but are of little or no nutritional value. These beverages, along with sweetened fruit drinks, represent nearly half of the added sugar consumed by the U.S. population (36 percent for soda, energy and sports drinks; 10 percent for sugar-sweetened fruit drinks; and 3.5 percent for ready-to-drink tea),¹⁰ and they are Americans' top source of liquid calories, based on an analysis of National Health and Nutrition Examination Survey (NHANES) data.¹¹ Research indicates that calories from beverages are not as satiating as calories from solid foods.¹²

On average, a 12-ounce SSB serving contains 140 to 150 calories and 35 to 37.5 grams of sugar,¹³ although portion sizes often exceed 12 ounces. Vending machines, fast-food restaurants, and convenience stores frequently offer 20 ounces or more as a

standard serving size, and larger servings are often sold at little or no additional cost.¹⁴

One study found that Hispanic children ages 6-11 increased consumption of SSBs between 1988-1991 and 2007-2008. During 1988-1991, Hispanic children consumed about 71 calories per day from fruit drinks and soda; during 2007-2008, they consumed 111 calories from fruit drinks and soda, on average. During that same period, Hispanic children also increased their consumption of high-fat, high-sugar milk, from an average of 39 calories a day to 75 calories a day.¹⁵ This study, using NHANES data, also found that much of the increase in SSB consumption was accounted for by increased consumption of sports drinks, sweetened juices, and sugar-sweetened whole milk, all of which can have as many calories and as much sugar as soda.

In almost all studies, calories from liquids are associated with higher overall total consumption because the body does not register liquid calories the same way it registers calories from solid food.¹⁶ However, one review had caveats related to the research design of some of the studies (although not necessarily the conclusions),¹⁷ and another questioned the hypothesis that calorie-containing liquids are less satiating and that their sugar content affects body weight differently than solid foods.¹⁸ Additionally, one study using NHANES data concluded that intake of added sugars has been declining in the United States over the past decade-plus.¹⁹

Minority youths, including Latinos, drink more SSBs than their non-Latino White peers.

By age 2, Latino children have higher SSB intake than non-Latino White children (though less than African American children)—74 percent have consumed some SSBs by age 2, compared with 82 percent of African American children and 45 percent of non-Hispanic Whites, according to one study based on data from Project Viva. The authors concluded that this, along with other factors in the prenatal, infant, and early childhood periods, may set these young children on path to obesity over their life span.²⁰

In originally collected data from a study of children in grades 4-6 in Houston parochial schools, Mexican American students reported higher sweetened beverage consumption (12.0 ounces daily of soft drinks and fruit-flavored drinks) than European American (8.0 ounces), African American (11.6 ounces), and Asian American (8.2 ounces) children.²¹ This study also showed that lower parental education was associated with higher consumption of SSBs for all groups.

Nationwide, two-thirds of high-school students drank at least one SSB daily, and 22 percent drink three or more, based on data from the 2010 National Youth Physical Activity and Nutrition Study (NYPANS), with Latinos and African American teens more likely to consume more heavily.²² This study found that 37 percent of African American and 21.7 percent of Hispanic high-school students drank three or more SSBs daily, compared with 19.6 percent and 16.4 percent of White, non-Hispanic

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and other/multi-racial, non-Hispanic students. The breakdown of SSB consumption among categories was as follows: regular soda, 35.3 percent; sports drinks, 27.6 percent; energy drinks, 10.1 percent; and other SSBs, 27 percent. Latinos reported slightly less soda consumption and more sports and energy drink consumption than the overall respondents, pointing to the fact that just aiming reduction efforts at soda is insufficient.²³ In these data, as analyzed by the Centers for Disease Control and Prevention, Hispanic high-school students reported the following beverage use at least daily in the previous seven days: soda or pop, 22.8 percent, sports drinks, 17.5 percent, other SSBs, 16.1 percent, and energy drinks, 6.7 percent, compared to 27.4 percent, 13.5 percent, 15.5 percent, and 3.3 percent, respectively, for White non-Hispanic students.²⁴

Over the past several decades, SSB consumption increased among all adolescents, especially among Mexican Americans. Based on NHANES data, “other Hispanic” (non-Mexican) and non-Hispanic white youths consumed more SSBs than other racial groups in 1988-1991. By 2003-2004, all groups had increased their consumption, and the groups that had consumed less, including Mexican Americans, had caught up.²⁵ This analysis found that in 1988-1991, Mexican Americans consumed approximately 17 ounces of SSBs daily, and other Hispanics approximately 28 ounces. By 2003-2004, usage rose among all groups, with Mexican Americans and other Hispanics consuming 24 ounces per day. Both female and male Mexican Americans increased consumption from 1988 to 2004.

Greater consumption of SSBs contributes to higher body weight and related health problems, such as diabetes and liver issues, that disproportionately affect Latino youths.

Those who consume a greater amount of SSBs tend to have higher body weight than those who drink less,²⁶ with more likelihood of metabolic disturbances, such as diabetes,²⁷ dental caries (tooth decay or a cavity),²⁸ and other health issues. A systematic review of 30 studies associated SSB intake, especially of carbonated soft drinks, with risk of weight gain.²⁹ Similarly, a meta-analysis of 88 studies found a clear association between soft drink consumption and weight.³⁰ Recent studies have more clearly demonstrated the causal role of SSB consumption. For example, one recent prospective study of an intervention to reduce SSB consumption among adolescents found that BMI increase was smaller one year later in the intervention group than in the control group.³¹ Consumption of SSBs in youth can point to a lifetime of weight-related health problems—the odds of adult obesity increase by 60 percent for each additional SSB serving per day.³²

Latino youths are more likely to be overweight than the overall average, and obesity for this population has increased by 120 percent over the past 20 years.³³ These differences are observed at very young ages, with one study finding that Hispanic 3-year-olds were twice as likely as Black or White 3-year-olds to be overweight or obese.³⁴

Type 2 diabetes is more prevalent among adult Latinos than non-Latino Whites, especially for Puerto Rican and Mexican American subgroups, according to data compiled by the National Diabetes Information Clearinghouse.³⁵ A study focusing on overweight Latino youths with a family history of type 2 diabetes found they are at increased risk for cardiovascular disease and type 2 diabetes due to decreased insulin sensitivity. Moreover, 90 percent of the children studied had at least one risk factor for of metabolic syndrome (a combination of factors that multiply a person's risk for heart disease, diabetes and stroke), and 30 percent had metabolic syndrome.³⁶

One study reported that Hispanics are more susceptible to a variant of the *PNPLA3* gene (49 percent of Hispanics, versus 23 percent of Whites and 17 percent of African Americans), which is associated with increased hepatic fat.³⁷ Hepatic fat, in turn, can lead to cirrhosis and other liver diseases, cardiovascular diseases, and diabetes. The study found nearly four of 10 obese Hispanic children have nonalcoholic fatty liver disease. High dietary carbohydrate intake, especially sugar, increases hepatic fat; furthermore, high-fructose corn syrup, the primary sweetener in most caloric sugary drinks, is almost completely metabolized in the liver.³⁸ One study indicated that it is total sugar intake, rather than glycemic index or glycemic load, that is associated with higher adiposity measures, lower insulin sensitivity, and lower measures of insulin secretion in overweight Latino youths, but even modest reductions in sugar intake could have a large effect in reducing obesity and type 2 diabetes risk factors in these youths.³⁹

Individuals with lower socioeconomic status and U.S. immigrants with a higher degree of acculturation are more likely to consume more SSBs.

In a study in New York City, frequent soda consumption was more common among U.S.-born Puerto Ricans, Mexican/Mexican-Americans, and blacks, and individuals with less education and lower household incomes, mirroring disparities in obesity and other chronic diseases.⁴⁰ Although focused on adults, this study, unlike most, segmented for different Hispanic origin (e.g., Puerto Rican, Dominican, Mexican/Mexican-American, and “other”), as well as for U.S. born and non-U.S. born. The authors concluded that the fact that the income-to-poverty ratio, educational attainment, and race/ethnicity/birthplace were all independent predictors of soda consumption suggest that economic resources, health literacy, and culture all play a role.

While the level of Latinos' acculturation—defined as a “process in which members of one cultural group adopt the beliefs and behaviors of another group”⁴¹—shows mixed results in terms of the effect on physical activity and the consumption of dietary fat and less healthful foods, the findings about sugar consumption are consistent: Reviews of multiple studies concluded that more acculturated Latinos consume more sugar^{42, 43} than less acculturated Latinos. Another study showed that more acculturated Hispanic middle-school youths are more likely to frequent fast-food restaurants, leading the researchers to conclude that acculturation is a risk factor for some obesity-related behaviors.⁴⁴

One analysis shows that SSB consumption among Mexican adolescents more than doubled in less than a decade, from an average of 100 calories daily in 1999 to 225 calories daily in 2006.

The effect of acculturation on SSB consumption may change over time, at least for those of Mexican origin—but that is because Mexicans who are just coming to the United States may already consume more, given that Mexico’s per capita sugary drink consumption is the highest in the world.⁴⁵ One analysis shows that SSB consumption among Mexican adolescents more than doubled in less than a decade, from an average of 100 calories daily in 1999 to 225 calories daily in 2006.⁴⁶

The Latino population, including youth, is highly exposed to beverage company marketing efforts.

The Federal Trade Commission estimated that 48 major food and beverage companies spent a total of \$1.79 billion in 2009 to market their products to youths. While total spending was down by nearly 20 percent from 2006 to 2009, spending on new media (including online, mobile and viral marketing) rose by 50 percent, to \$122.5 million, during this period.⁴⁷ One recent report concluded that minority youths are heavier consumers of new media than are White youths, with Hispanic youths spending more than twice as much time using new media than White youths.⁴⁸

Another recent report concluded that beverage companies alone spent \$948 million in 2010 to advertise SSBs in traditional media.⁴⁹ One study found that exposure to televised beverage advertising for children ages 2-5 and 6-11 fell by more than 40 percent between 2003 and 2009, and that fewer than two-thirds of the beverage ads seen by children were for products that were high in sugar.⁵⁰

In one study of sixth- and seventh-graders in Santa Barbara County, Calif., TV viewing and soft drink consumption were associated with obesity, and Latino students watched more TV each evening (2.4 hours per night) and drank more soft drinks (1.6 per day) than non-Hispanic White (1.3 hours and 1.1 drinks per day) or Asian (1.3 hours and 0.7 drinks per day) students.⁵¹

Latino youths ages 8-18 are more exposed to the media than White youth. Total media exposure—including TV, music, computers, and video games and use of multiple media at the same time—averaged 13 hours per day for Latino youth, with TV use alone accounting for more than five hours daily.⁵²

Businesses are recognizing the purchasing power of the U.S. Hispanic population. One market research report, for example, summarizes its key finding as follows: “Both the number of Hispanics in the United States and their purchasing power are growing rapidly. With 51 million people in 2011, and purchasing power projected to reach more than \$1.48 trillion by 2015, Hispanics are a key consumer group for non-alcoholic beverage companies to court.”⁵³

According to one analysis of Nielsen data, Hispanic preschoolers, children and teenagers saw 33, 49 and 99 percent more advertising, respectively, for sugary drinks and energy drinks on Spanish-language television in 2010 than they did in 2008. SSB commercials and marketing initiatives often use soccer athletes, Latino music

celebrities, and other culturally nuanced aspects that appeal to young Latinos.⁵⁴ One observational study conducted in Austin, Los Angeles, New York City, and Philadelphia found that low-income Latino neighborhoods had up to nine times the density of outdoor advertising of sugary beverages, fast food, and other high-calorie/low-nutrient products.⁵⁵

For a full *Salud America!* research review on marketing and Latino children, go [here](#).

Most states currently impose small sales or other taxes on carbonated soft drinks as a way to raise revenue, not explicitly to discourage consumption of such drinks or to prevent obesity.

As of January 1, 2013, 34 states and Washington, D.C., taxed carbonated sodas (including both sugar-sweetened and diet sodas) sold in food stores, and 40 taxed sodas sold in vending machines. Looking at the states that taxed sodas, most have a higher tax on soda than the tax that they apply to food generally, although the difference in amount is small. The average tax rate on soda was 5.17 percent among states that do tax.⁵⁶ Fewer states tax other beverages; 31 apply sales taxes to sports drinks and other isotonic beverages, 30 to less-than-50-percent fruit juice, and fewer to other beverages. Seven states impose other taxes or fees on ingredients used to formulate these beverages, such as on syrups, or bottles. No state currently differentiates SSBs from low- or no-calorie alternatives (e.g., regular and diet soda).

More than a decade ago, proponents advocated for a national “small” soft drink tax of about 1 cent per 12 ounces (as well as 1 cent per pound of candy, chips, and similar foods) to fund nutrition and physical activity programs, which they believed would be politically feasible and provide some health benefits.⁵⁷ Recent estimates suggest that larger SSB taxes would generate considerable new revenues. For example, one study estimated that a national one-cent-per-ounce tax on SSBs in 2010 would have generated revenues of \$13.2 billion, while a comparable tax on all soft drinks would have generated \$19.6 billion.⁵⁸ Independent of their impact on obesity, several experts have noted that earmarking SSB tax revenues for obesity-prevention and -reduction efforts would improve weight outcomes.⁵⁹

Increasing the prices of SSBs reduces SSB consumption.

Research shows that soft drink consumption is responsive to changes in soft drink prices. One recent systematic review concluded that a 10 percent increase in soft drink prices would lead to a 7.9 percent reduction in soft drink consumption.⁶⁰

More recently, a systematic review of studies published from January 2007 through March 2012 concluded that a 10 percent price increase for SSBs only would lead to an even larger—12 percent—reduction in SSB consumption, as some consumers would switch to diet and other lower-calorie options. Price increases on more narrowly defined categories of SSBs (e.g., regular carbonated soda) would lead to larger reductions in consumption in these categories.⁶¹

Research suggests that taxes on SSBs will have a greater impact on SSB consumption than taxes on all beverages, given the substitution to low-or-no-calorie options that would result from an SSB-only tax. Specific excise taxes on SSBs (e.g., per ounce or per gram of added sugar) are likely to have a greater impact on consumption than sales taxes or *ad valorem* excise taxes. Excise taxes are more readily apparent to consumers given that they are included in shelf-prices, in contrast to sales taxes that are applied at checkout, after purchase decisions have been made. Per-unit excise taxes, rather than those based on price, are more effective in raising average prices. This is particularly true when volume discounts exist, because these taxes reduce incentives to switch to larger-volume, cheaper alternatives that may provide a cue to consume greater quantities.^{62,63}

Some studies conclude that sizable SSB taxes would significantly reduce SSB consumption and, ultimately, the prevalence of obesity.

One study used carbonated beverage prices to look at the impact of beverage prices on children's weight, using the Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K) data. This study found that higher beverage prices were associated with lower BMI as children aged from kindergarten through eighth grade. In addition, estimates showed that the effects of beverage prices were greater for Hispanic and White children, compared with black children, and greater for near-poor children, compared with poor and non-poor children.⁶⁴ Other studies also have found greater impact in low-socioeconomic status and/or minority populations, at younger ages, and for individuals at a higher weight.⁶⁵

Existing research based on small state sales taxes on soda provides mixed evidence on the effectiveness of SSB taxes in reducing obesity. Some studies found that the small sales taxes have a small impact on BMI or the prevalence of obesity, at least in some populations. One recent study of adults, using data from the Behavioral Risk Factor Surveillance System, found small, statistically significant associations between state sales taxes on soda and weight, with larger effects on BMI, obesity, and overweight among Hispanic adults than among White or black adults.⁶⁶ Another study, focused on children and using data from ELS-K surveys, found that higher state sales taxes on sodas were associated with lower weight gain, particularly among children who already were overweight.⁶⁷

Other recent studies found no impact of existing small soda taxes on BMI or obesity prevalence. One study using data on children and adolescents from the National Health and Nutrition Examination Surveys found that, while existing state sales taxes on soda did reduce soda consumption, the reduction in calories from soda was offset by increases in calories from other caloric beverages. The authors concluded that this substitution explains the lack of impact of the existing taxes on BMI and obesity prevalence.⁶⁸ Another study that looked at consumption of salty snacks and other unhealthy foods in addition to soft drinks found that substitution to these products offset reductions in calories from SSBs.⁶⁹

One study projected that a penny-per-ounce tax (which is about a 20 percent increase in price if fully passed on to consumers) would translate to a 24 percent decrease in SSB consumption, a reduction in current consumption from 190-200 calories per day to 145-150 calories, with projected annual revenues of \$79 billion from 2010-2015.

In several studies that found little or no impact of existing, small sales taxes on weight outcomes, the authors noted that their estimates suggest that more sizable taxes would have significant effects on weight outcomes at the population level. Several studies have used the estimates from research on the effects of beverage taxes and prices on beverage consumption and weight outcomes to simulate the impact of larger beverage taxes. One such study projected that a penny-per-ounce tax (which is about a 20 percent increase in price if fully passed on to consumers) would translate to a 24 percent decrease in SSB consumption, a reduction in current consumption from 190-200 calories per day to 145-150 calories, with projected annual revenues of \$79 billion from 2010-2015.⁷⁰ Another study estimated that a penny-per-ounce tax would reduce consumption by 15 percent among adults ages 25-64. The authors assumed that 40 percent of the reduction would be offset by increased consumption from other, untaxed caloric sources, resulting in a net savings of 9 calories per day. The researchers predicted a modest decline in BMI and a 1.5 percent reduction in the number of obese adults. They also projected that new cases of diabetes would be reduced by 2.6 percent and would save \$17.1 billion in medical costs over the period from 2010-2020.⁷¹

Conclusions and Policy Implications

CONCLUSIONS

- The large amount of added sugar consumed by Latino youths in the form of SSBs must be addressed, given the impact of this added sugar on obesity, diabetes, liver disease, and cardiovascular disease now and into the future.
- Current sales and other taxes on soft drinks have a modest impact on SSB consumption because these taxes tend to be small and thus have a small impact on price. The taxes also do not differentiate calorically sweetened beverages from other beverages, and they are often not applied to other caloric beverages, such as sports drinks, that may be consumed instead.
- A more sizable excise tax on all SSBs would have a more significant effect on consumption of SSBs and could improve weight⁷² and health outcomes at the population level. Limited existing evidence suggests that the effects would likely be greater for Latinos.

POLICY IMPLICATIONS

- A specific excise tax—rather than a sales tax or an ad valorem excise tax—that covers all SSBs (not just soda), will have greater impact on SSB consumption and weight outcomes. The impact on weight will almost certainly be greater when revenues from the tax are directed toward obesity-prevention and other health-promotion efforts.
- Current research evidence suggests that a tax that raises all SSB prices by 20 percent would reduce SSB consumption by 24 percent, with the net impact on weight less clear, but likely beneficial. Lower taxes would have smaller effects.
- Other interventions to raise the price of SSBs relative to healthier beverages, including exclusion of SSBs from food assistance programs, and subsidization of

healthier beverages, are also likely to reduce SSB consumption and potentially improve weight outcomes.

FUTURE RESEARCH NEEDS

Further research could focus on differences in SSB consumption and the effect on obesity and health among Latino subgroups, as most studies that tease out results by racial/ethnic group focus on Mexican Americans.

Further research on the potential impact of SSB taxes and prices on Latinos, particularly youths, could be conducted. It will be important to evaluate any policies that are passed into law, especially their impact on multicultural communities. As of early 2013, nearly 10 states have introduced SSB tax measures.

The research on pricing reviewed for this research review focus on one negative pricing incentive— specifically SSB taxes—rather than positive incentives. This is in part because the ultimate “healthy alternative” (e.g., water) is free or very low cost. However, research on subsidizing bottled water and other low- or no-calorie alternatives, such as low-fat, low-sugar milk, unsweetened vitamin water and other beverages, especially in fast-food restaurants or other away-from-home settings, could show whether positive pricing of alternatives affects SSB consumption. Similarly, research on other pricing incentives and disincentives that alter the relative prices of fruits, vegetables, snack foods, fast foods, and more in ways that promote healthier eating could show how such policies affect total caloric intake, diet quality, and obesity.

ABOUT SALUD AMERICA!

Salud America! The RWJF Research Network to Prevent Obesity Among Latino Children is a national program of the Robert Wood Johnson Foundation. The program aims to educate and support researchers, decision-makers, community leaders, and the public in contributing towards healthier Latino communities and seeking environmental and policy solutions to the epidemic of Latino childhood obesity. The network is directed by the Institute for Health Promotion Research at The University of Texas Health Science Center at San Antonio.

For more information, visit <http://www.salud-america.org>.

ABOUT BRIDGING THE GAP

Bridging the Gap is a nationally recognized research program of the Robert Wood Johnson Foundation dedicated to improving the understanding of how policies and environmental factors influence diet, physical activity and obesity among youth, as well as youth tobacco use. The program identifies and tracks information at the state, community and school levels; measures change over time; and shares findings that will help advance effective solutions for reversing the childhood obesity epidemic and preventing young people from smoking. Bridging the Gap is a joint project of the University of Illinois at Chicago's Institute for Health Research and Policy and the University of Michigan's Institute for Social Research.

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