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Research Informing Policies & Practices
for Healthy Youth

Exploring How Prices and Advertisements for Soda in Food Stores Influence Adolescents' Dietary Behavior

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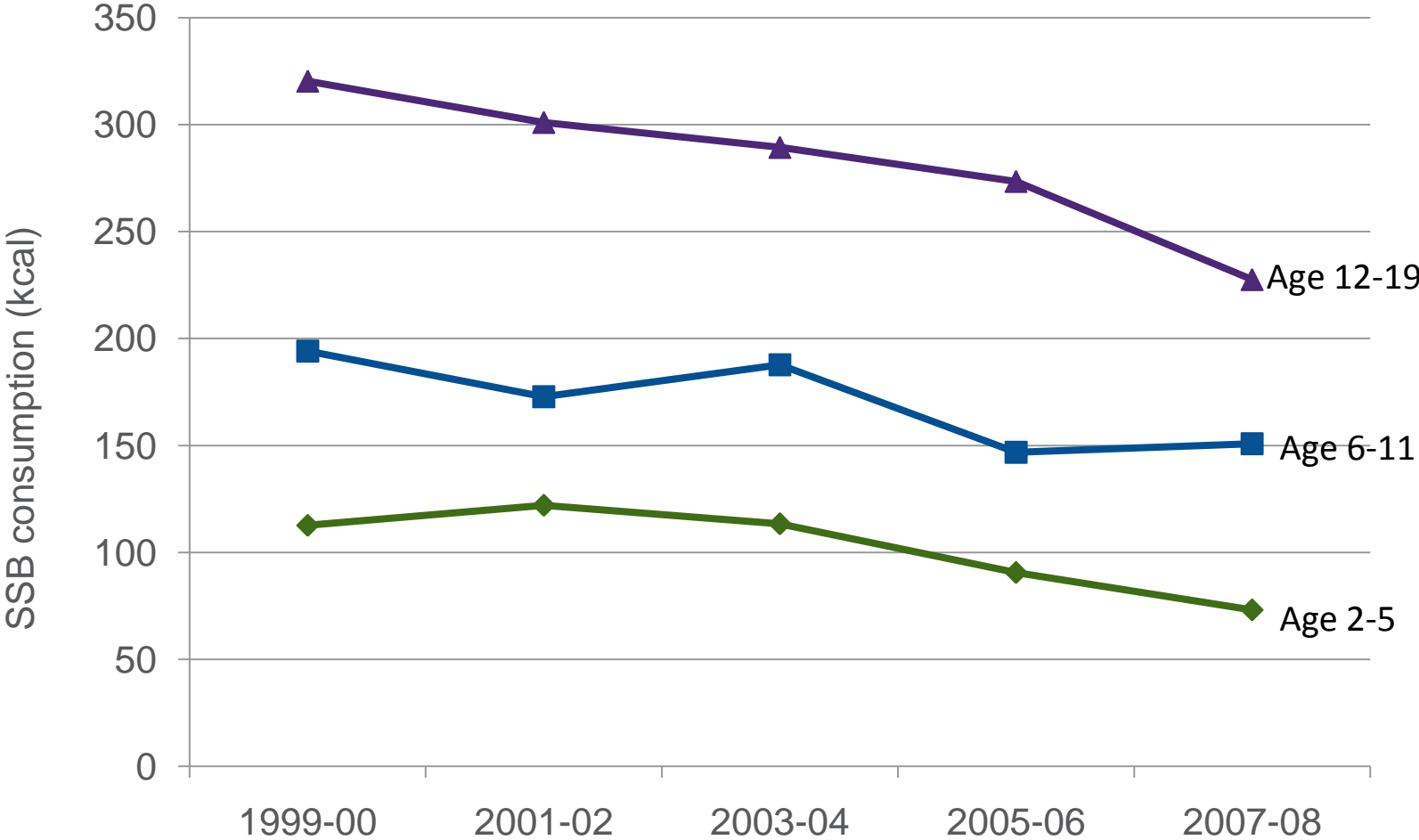
Presenter Disclosures

No relationships to disclose.

Background

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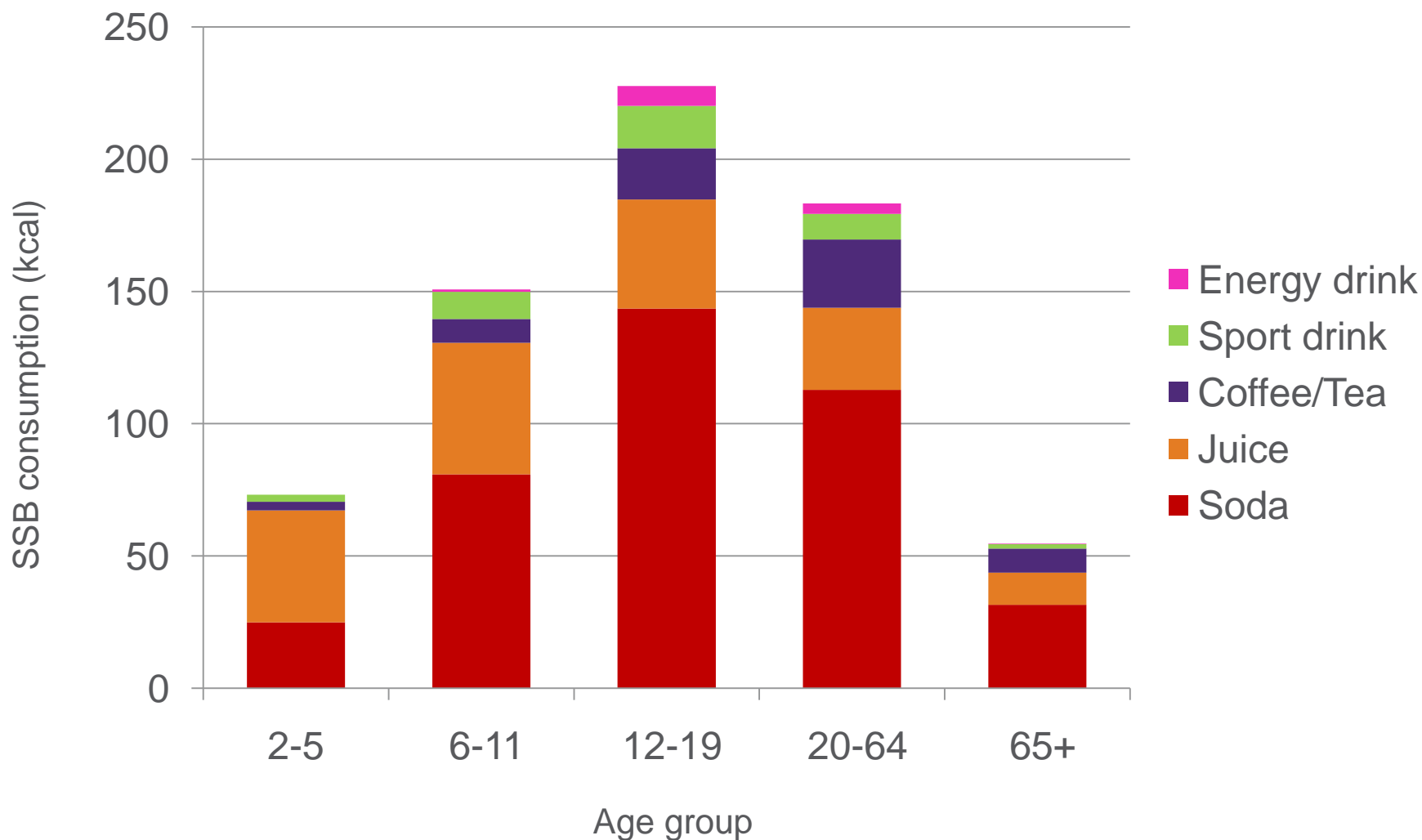
Daily SSB Consumption among Children & Adolescents, 1999-2008



Source: National Health and Nutrition Examination Survey (NHANES) 1999-2008, author's own calculations

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Daily U.S. Sugar-Sweetened Beverage Consumption Calories, by Age 2007-2008



Pricing: Evidence

Mean Estimates of Price Elasticity of Demand for SSBs U.S. studies from 2007-2012

Beverage Categories	Mean Price Elasticity Estimate
SSBs Overall ^a	-1.21
SSBs	-1.08
Regular Carbonated Soft Drinks	-1.25
Sports Drinks	-2.44
Fruit Drinks	-1.41
Soft Drinks (reg+diet)	-0.86

Notes: ^aOverall mean (weighted mean based on SSB consumption shares) SSB elasticity estimate based on the estimates from the aggregated SSB category and the estimates from the various disaggregated (regular carbonated soda, sports drinks, and fruit drinks) categories within the beverage demand system.

Source: Powell et al. *Obesity Reviews*, 2013

Data and Methods

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Individual Level Data

Monitoring the Future Study

- Study began in 1975
- Nationally representative sample of 8th, 10th and 12th grade students
- Starting in 2010, study asks students about their soda consumption:
 - How many (if any) 12-ounce cans or bottles (or the equivalent) of regular (non-diet) soft drinks do you drink per day, on average?
 - None, Less than 1, One, Two, Three, Four, Five or six, 7 or more

BTG - Community Obesity Measures Study

- Collection of local policy and environmental data in a national sample of catchment areas around MTF schools
- Systematic observation by trained data collectors
 - Food stores
 - Fast food restaurants
 - Parks
 - Physical activity facilities
 - Street segments
- Community sample defined by the catchment areas for schools participating in the University of Michigan's *Monitoring the Future* study
- Data collected in 154 communities in 2010, 157 communities in 2011, and 160 communities in 2012.

BTG-COMP Food Store Sample

- Food store sampling frame developed from two commercial sources
 - Dun & Bradstreet
 - InfoUSA
- Phone screening conducted to confirm business name, location, and eligibility/classification
- Sampling frame supplemented with food store outlets discovered in the field
- Goals for # of field-discovered businesses set based on sensitivity rates from a field validation study

(Source: Powell L., et al. Health & Place 2011)

Food Store Observation Form

- Types of stores
- Store features/amenities
- Availability of food/beverage items
- Pricing of food/beverage items
- Marketing and signage

BTG-COMP • FOOD STORE OBSERVATION FORM • 2012			BUSINESS ID: <u>1 4 - 1 2 -</u>	
BUSINESS ID :			CORRESPONDING SEGMENT UNIT ID: _____	
BUSINESS NAME:			COMPLETION CODE	
ADDRESS:			COMPLETED	<input type="checkbox"/> 01
DATE: _____ 2012 STAFF 1 _____ STAFF 2 _____			PARTIALLY COMPLETED – CODE DISPOSITION	<input type="checkbox"/> 02
START TIME: _____ AM/PM END TIME: _____ AM/PM			NOT STARTED – CODE DISPOSITION	<input type="checkbox"/> 03
LITTERED CIGARETTE PACKS No Cellophane With Cellophane			NOT ELIGIBLE – CODE DISPOSITION	<input type="checkbox"/> 96
Number of bags used: _____			DISPOSITION CODE	
BUSINESS SAMPLE ATTRIBUTES NO YES			Temporarily not accessible / Outside business hours	<input type="checkbox"/> 1
Business is within ¼ mile of index school	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Not safe	<input type="checkbox"/> 2
Business replaces a primary sample observation	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Asked to leave / Observation not allowed by staff	<input type="checkbox"/> 3
NOTES			Address not found	<input type="checkbox"/> 5
			Does not meet study criteria – DESCRIBE IN NOTES	<input type="checkbox"/> 7
			Permanently closed / Does not exist	<input type="checkbox"/> 8
			Other (SPECIFY):	<input type="checkbox"/> 6
A. GENERAL AND CHECK-OUT				
A1. TYPE OF STORE			A4. Does the store have a plexiglass or other divider at the cash register? NO YES	
Supermarket (Jewel-Osco, Kroger, Safeway)	<input type="checkbox"/> 1			<input type="checkbox"/> 0 <input type="checkbox"/> 1
Grocery (Aldi, Trader Joe's, "mom & pop")	<input type="checkbox"/> 2		A5. Number of cash registers (IF 10+, CODE 10) _____	
Limited Service CODE A1a	<input type="checkbox"/> 3			
A1a. TYPE OF LIMITED SERVICE – CODE ONLY IF A1=3			A6. Fast food or other individual, ready-to eat items available? NO YES	
Convenience Store (7-11, White Hen, ampm)	<input type="checkbox"/> 1		a. Salads/salad bar	<input type="checkbox"/> 0 <input type="checkbox"/> 1
Small Discount Store (Dollar General, 99c Store)	<input type="checkbox"/> 2		b. Sandwiches (cold)	<input type="checkbox"/> 0 <input type="checkbox"/> 1
Drug Store/Pharmacy (CVS, Rite Aid, Walgreens)	<input type="checkbox"/> 3		c. Pizza	<input type="checkbox"/> 0 <input type="checkbox"/> 1
Liquor Store (Ryan's Liquor and Mini Mart)	<input type="checkbox"/> 5		d. Hot dogs/corn dogs/hamburgers	<input type="checkbox"/> 0 <input type="checkbox"/> 1
Other, SPECIFY:	<input type="checkbox"/> 4		e. Mexican (tacos, burritos, taquitos, etc.)	<input type="checkbox"/> 0 <input type="checkbox"/> 1
A2. Are these available at CHECK-OUT? NO YES			A7. Is 50% or more of the store's inventory beer, wine, and/or liquor? NO YES	
a. Candy	<input type="checkbox"/> 0	<input type="checkbox"/> 1		<input type="checkbox"/> 0 <input type="checkbox"/> 1
e. Fresh fruits or vegetables	<input type="checkbox"/> 0	<input type="checkbox"/> 1	TOBACCO SUPPLEMENT SCREENER	
c. Bottled water	<input type="checkbox"/> 0	<input type="checkbox"/> 1		
d. Sweetened beverages (soda, etc.)	<input type="checkbox"/> 0	<input type="checkbox"/> 1		
A3. Does the store have a...? NO YES			J1. Does the store sell any over-the-counter Nicotine Replacement Products? NO YES	
a. Bank	<input type="checkbox"/> 0	<input type="checkbox"/> 1	(e.g., Nicorette gum, Commit lozenges, Nicoderm)	
b. Pharmacy	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0 <input type="checkbox"/> 1	
c. Butcher or fresh meat service counter	<input type="checkbox"/> 0	<input type="checkbox"/> 1	J2. Does the store sell any tobacco products? NO YES	
d. Deli counter	<input type="checkbox"/> 0	<input type="checkbox"/> 1	IF YES, ATTACH TOBACCO SUPPLEMENT	
e. Bakery	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0 <input type="checkbox"/> 1	
			NOTES	

F. BEVERAGES										1 4 - 1 2 -	
IF F1= NO, SKIP F2-F6	F1. AVAILABLE		F2. BRAND IF None, SKIP F3-F6		F3. QTY	F4. PACKAGE SIZE IF None, SKIP F5-F6		F5. CURRENT PRICE IF 77.77 (DK), SKIP F6		F6. PRICE TYPE	
	NO	YES								REG	SPECIAL
FAMILY SIZE (≥ 1 liter/33.8 fl oz)	a. Orange Juice, 100% juice	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Minute Maid <input type="checkbox"/> 1		59 - 64 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
		Tropicana <input type="checkbox"/> 2	89 oz <input type="checkbox"/> 2								
		None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8								
	b. Juice Drink, <50% juice	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Minute Maid <input type="checkbox"/> 1		59 - 64 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
		Tropicana <input type="checkbox"/> 2	128 oz <input type="checkbox"/> 2								
		None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8								
c. Juice Box/Pouch ≤ 10% juice	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Hi-C <input type="checkbox"/> 1		Box of 10 <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	
	Capri Sun <input type="checkbox"/> 2	Case of 40 <input type="checkbox"/> 2									
	None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8									
d. Soda, regular	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Coca-Cola <input type="checkbox"/> 1		2 Liter <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	
	Pepsi <input type="checkbox"/> 2	12 can case <input type="checkbox"/> 2									
	None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8	Asked? <input type="checkbox"/> N <input type="checkbox"/> Y								
e. Soda, diet	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Coca-Cola <input type="checkbox"/> 1		2 Liter <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	
	Pepsi <input type="checkbox"/> 2	12 can case <input type="checkbox"/> 2									
	None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8	Asked? <input type="checkbox"/> N <input type="checkbox"/> Y								
f. Soda, least expensive regular cola	IF NO SODA AVAILABLE, SKIP ROW				2 Liter <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	
INDIVIDUAL SIZE (< 1 liter/33.8 fl oz)	g. Orange Juice, 100% juice	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Minute Maid <input type="checkbox"/> 1		15.2 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
		Tropicana <input type="checkbox"/> 2	12 oz <input type="checkbox"/> 2								
		None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8								
	h. Juice Drink, <50% juice	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Minute Maid <input type="checkbox"/> 1		15.2 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
		Tropicana <input type="checkbox"/> 2	12 oz <input type="checkbox"/> 2								
		None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8								
	i. Soda, regular	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Coca-Cola <input type="checkbox"/> 1		20 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
		Pepsi <input type="checkbox"/> 2	12 oz <input type="checkbox"/> 2								
		None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8	Asked? <input type="checkbox"/> N <input type="checkbox"/> Y							
	j. Soda, diet	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Coca-Cola <input type="checkbox"/> 1		20 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
		Pepsi <input type="checkbox"/> 2	12 oz <input type="checkbox"/> 2								
		None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8	Asked? <input type="checkbox"/> N <input type="checkbox"/> Y							
	k. Energy Drink, regular	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Red Bull <input type="checkbox"/> 1		8-8.5 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2
		Monster <input type="checkbox"/> 2	16 oz <input type="checkbox"/> 2								
Rockstar <input type="checkbox"/> 3		None of above <input type="checkbox"/> 8									
None of above <input type="checkbox"/> 8		None of above <input type="checkbox"/> 8									
l. Isotonic Sports Drink, regular	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Gatorade <input type="checkbox"/> 1		20 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	
	Powerade <input type="checkbox"/> 2	32 oz <input type="checkbox"/> 2									
	None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8									
m. Enhanced Water, regular	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Vitamin Water <input type="checkbox"/> 1		20 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	
	Sobe Life <input type="checkbox"/> 2	16-17 oz <input type="checkbox"/> 2									
	Propel <input type="checkbox"/> 3	None of above <input type="checkbox"/> 8									
	None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8									
n. Bottled Water, plain	<input type="checkbox"/> 0	<input type="checkbox"/> 1	Dasani <input type="checkbox"/> 1		20 oz <input type="checkbox"/> 1	\$ _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	
	Aquafina <input type="checkbox"/> 2	24 oz <input type="checkbox"/> 2									
	None of above <input type="checkbox"/> 8	None of above <input type="checkbox"/> 8	Asked? <input type="checkbox"/> N <input type="checkbox"/> Y								

COUNT THE NUMBER OF...		K1. on Building Exterior		K2. on Property	
		TALLY	TOTAL	TALLY	TOTAL
a. All Tobacco Advertisements (IF 10+, CODE 10)					
1. Ads that include Cigarettes					
a. Cigarette ads that include a Price Promotion					
2. Ads that include Snus					
a. Snus ads that include a Price Promotion					
3. Ads that include Moist Snuff					
a. Moist snuff ads that include a Price Promotion					
4. Ads that include Dissolvable Tobacco Products					
a. Dissolvable Tobacco Product ads that include a Price Promotion					
b. All Food and/or Beverage Advertisements (IF 20+, CODE 20)					
1. Ads that include a Price Promotion					
2. Ads that include a Food					
a. Ads that include Fresh Produce (Salad, fruit, vegetables)					
3. Ads that include a Beverage					
a. Ads that include Regular Soda					
a1. Ads that include Diet Soda					
b. Ads that include Regular Energy Drink					

L. STORE EXTERIOR							
L1. Does the store have...?	NO	YES	L3. How much graffiti/tagging is on building and/or property?	NONE	A LITTLE	SOME	A LOT
a. Parking On-Site <i>IF NO, SKIP TO L1b</i>	<input type="checkbox"/> 0	<input type="checkbox"/> 1			<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2
1. Lighted Parking	<input type="checkbox"/> 0	<input type="checkbox"/> 1	L4. How much garbage/litter is at the facility entrance area?		<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2
b. Bicycle Parking	<input type="checkbox"/> 0	<input type="checkbox"/> 1		NOTES			
c. Bars on Windows	<input type="checkbox"/> 0	<input type="checkbox"/> 1					
d. A sidewalk on street at address <i>IF NO, SKIP TO L2</i>	<input type="checkbox"/> 0	<input type="checkbox"/> 1					
1. Sidewalk Lighting	<input type="checkbox"/> 0	<input type="checkbox"/> 1					
L2. Does the store sell gasoline?	<input type="checkbox"/> 0	<input type="checkbox"/> 1					

Key Exposure Measures

- Community exposure measures were weighted mean catchment-level food store observations.
- Key measures included:
 - Price of regular individual size (20 ounces) soda (i.e. Coca-cola) in \$
 - Number of regular soda ads found on building exterior and property.

Estimation Models

- Regular Soda Consumption = f (price/ads, gender, grade, race, student income, student hours of work, mother hours of work, mother education, region, neighborhood income, year indicators)
- Estimations Models:
 1. Ordinary least squares (OLS) consumption models
 2. Probit consumption prevalence models
 3. Probit heavy consumption prevalence models
- Estimation of partially- and fully-adjusted models and by subpopulations.

Results

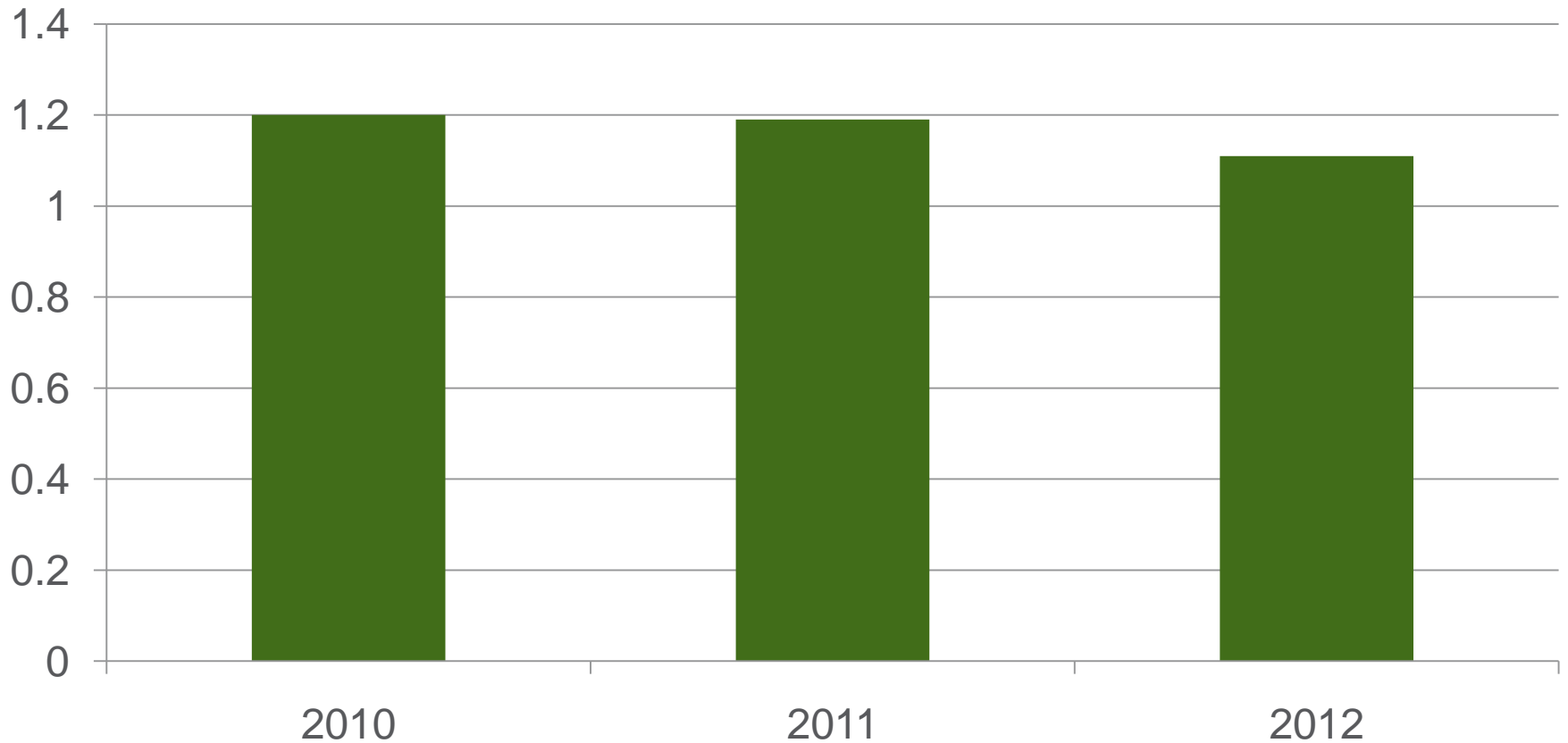
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Summary Statistics: Soda Consumption Outcomes

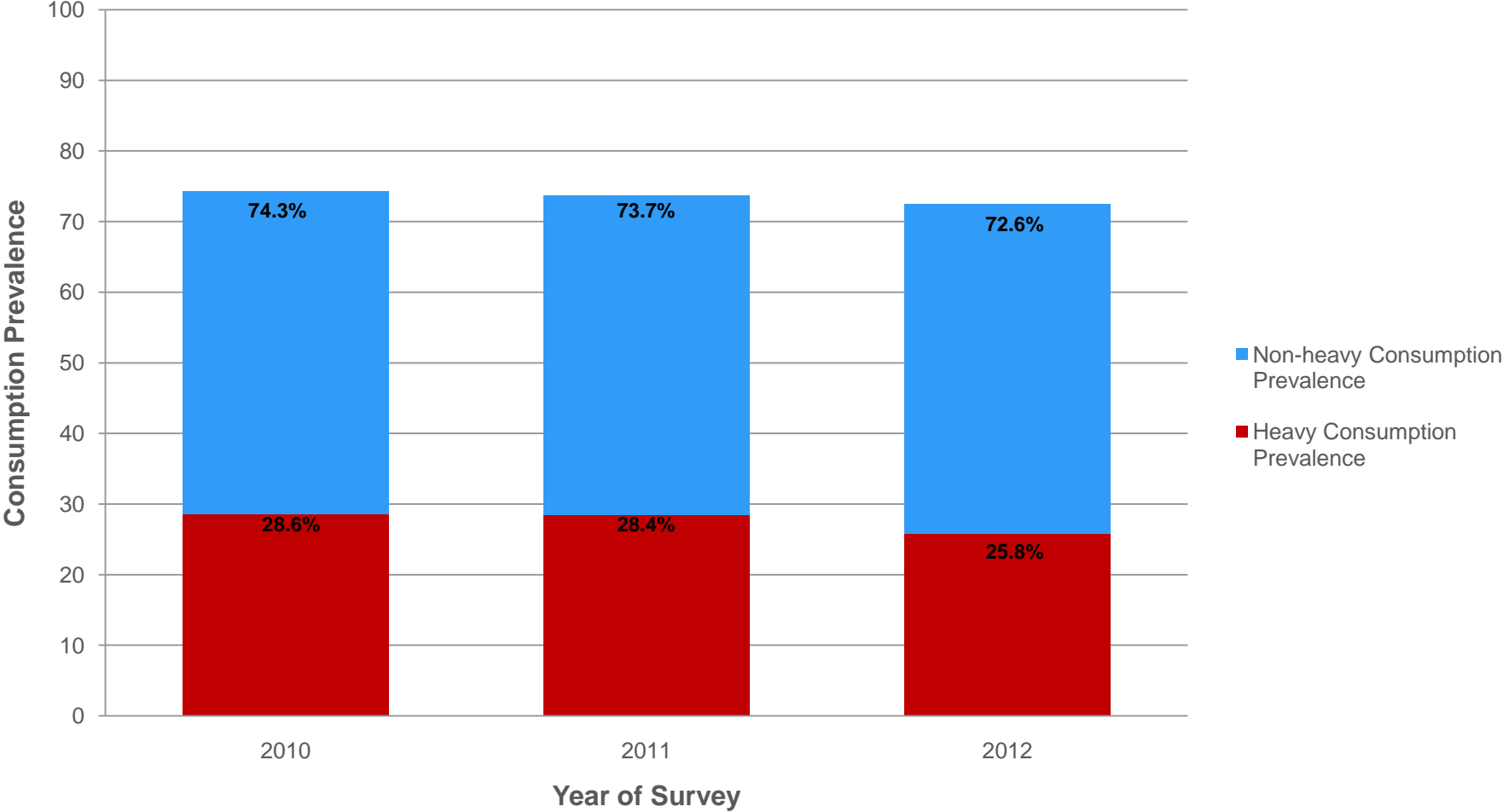
	Number of Drinks Per Day	Consumption Prevalence	Heavy Consumption Prevalence
Full Sample (n=12,357)	1.17	73.5%	27.6%
Female (n=6,311)	1.02	69.4%	23.3%
Male (n=6,046)	1.33	77.8%	32.1%
8th Grade (n=5,129)	1.29	77.5%	30.9%
10th Grade (n=5,118)	1.10	71.3%	26.0%
12th Grade (n=2,110)	1.06	70.4%	24.6%
White (n=7,679)	1.10	72.6%	25.5%
Black (n=1,222)	1.58	78.7%	42.2%
Hispanic (n=1,749)	1.23	75.4%	29.8%
Other race (n=1,707)	1.10	71.8%	24.3%
Mother no college (n=3,004)	1.48	78.7%	37.0%
Mother some college or more (n=9,353)	1.06	71.8%	24.4%
Live with one parents (n=2,838)	1.38	75.2%	34.9%
Live with both parent (n=9,519)	1.10	73.0%	25.4%

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Soda Consumption (Cans/day), by Year



Soda and Heavy Soda Consumption Prevalence, by Year



Summary Statistics: Key Exposure and Selected Control Variables

	Mean
Variables of Interest	
Price of 20oz regular soda (\$)	1.56
Regular Soda Exterior Beverage Ads	1.02
Selected Control Variables	
Age (y)	15.22
White (%)	62.34
Black (%)	10.10
Hispanic (%)	14.26
Other race (%)	13.30
Mother some college or more (%)	74.68
Live with both parents (%)	76.41
Youth income (\$/wk)	38.72
Youth hours worked per week	3.40
Mother PT job (%)	17.19
Mother FT job (%)	62.88

Regression Results for Price on Consumption

	Number of Drinks Per Day	Consumption Prevalence	Heavy Consumption Prevalence
Variable of Interest			
Price of 20oz regular soda	-0.329** [-0.44]	-0.114** [-0.24]	-0.139** [-0.84]
Selected Control Variables			
Male	0.273***	0.081***	0.085***
10th Grade	-0.183***	-0.061***	-0.044***
12th Grade	-0.373***	-0.085***	-0.089***
Black	0.221***	0.027*	0.085***
Hispanic	0.027	0.011	0.017
Other race	0.053	0.004	0.006
Median Household Income	-0.072***	-0.011***	-0.027***
Mother Some College or More	-0.294***	-0.053***	-0.087***

*p < 0.10, **p < 0.05, *** p < 0.01; [Elasticity]

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Price Elasticity of Consumption, Alternative Model Specifications

	Partially-Adjusted Model 1	Partially-Adjusted Model 2	Fully-Adjusted Model
Number of Drinks Per Day	-1.77***	-0.87***	-0.44**
Consumption Prevalence	-0.57***	-0.33***	-0.24**
Heavy Consumption Prevalence	-2.72***	-1.48***	-0.84**

*p < 0.10, **p < 0.05, *** p < 0.01

Price Elasticity of Consumption, by subpopulations

	Number of Drinks Per Day	Consumption Prevalence	Heavy Consumption Prevalence
Full Sample	-0.44**	-0.24**	-0.84**
By Gender			
Female	-0.67**	-0.47***	-0.65
Male	-0.24	0.00	-0.98**
By Grade			
Middle School	-0.10	-0.21*	-0.37
High School	-0.77**	-0.30**	-1.34**
By Race			
White	-0.55**	-0.28**	-0.98**
Black	-0.40	0.11	-1.33*
Hispanic	-0.24	-0.22	-0.76
By Mother's Education			
Mother no college	-0.38	-0.12	-0.59
Mother some college or more	-0.47**	-0.30**	-1.02***

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*p < 0.10, **p < 0.05, *** p < 0.01

Regression Results for Regular Soda Advertisements on Consumption

	Number of Drinks Per Day	Consumption Prevalence	Heavy Consumption Prevalence
Variables of Interest			
Regular Soda Food Store Beverage Ads	0.017 [0.02]	-0.001 [-0.00]	0.009* [0.05]

*p < 0.10, **p < 0.05, *** p < 0.01; [Elasticity]

Impact of Regular Soda Advertisements on Heavy Consumption, Elasticities by Subpopulations

	Heavy Consumption
Full Sample	0.05*
By Gender	
Female	0.06
Male	0.05
By Grade	
Middle School	0.09**
High School	0.02
By Race	
White	0.08**
Black	0.13**
Hispanic	-0.08
By Mother's Education	
Mother no college	0.02
Mother some college or more	0.08**

Elasticity for Price and Advertisement Data on Consumption

	Number of Drinks Per Day	Consumption Prevalence	Heavy Consumption Prevalence
Variables of Interest			
Price of 20oz regular soda	-0.44**	-0.24**	-0.84**
Regular Soda Food Store Beverage Ads	0.02	-0.00	0.05*

*p < 0.10, **p < 0.05, *** p < 0.01

Summary of Results

- Preliminary results show significant associations between regular soda prices and consumption outcomes. A 10% increase in price is associated with 4.4% lower consumption, 2.4% lower consumption prevalence, and 8.4% lower heavy consumption prevalence.
- Future estimation: Count models of consumption and associations with body weight.
- Less consistent results found for associations between exterior regular soda ads and consumption; although significant for some populations (middle school, white, black, higher mother's education).

Policy Implications

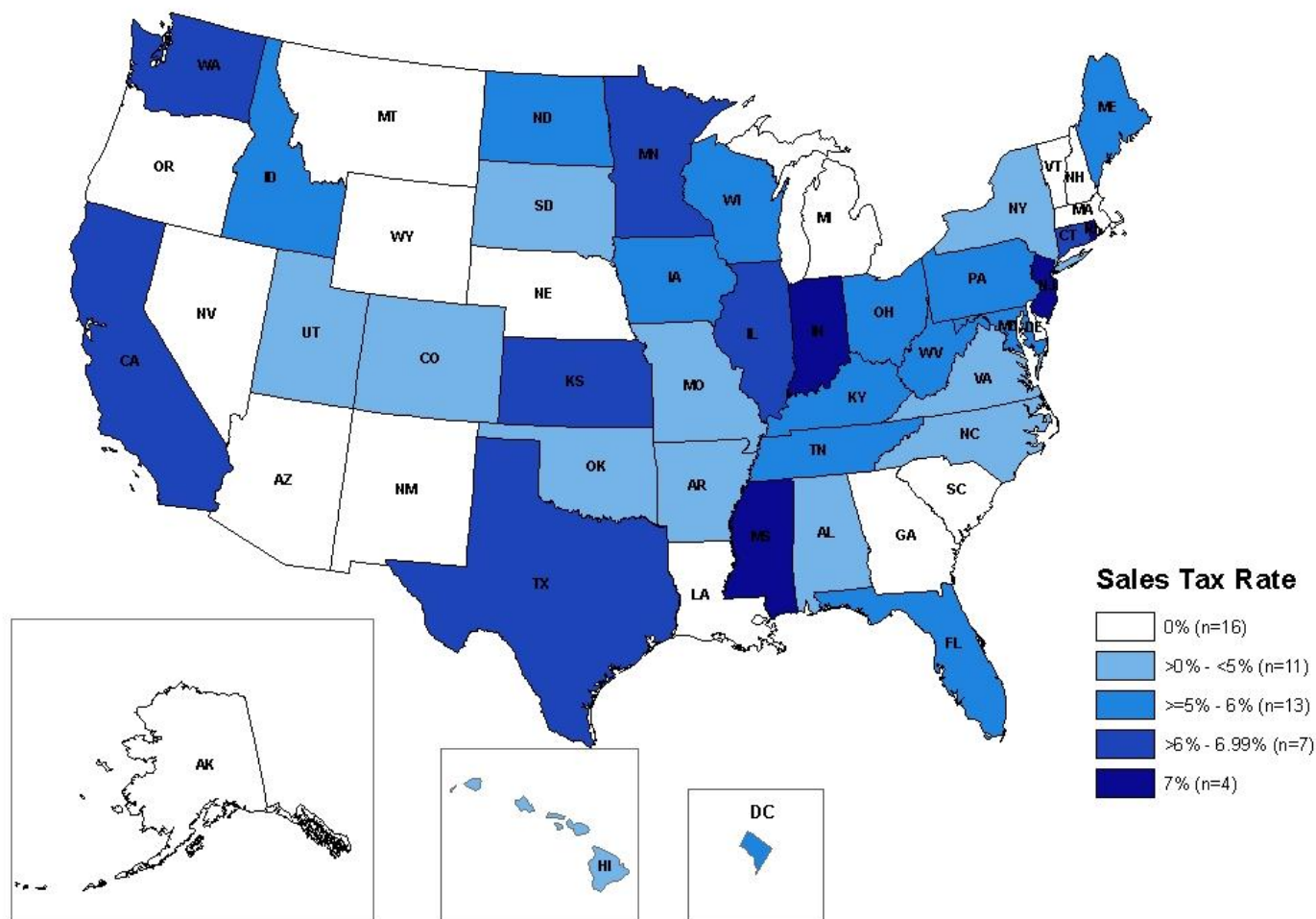
Tax Design, Revenue, Current Taxes, and Proposed Taxes

Policy Landscape - Taxes

Food taxes have not generally been introduced with the aim of modifying consumption behavior as they have been used in other public health areas such as tobacco.

Food taxes are currently imposed on selected categories of food such as soft drinks, candy and snacks in grocery stores and vending machines but at quite **low tax rates**.

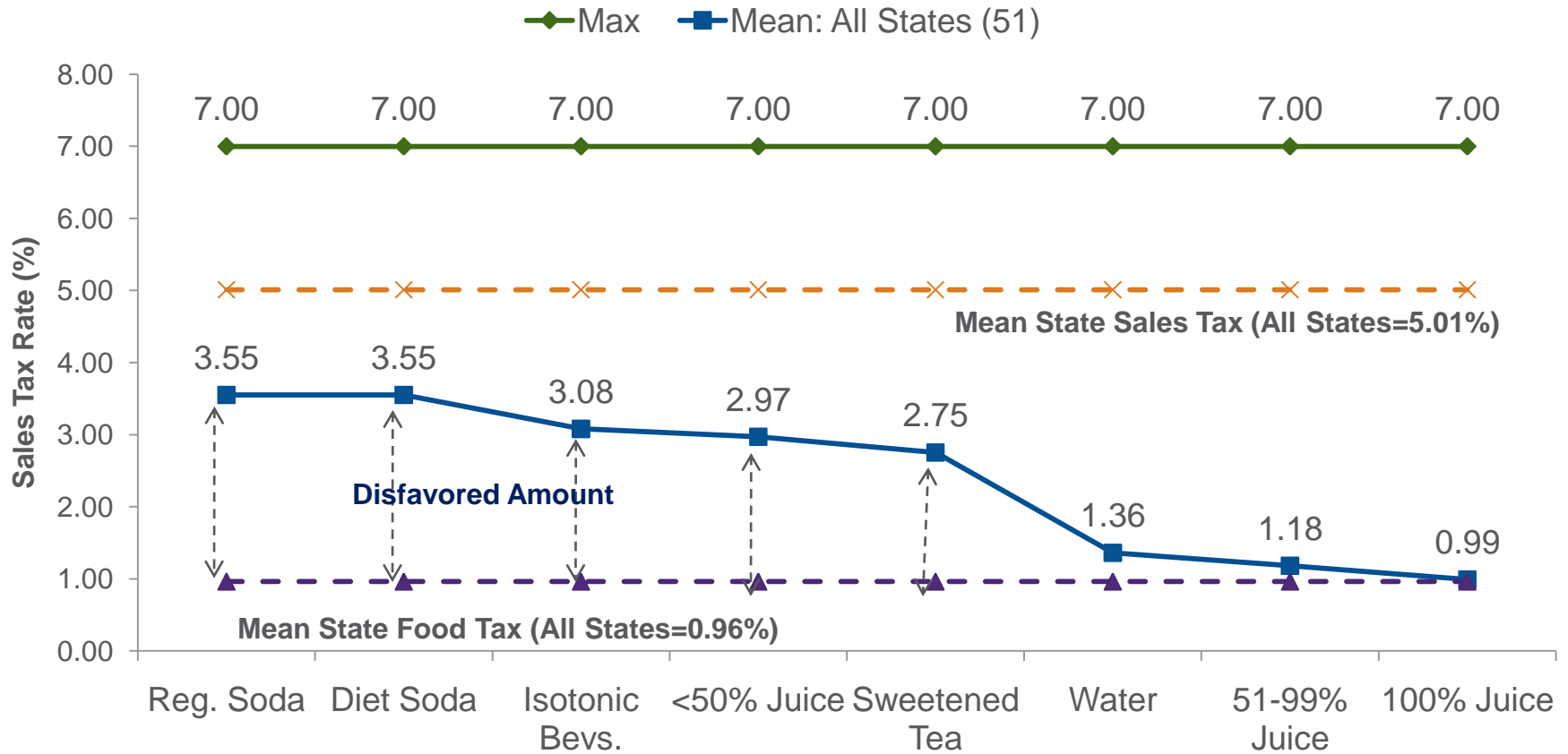
State Sales Taxes on Regular, Sugar-Sweetened Beverages, as of July 1, 2012



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

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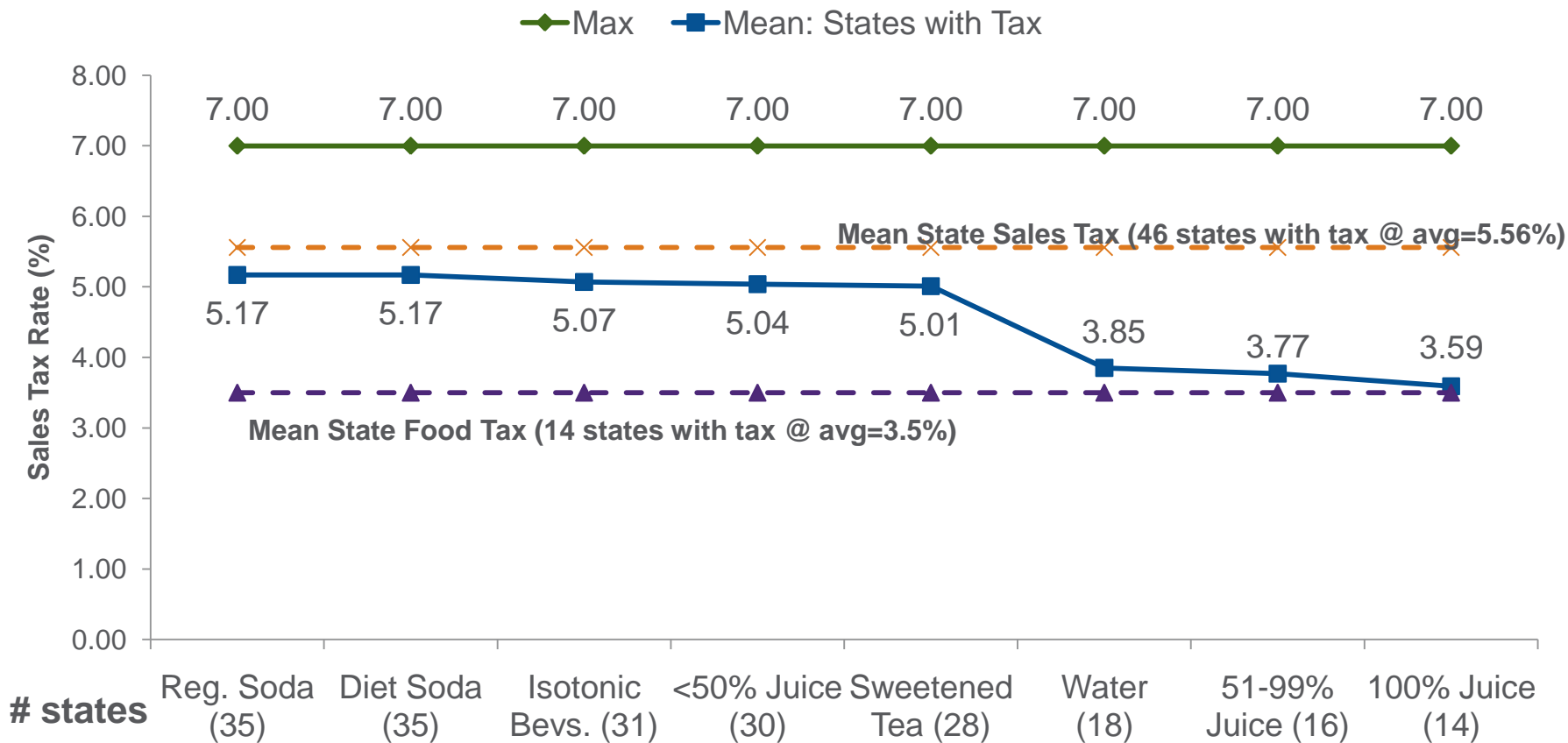
Sales Taxes on Selected Beverages, All States (as of July 1, 2012)



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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Sales Taxes on Selected Beverages, Taxing States (as of 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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Selected Examples of State SSB-related Legislative Activity 2011/12

California (\$0.01/ounce tax on distributors of SSBs; revenue to create Children's Health Promotion Fund) – **Failed to pass 3/1/2012**

California (to authorize any county or city to propose to voters a \$0.01/ounce excise tax on SSBs) – **Failed to pass 3/1/2012**

Hawaii (7 Bills introduced from 2011 through 2012) – **All Died in Committee or Failed to pass**

Illinois (\$0.01/ounce tax on SSBs; revenue to create Illinois Health Promotion Fund)

Nebraska (sales tax on SSBs; revenue to Obesity Prevention Fund) – **Postponed 4/23/2012**

Rhode Island (\$0.01/ounce, revenue for programs to reduce obesity) – **Held for study 5/5/2011**

Tennessee (\$0.01/ounce tax on bottled SSBs in exchange for 1% reduction in state sales tax on food – referred to as 'swap legislation') – **Died in Committee 9/12/2012**

Vermont (\$0.01/ounce tax on SSBs; revenue to create Vermont oral health improvement fund) – **Died in Committee 9/14/2012**

West Virginia (series of taxes on bottled soft drinks, syrups and dry mixtures; revenue for state parks) – **Died in Committee 7/8/2011**

Source: Rudd Center for Food Policy & Obesity, Legislation Database

Global Beverage Taxes

Several countries recently adopted beverage taxes as part of effort to curb obesity

- 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, flavored milks, and drink mixes containing sugar

Source: Chriqui et al., 2013.

Tax Policy Design Implications

- ❖ Issues of applicability to SNAP (food stamp) purchases
- ❖ Excise tax rather than a sales tax
 - Incorporated at shelf price – more apparent to consumers
 - Applicable regardless of where items are sold
 - Applied on a per unit basis rather than a function of price so that quantity discounts are still taxed. Issue of zero marginal cost for free refills.
 - Reduces incentives to switch to cheaper brands
 - Disadvantage: Need to be adjusted for inflation
- ❖ Dedication of tax revenue to nutrition and physical activity programs

SSB Taxation & Revenues

Revenue generating potential of tax is considerable

- SSB Tax calculator at:

<http://www.yaleruddcenter.org/sodatax.aspx>

- Tax of one cent per ounce could generate:
\$13.1 billion nationally in 2013
- Tax of one cent per ounce in Georgia
\$450.9 million in 2013
- Earmarking tax revenues for obesity prevention efforts would add to impact of tax

PSAs could be paid for with the tax revenue!

Example of PSA in New York City: Pour on the Pounds Campaign.



bridging the gap

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Research Informing Policies and Practices for Healthy Youth

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Community Data
Examining the impact of local-level policies and environmental factors on youth obesity and tobacco use
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Assessing local policies and environments

Bridging the Gap
Bridging the Gap is a nationally recognized research program. Our goal is to improve the understanding of how policies and environmental factors affect diet, physical activity and obesity among youth, as well as youth tobacco use.

What We Do

- Identify the policy and environmental factors that have the greatest impact on diet, physical activity, obesity and tobacco use among youth.
- Track trends and changes in these factors over time at the state, community and school levels.
- Disseminate findings to help advance solutions for reversing the childhood obesity epidemic and preventing young people from smoking.

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Quick Fact: Higher fast food prices were associated w/ lower weight among teens, esp among low-SES & high-SMI teens. [via @JPHFP](#)
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- Bridging the Gap** @BTGresearch 27 Sep
Quick Fact: Policies regarding food & beverages sold in some, but not all, competitive venues are not as effective. [via @JPHFP](#)
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