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Research Informing Policies & Practices
for Healthy Youth

The impact of public policy on health behaviors: The case of obesity

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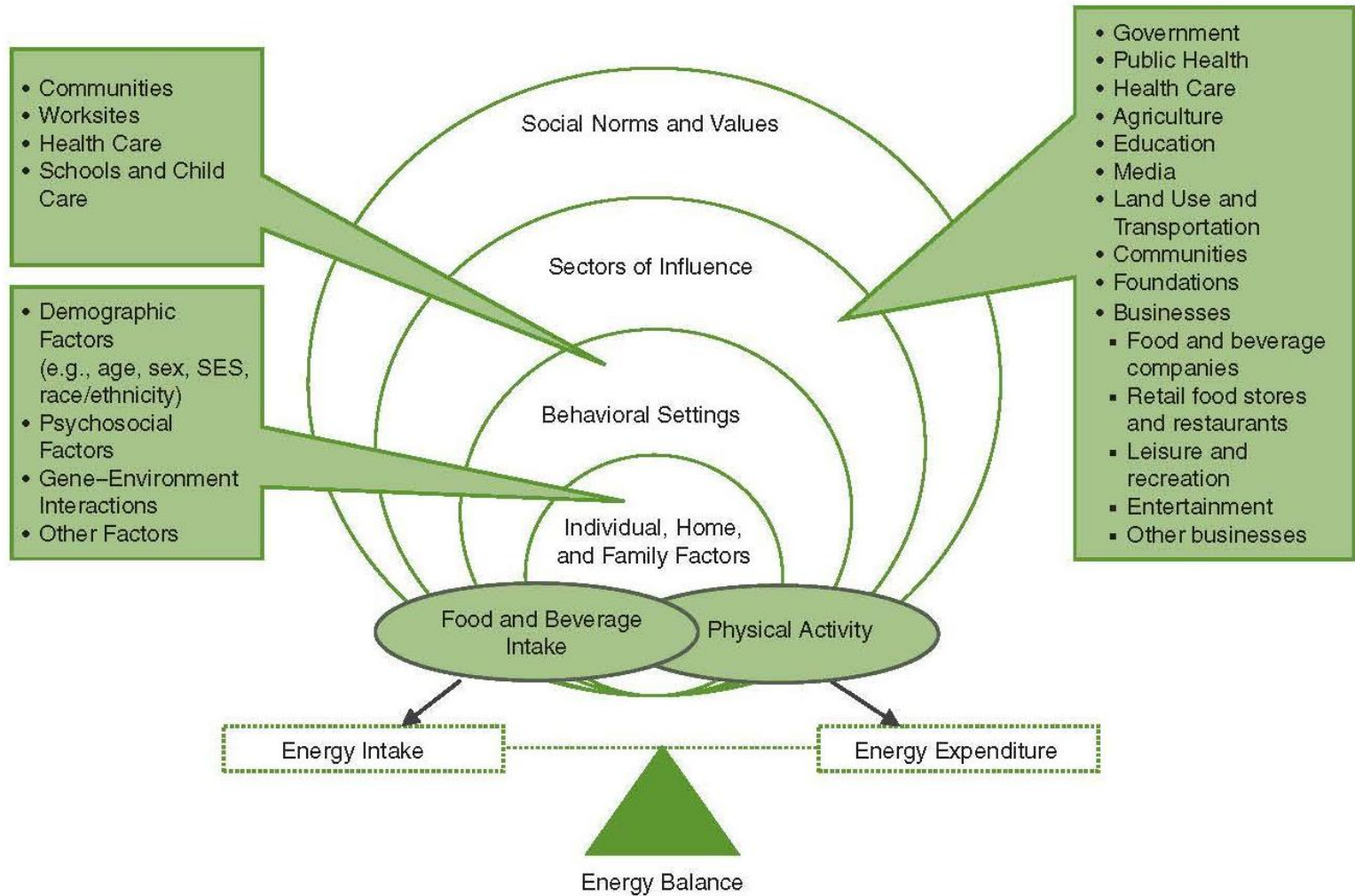
International Association of Dental Research
March 21, 2013 Seattle, WA

Presentation Overview

- Thinking about obesity as part of a broader social system
- Rationale for public policy
 - Market and government failures
- Impacts of strong policies on environments, behaviors, and health outcomes
 - Example 1: competitive food and beverage laws
 - Example 2: food and beverage taxation
- Resources for further information

Thinking about obesity through a systems lens

Levels and sectors of influence on obesity prevention efforts

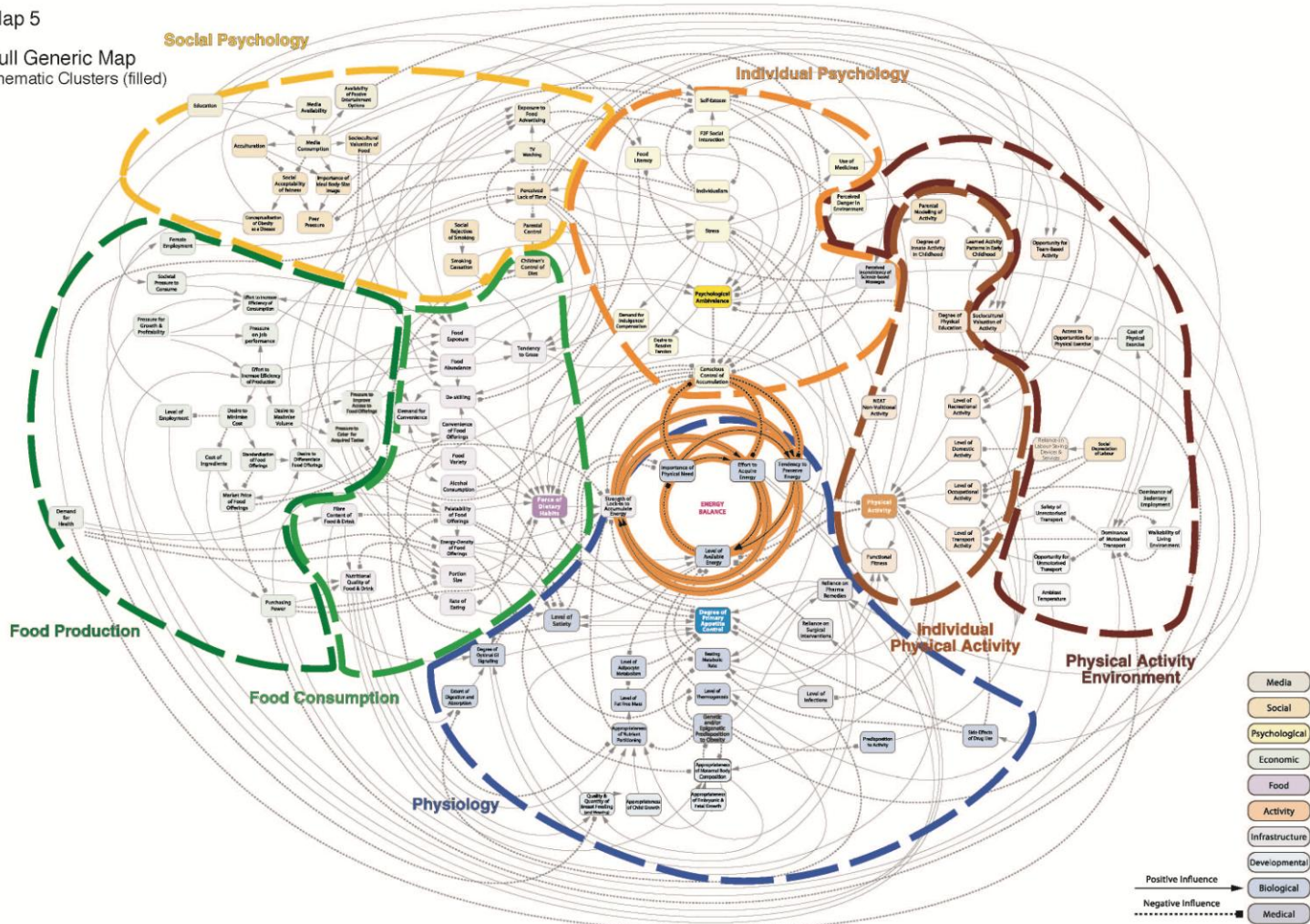


Source: Institute of Medicine (IOM), 2012; Adapted from IOM, 2007

Obesity Systems Map (Foresight Group, 2007)

Map 5

Full Generic Map
Thematic Clusters (filled)



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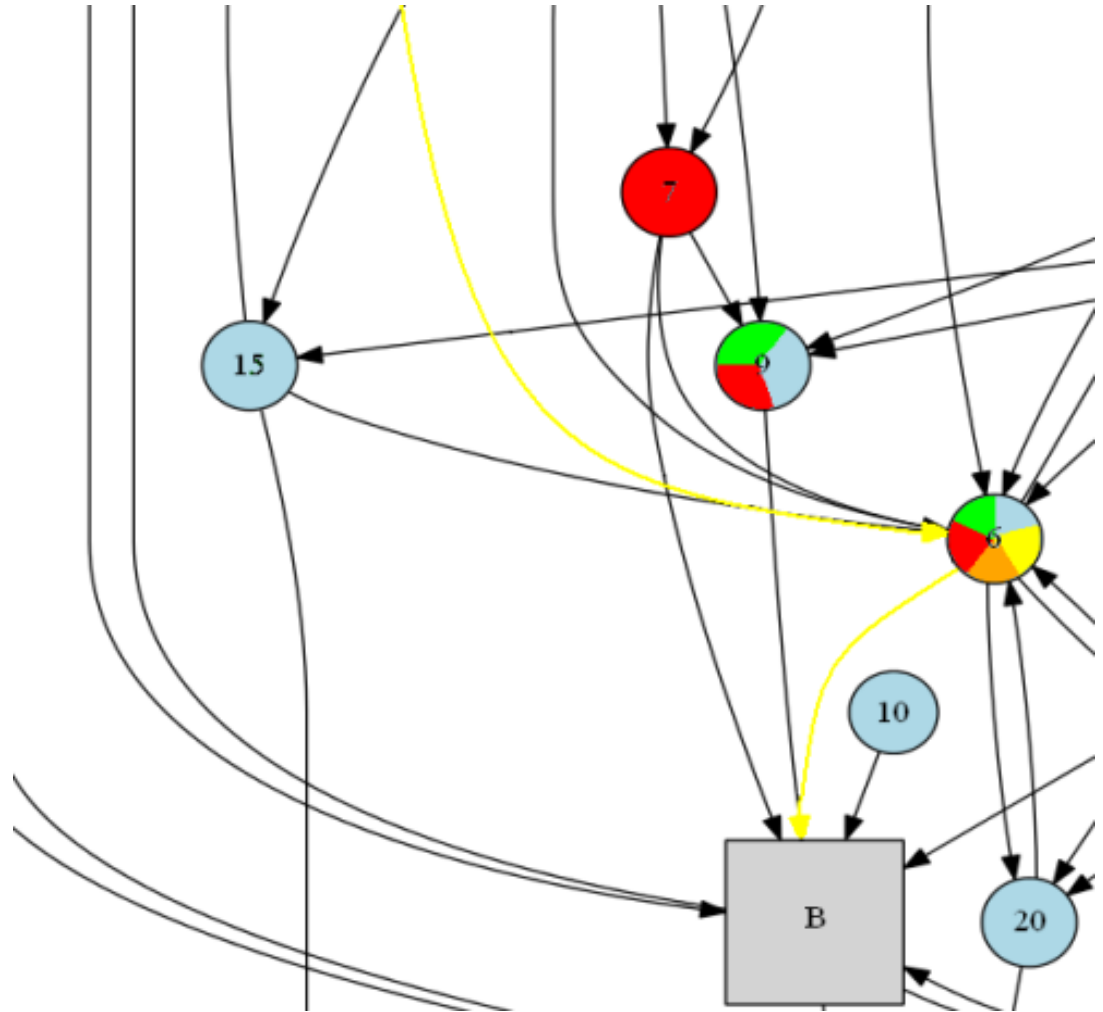
Mapping Systems Change: The Case of Reducing Over-Consumption of Sugar-Sweetened Beverages

Sector of Action

- Business /Private
- Public
- Citizens/Civic Organizations
- Health Care
- Worksites/Employers

Source: IOM, 2012

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Rationale for public policy: Market and government failures

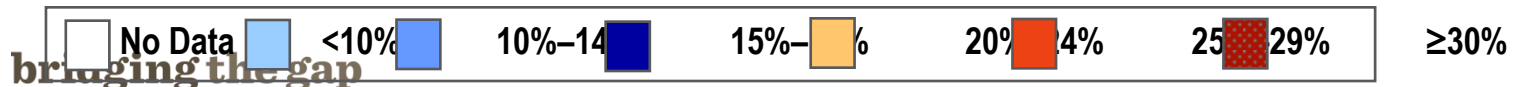
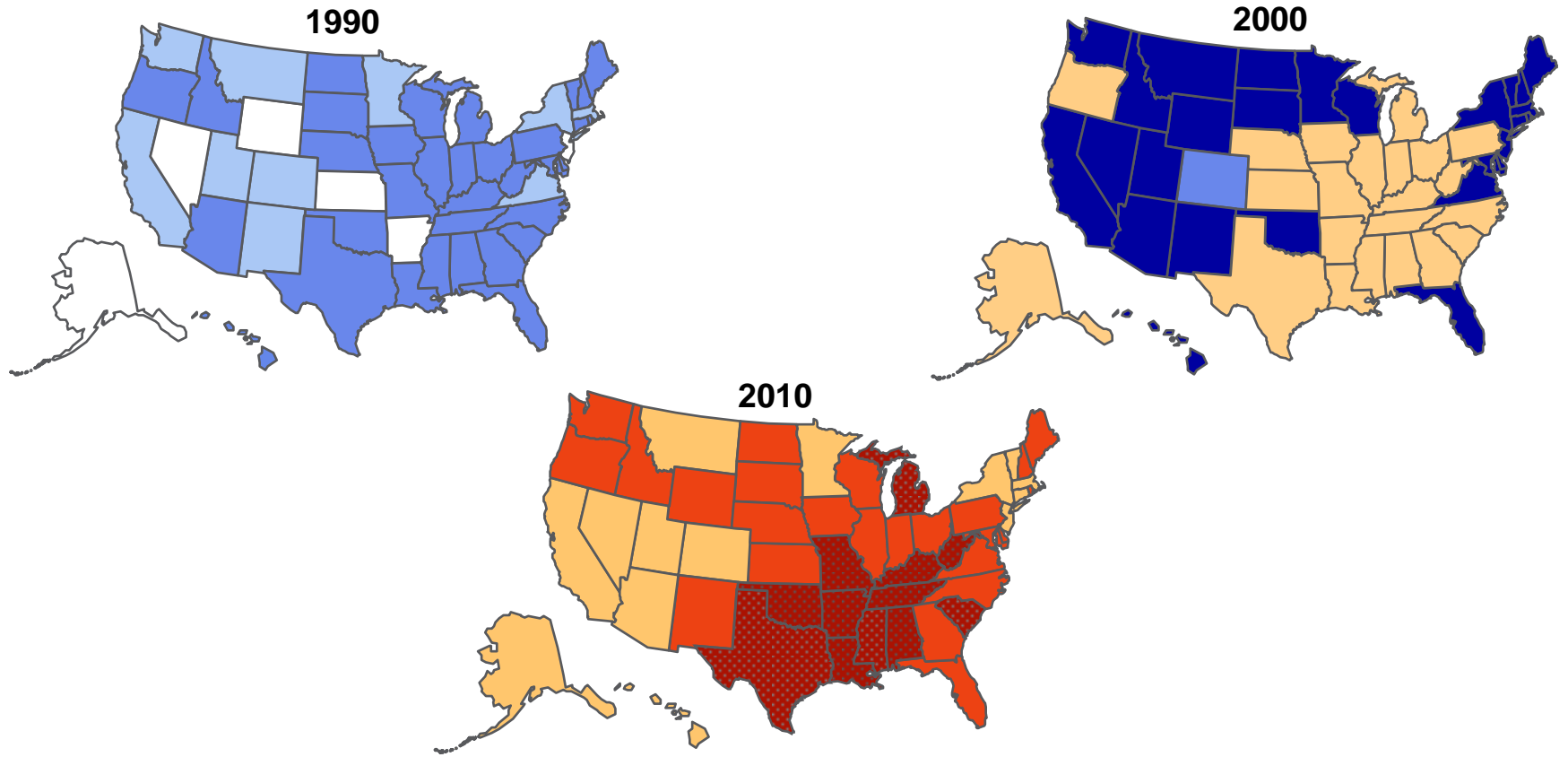
Market failures as rationales for public policy

- Vulnerable populations are not protected
 - Children are not rational consumers
- “Free” market under-provides information
 - Led to menu/calorie labeling policies
- Consumers prioritize immediate gratification over long-term consequences
 - Do most people think about the long-term effects of drinking one (two, three) a sugary beverage each day?
 - Over-consumption of high fat , sugary foods and beverages leads to obesity and related disorders including Type 2 diabetes, heart disease, stroke, etc.
- Externalities—individuals do not bare the true costs of their decisions
 - \$190B in annual health care costs, \$5B additional in jet fuel to fly heavier Americans

Governments fail too!

- Rules too specific
- Rules too broad
- Arbitrary rules
 - NYC 16oz beverage portion size rule
- Conflicting rules
- Letting the market decide...

Government failure—Letting the market decide—and look where we are now!



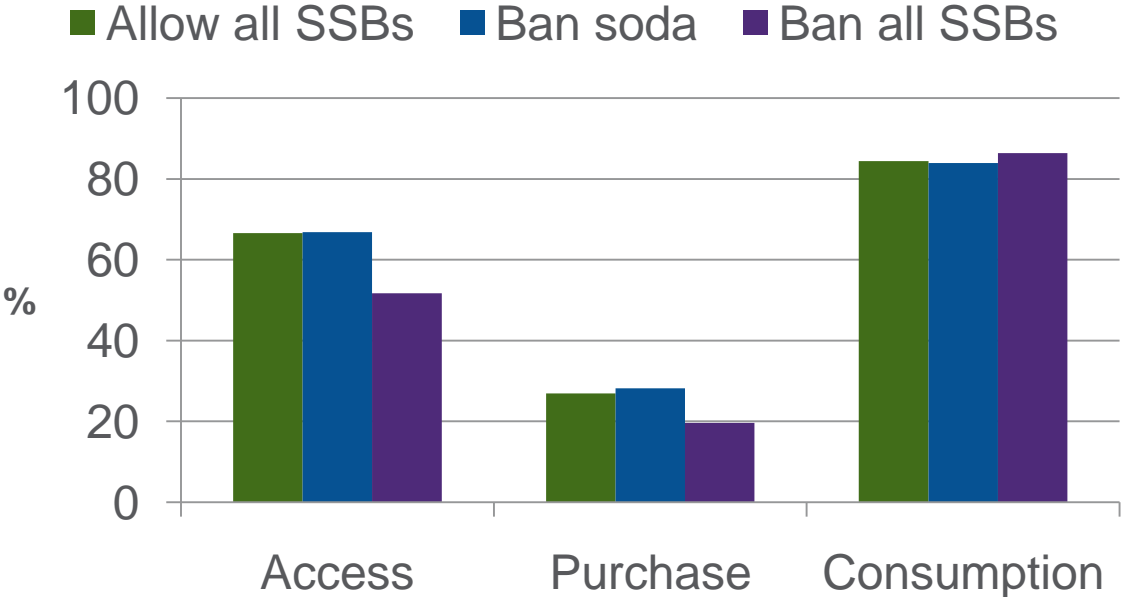
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How strong public policies can make a difference

Competitive food and beverage policies and their impact

Sugar-sweetened beverage laws

State laws that prohibit all sugar-sweetened beverages reduce the prevalence of middle school student in-school SSB **access** and **purchasing**, but do not reduce overall **consumption AND soda-only bans do not work.**



California competitive food laws

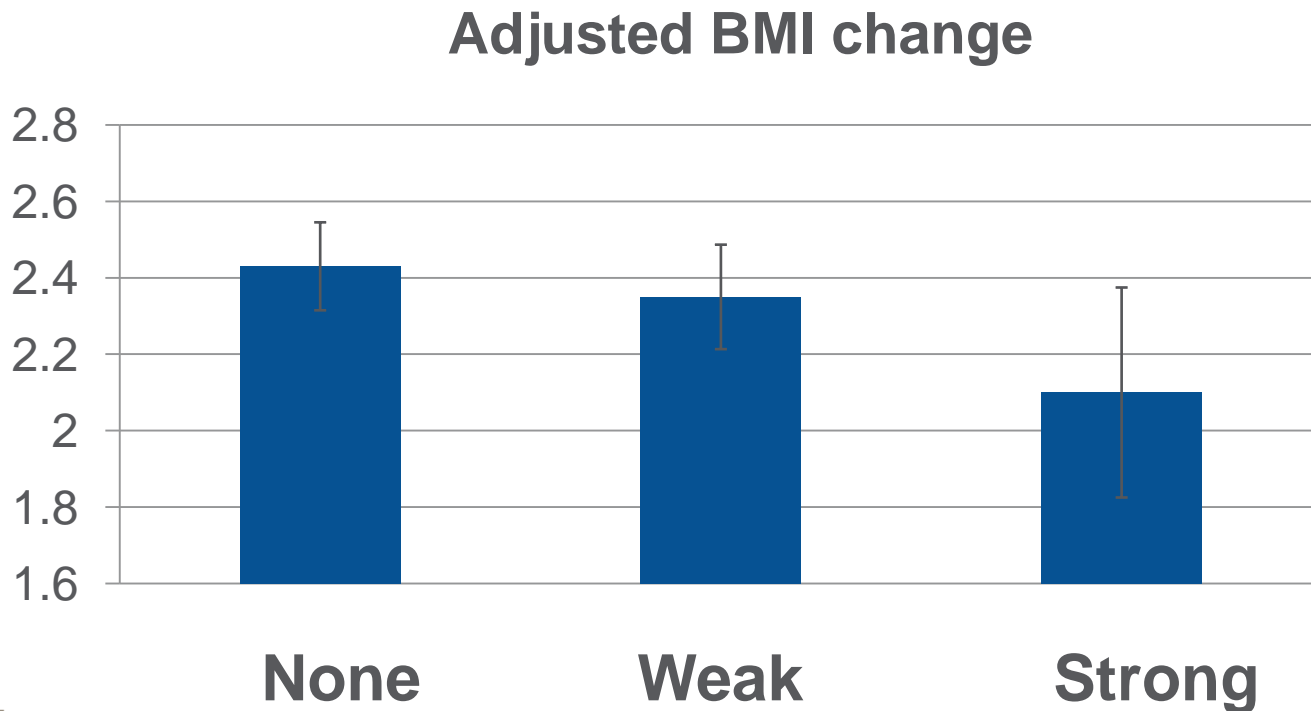
California has particularly strict laws regarding fat, sugar, and caloric content of competitive foods

High school students in CA reported less in-school intake of fat, sugar, and total calories compared to students in states that do not regulate competitive food nutritional content

	California	Other states
Sugar (g)	19.8	30.9
Fat (g)	14.2	20.4
Total calories	352.6	509.1

Competitive food laws

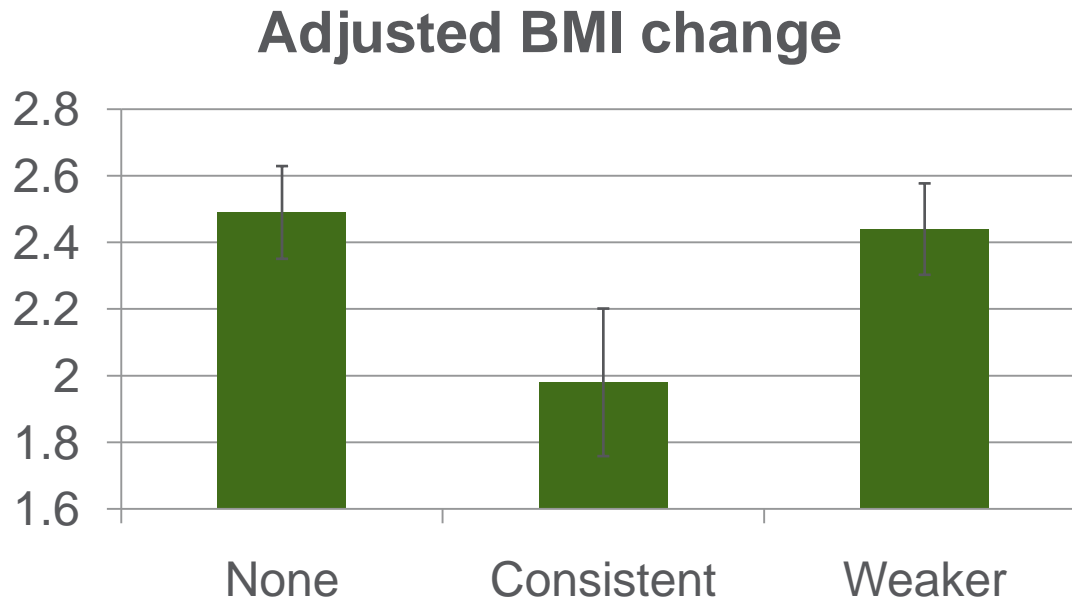
Students gain less weight if they are in states with strong, specific competitive food nutrition standards



Competitive food laws

Laws must be consistent over time and across grade levels

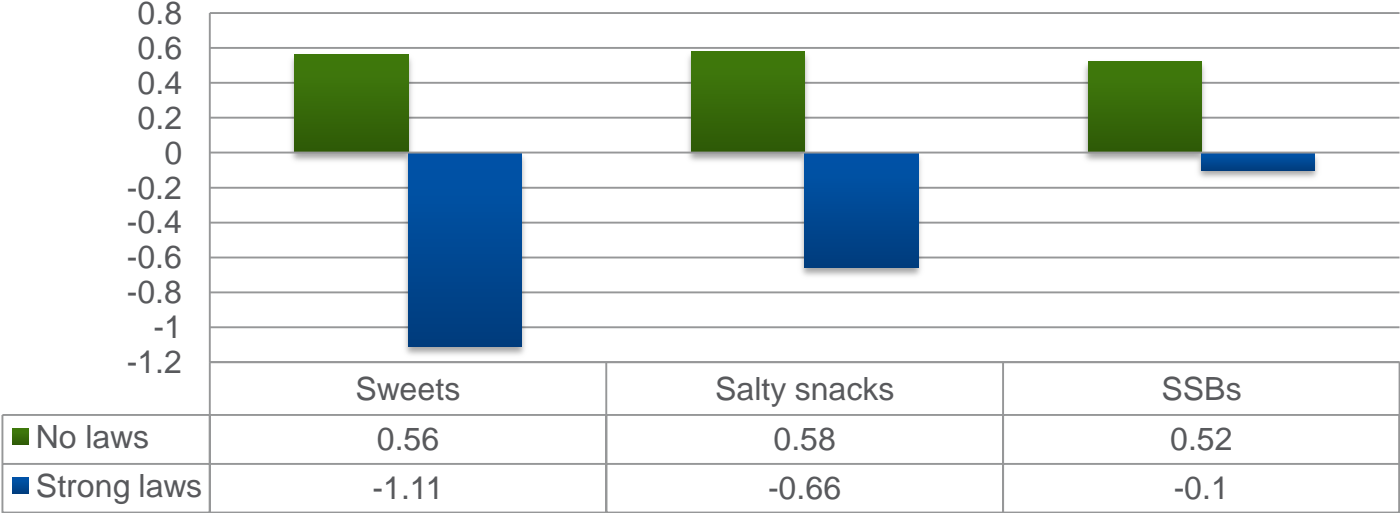
Students who were **exposed to weaker laws** as they moved from **elementary to middle school** gained **just as much weight** as those who were never exposed



Competitive food laws – racial differences

Among Hispanic girls, in-school purchasing of sweets, salty snacks, and SSBs increased in states with no laws but decreased in states with strong laws

Changes in weekly purchases



Competitive food laws – can help to breakdown inequities

Changes in laws between 2003 and 2006:

	Blacks	Hispanics
Stronger in 2006	13.0%	43.0%
Weaker in 2006	33.5%	1.5%

Black boys had lower BMI change if they lived in states that strengthened their laws between 2003 and 2006

	Difference	P-value
No laws	-	-
Stronger laws	-1.48	0.001
Weaker laws	0.29	0.22

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Food Prices and Taxation

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Food prices and consumption

- Extensive economic research on the impact of food and beverage prices on consumption of various products; estimates suggest 10% own-price increase would reduce:
 - Cereal consumption by 5.2%
 - Fruit consumption by 7.0%
 - Vegetable consumption by 5.9%
 - Soft drink consumption by 7.8%
 - Sweets consumption by 3.5%
 - Food away from home consumption by 8.1%

Food prices and consumption

- Estimates from more recent research suggest similar or even larger effects for 10% price increases:
 - **Sugar sweetened beverage consumption falls by 12.1%**
 - Fast food consumption falls by 5.2%
 - Vegetable consumption falls by 4.8%
 - Fruit consumption falls by 4.9%

Food prices and weight outcomes

- While mixed, weight of the existing evidence suggests that changes in relative prices for healthier and less healthy foods may affect weight outcomes, with greater impact on:
 - Lower income, less educated populations
 - Younger populations
 - Populations at greater risk for obesity

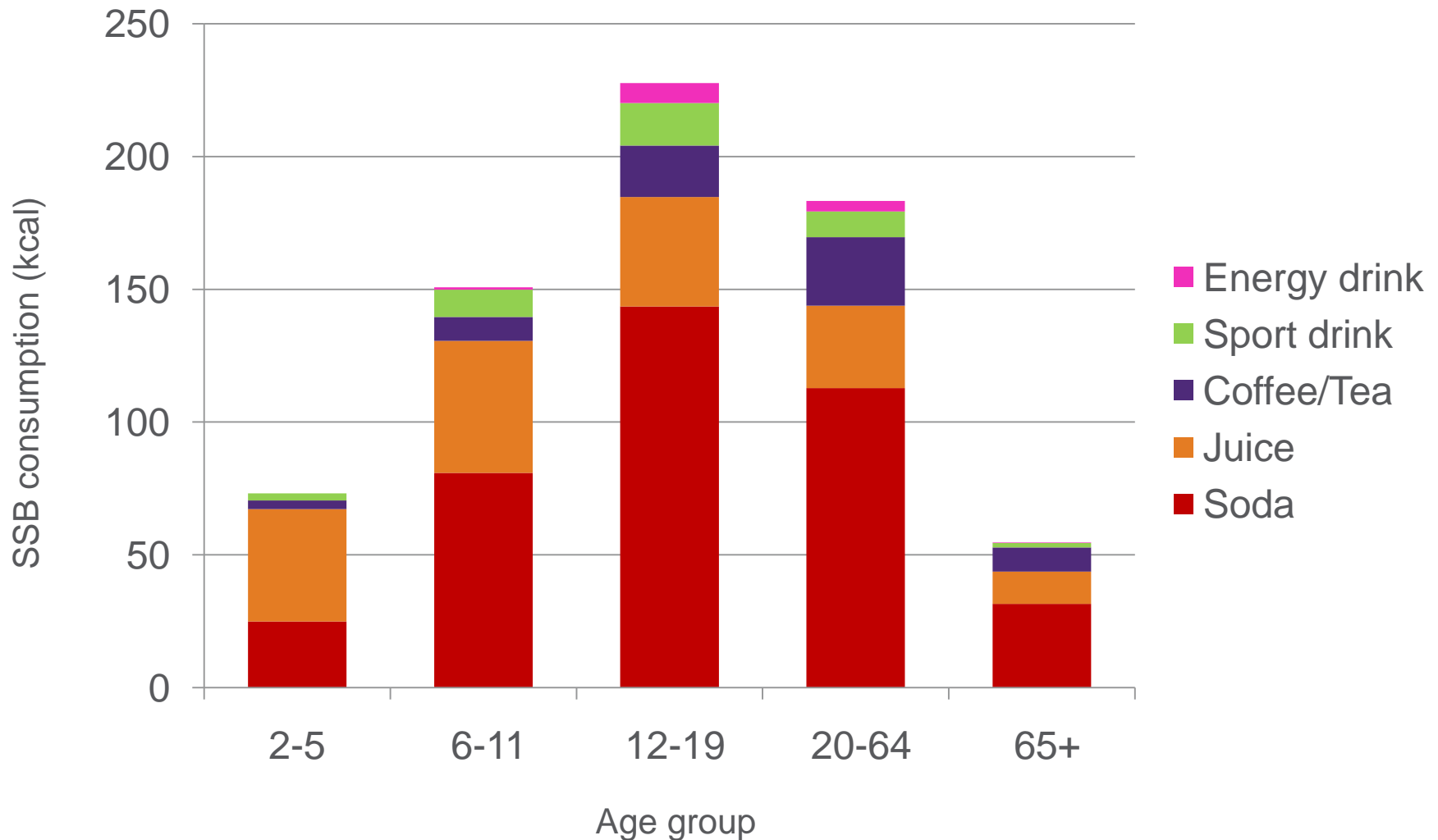
Implications for obesity prevention

- Policy options for altering relative prices include policies that:
 - Increase prices of less healthy options
 - Taxes
 - Elimination of corn subsidies
 - Disallow purchases under food assistance programs
 - Reduce prices of healthier options
 - Subsidies
 - expanded or favored treatment under food assistance programs

Why tax sugar-sweetened beverages?

- Link to obesity
 - Several meta-analyses conclude that increased SSB consumption causes increased weight, obesity
 - Increased calories from SSBs not offset by reductions in calories from other sources
 - “Empty calories” that provide little or no nutritional benefits
- Other health consequences
 - type 2 diabetes, lower bone density, dental problems, headaches, gout, cardiovascular disease, anxiety and sleep disorders

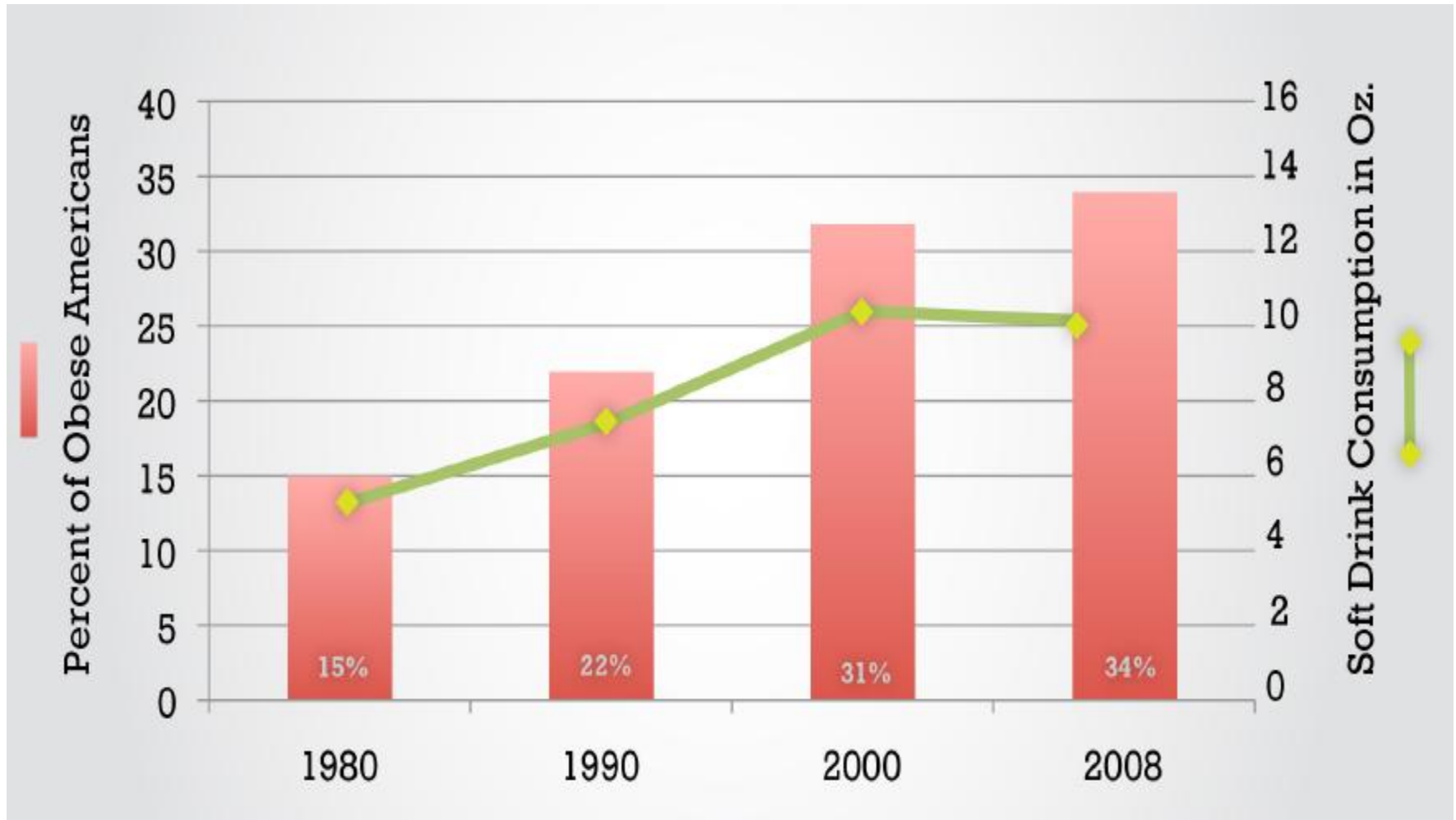
U.S. SSB Consumption in Calories by Age, 2007-2008



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Source: National Health and Nutrition Examination Survey (NHANES) 2007-2008, author's own calculations

Soda Consumption and Obesity Prevalence U.S., 1980-2008



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Source: National Health and Nutrition Examination Survey (NHANES) 2007-2008, author's own calculations

Carbonated Beverage Prices & Youth Obesity 1995-2009, Inflation Adjusted

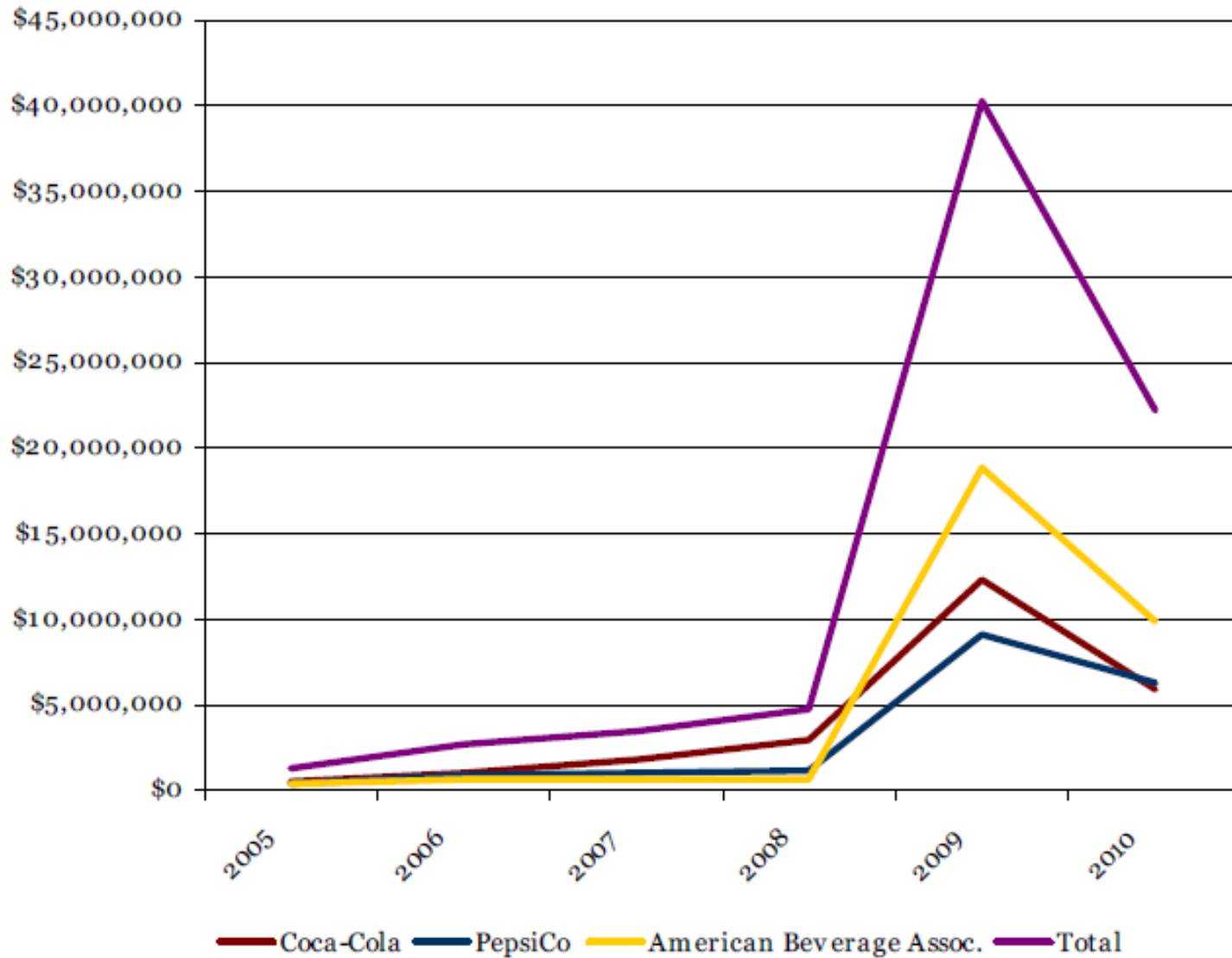


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— Carb. Bev.

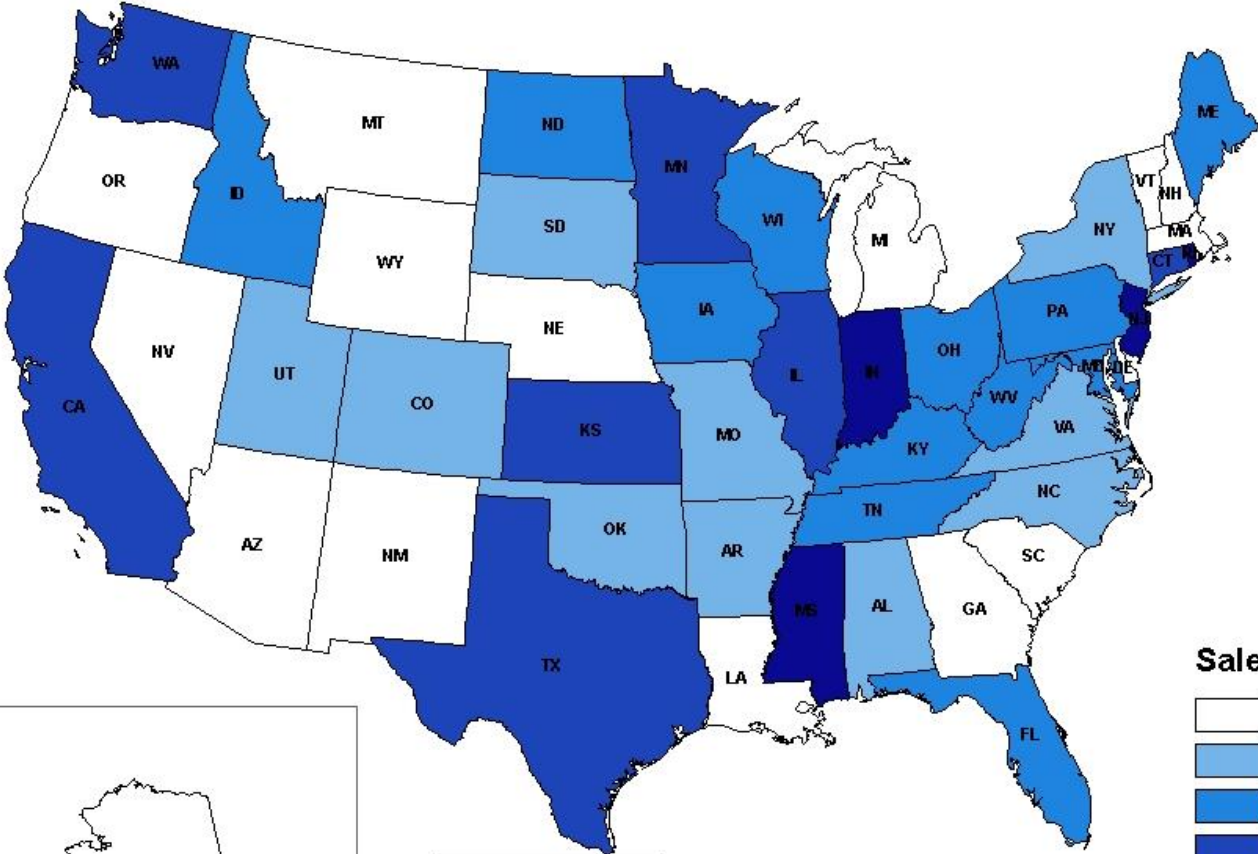
— Obese

Explosive Growth in Soda Industry Political Expenses, 2005-2010¹

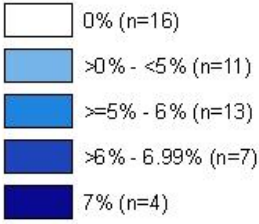


Sales Taxes on Carbonated Beverages

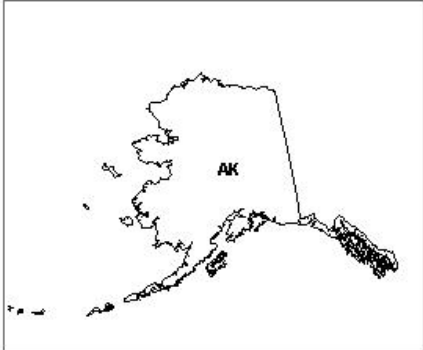
United States, July 1, 2012



Sales Tax Rate



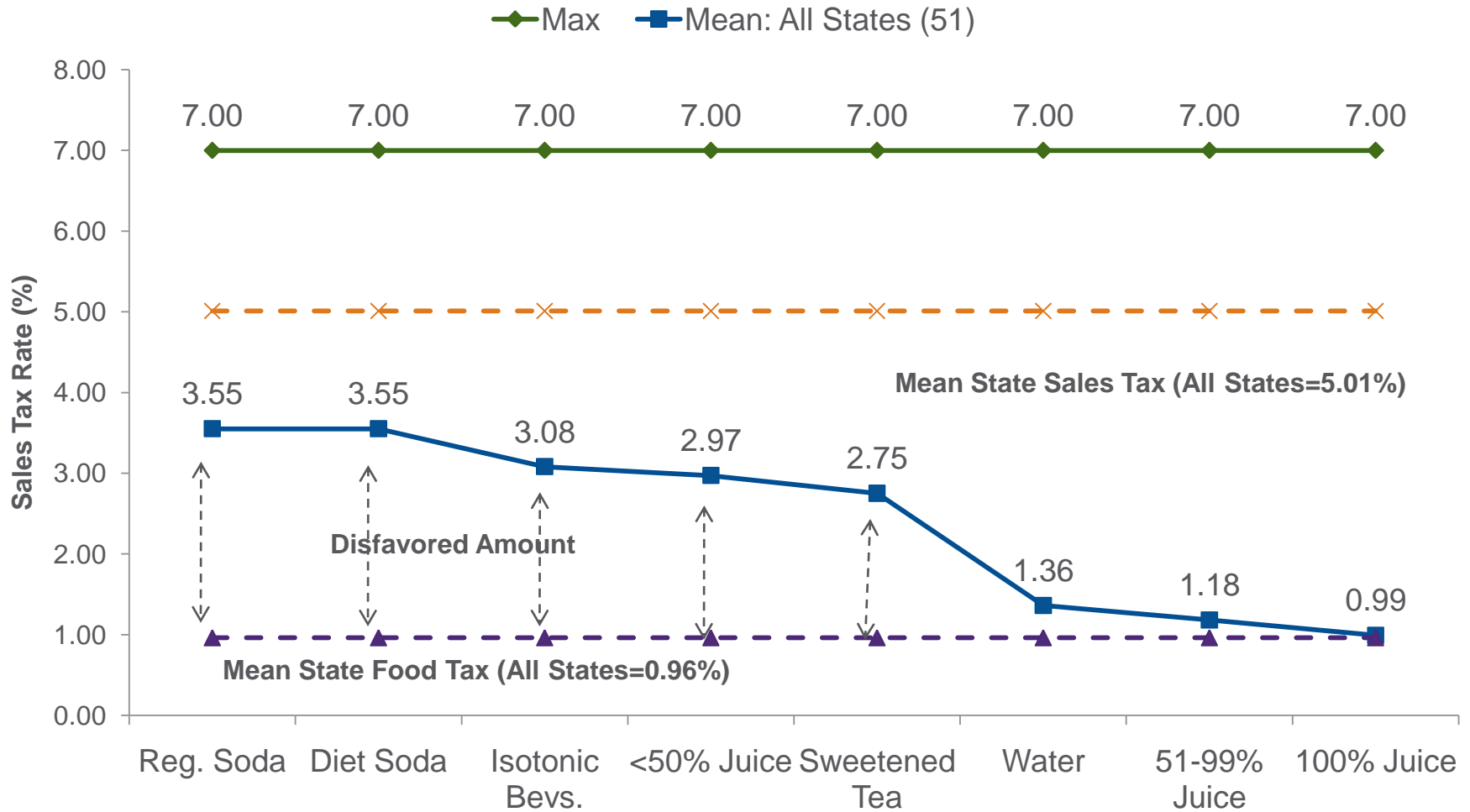
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Note: Does not include 3 states with mandatory, statewide local tax rate (CA-1%, UT-1.25%, VA-1%)

Data Source: Bridging the Gap Program, University of Illinois at Chicago, 2012

Sales Taxes on Selected Beverages, All U.S. States, July 1, 2012

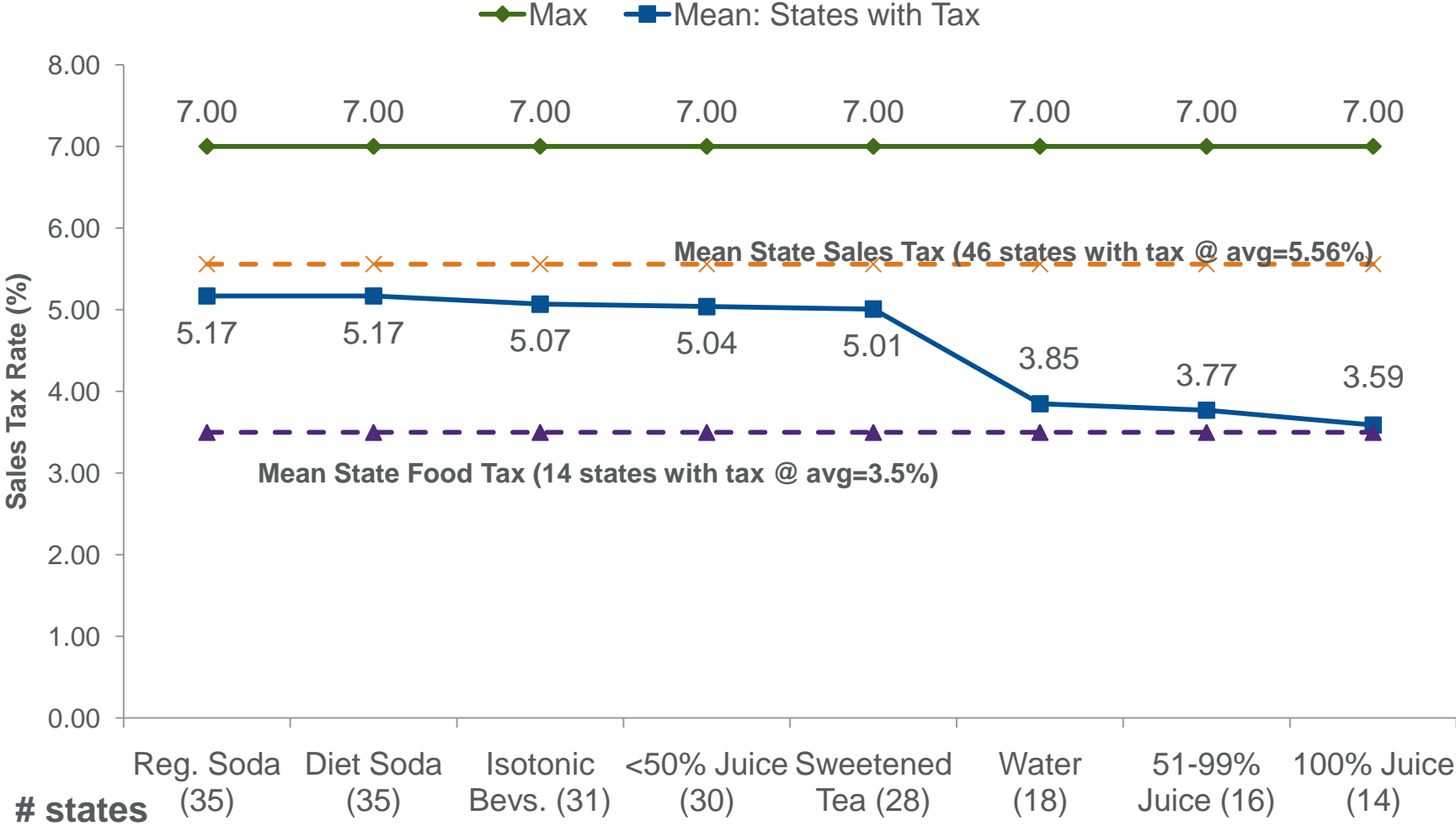


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Note: Three states also impose a mandatory statewide local tax that is not reflected in the above data: CA (1%), UT (1.25%), VA (1%).

Sales Taxes on Selected Beverages

Taxing States, July 1, 2012



Note: Three states also impose a mandatory statewide local tax that is not reflected in the above data: CA (1%), UT (1.25%), VA (1%).

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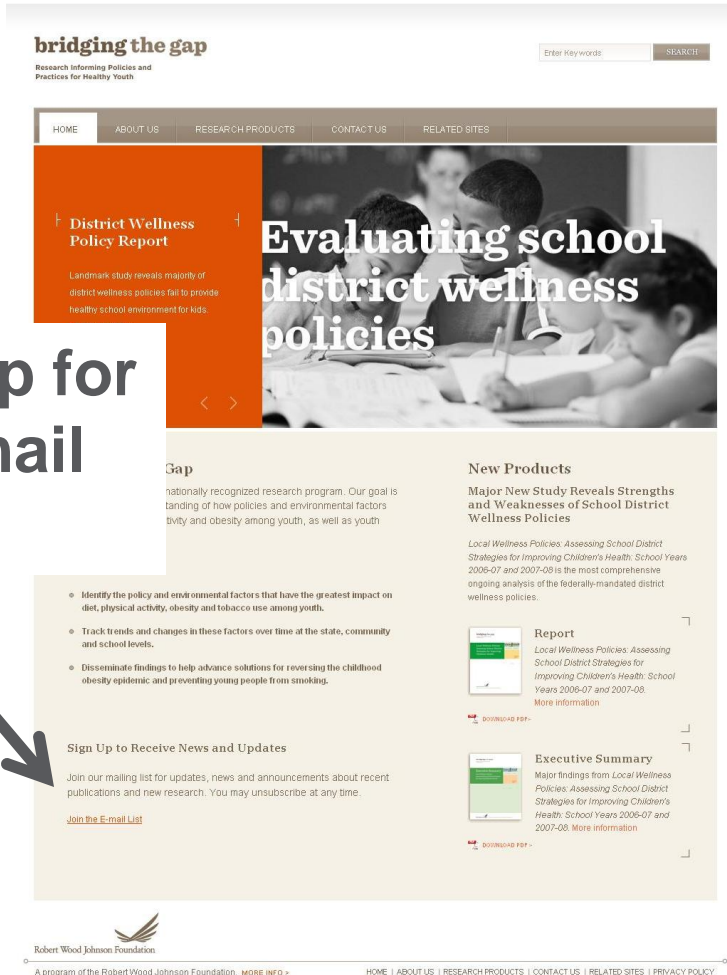
Global Beverage Taxes

- Several countries recently adopted SSB taxes as part of effort to curb obesity; a few examples:
 - Denmark: DKK 1.58/litre (US\$0.28) for beverages with >0.5 grams of sugar/100 ml; DKK 0.57 (US\$0.10) for <0.5 grams/ml
 - France €7.16/100 litres (US\$9.39) on beverages with added sugars and artificially sweetened beverages
 - Hungary: 5 forints/litre (\$0.024) on soft drinks; 250 forints (\$1.18) on energy drinks; 100 forints on pre-packaged sugar-sweetened products (>25-40g added sugar per 100g; varies by product)
 - Nauru: 30% *ad valorem* tax on prices of imported carbonated soft drinks, cordials, flavoured milks, and drink mixes containing sugar

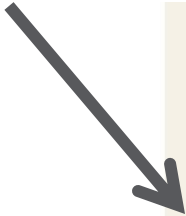
- **Revenue generating potential of beverage tax is considerable**
 - **SSB Tax calculator at:**
<http://www.yaleruddcenter.org/sodatax.aspx>
 - **Tax of one cent per ounce could generate:**
 - **\$14.9 billion nationally if on SSBs only**
 - **\$24.0 billion if diet included**
 - **Tax of two cents per ounce:**
 - **\$21.0 billion nationally, SSBs only**
 - **\$39.0 billion if diet included**
 - **Earmarking tax revenues for obesity prevention efforts would add to impact of tax**

Resources

For more information: www.bridgingthegapresearch.org



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Research Brief
March 2012

Using Local Land Use Laws to Facilitate Physical Activity

Introduction

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Research Brief
February 2012

Joint Use Agreements *Creating Opportunities for Physical Activity*

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Research Brief
June 2010

Availability of Competitive Foods and Beverages

New Findings from U.S. Elementary Schools

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Brief Report

School District Wellness Policies: Evaluating Progress and Potential for Improving Children's Health Five Years after the Federal Mandate

VOLUME 3

2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
SCHOOL YEARS

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Research Informing Policies & Practices
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Zoning for Health by Community In

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Research Informing Policies & Practices
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School Policies and Practices to Improve Health and Prevent Obesity: National Secondary School Survey Results

VOLUME 1

2006-2007
2007-2008
SCHOOL YEARS

Research Brief

Influence of Competitive Food and Beverage Policies on Children's Diets and Childhood Obesity

Research Review, July 2012

Healthy Eating Research
Bridging the Gap

Abstract

Competitive foods is a term used to describe foods and beverages that generally compete with school meal programs. These foods and beverages are sold through vending machines, à la carte cafeterias lines, school stores and other venues. They are commonly referred to as snacks or "junk" foods, and they are often high in fat, cholesterol, calories, sugar and/or salt. Many schools also sell a variety of unhealthy drinks to students, including high-fat milk and sugar-sweetened beverages (SSBs) such as soda, sports drinks and high-calorie fruit drinks.

The influence of policies related to the sale of competitive foods is worth examining because the foods and drinks available in school have a significant effect on children's diets and their weights. Given the high rates of obesity among children and adolescents nationwide, it is important to understand how competitive foods and beverages are sold and consumed by students in school, as well as to identify effective strategies for improving the nutritional quality of those products.

Introduction

More than 23 million children and adolescents in the United States—nearly one in three young people—are obese or overweight.¹ The foods and beverages available in schools have a significant impact on children's diets and their weight. Children spend the majority of their waking



This research review examines the emerging evidence about the influence of competitive food and beverage policies on children's diets and childhood obesity. The research clearly shows a need for comprehensive policies that govern the sale and consumption of these foods and beverages in the school environment.

hours in school for at least nine months of the year, hence schools are one potentially important setting for influencing the foods and beverages that they have access to on a regular basis.² In fact, more than 55 percent of children's and adolescents' daily energy intake occurs at school.³

Healthy Eating Research and Bridging the Gap are programs of the Robert Wood Johnson Foundation.

