

bridging the gap

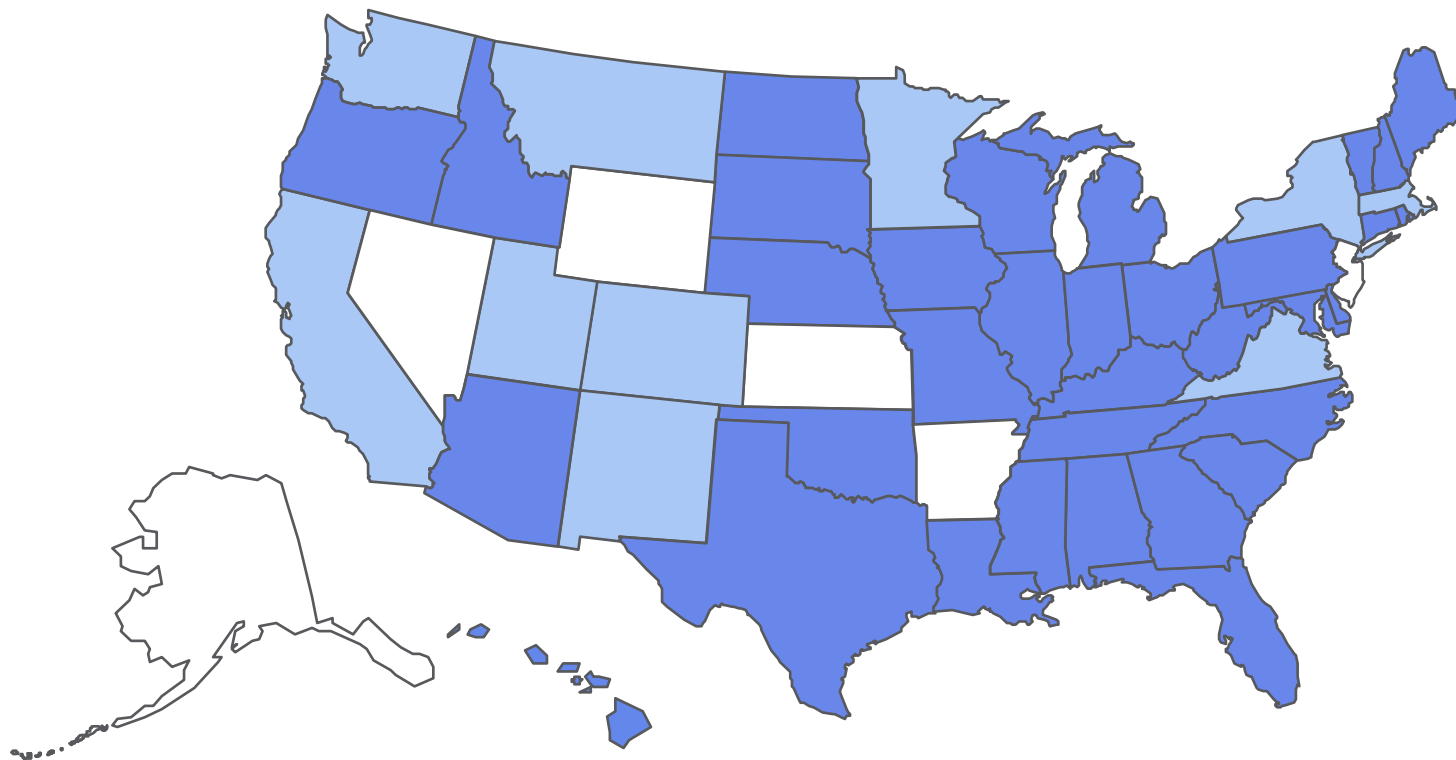
Research Informing Policies & Practices
for Healthy Youth

Public Policy Options for Promoting Healthy Eating, Increasing Activity, and Reducing Childhood Obesity

Iowa Governor's Conference on Public Health
April 5, 2011, Ames IA

Obesity Trends* Among U.S. Adults, BRFSS 1990 (1)

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)

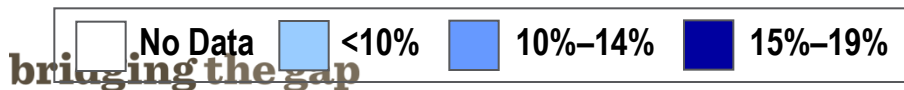
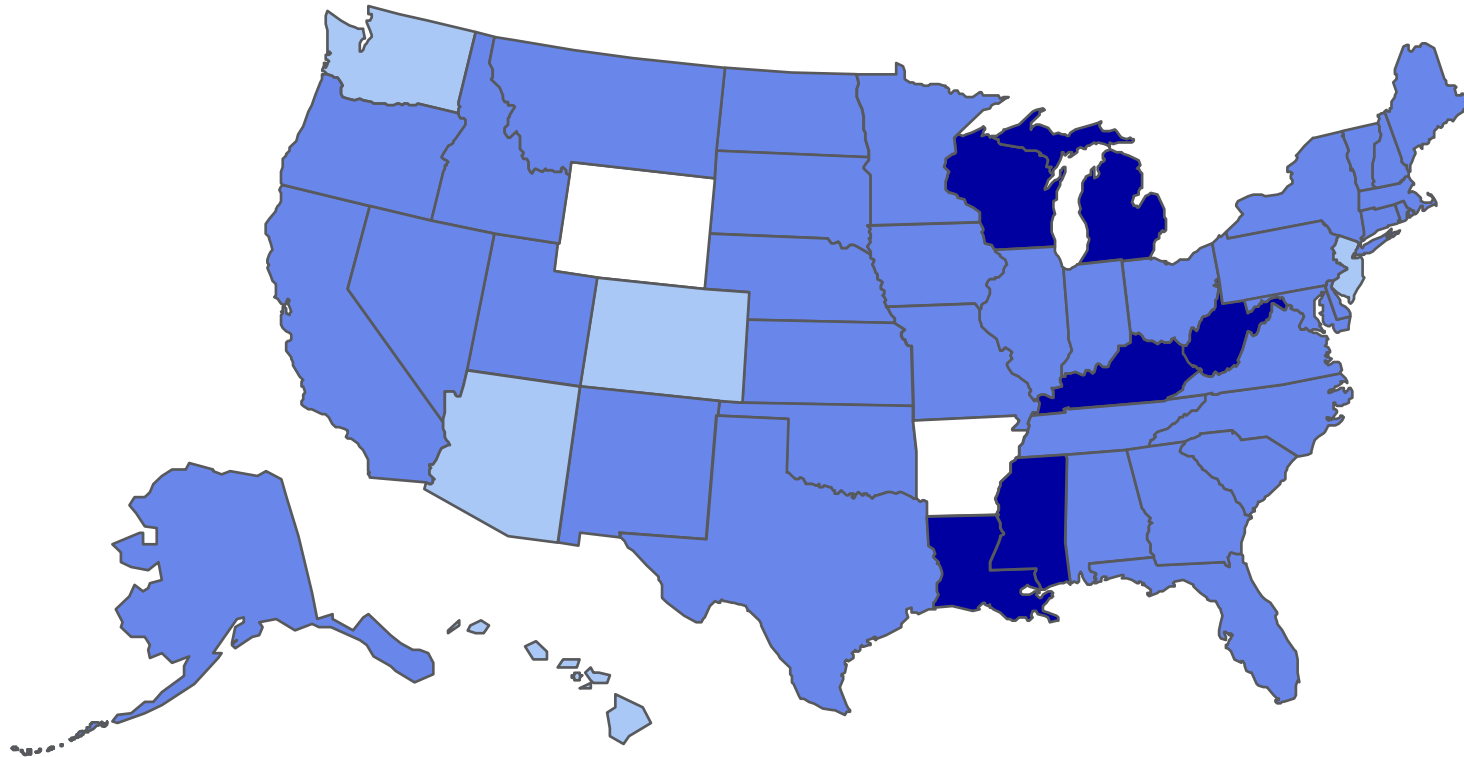


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Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 1992

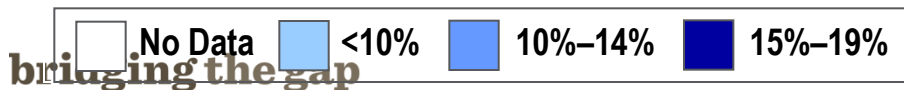
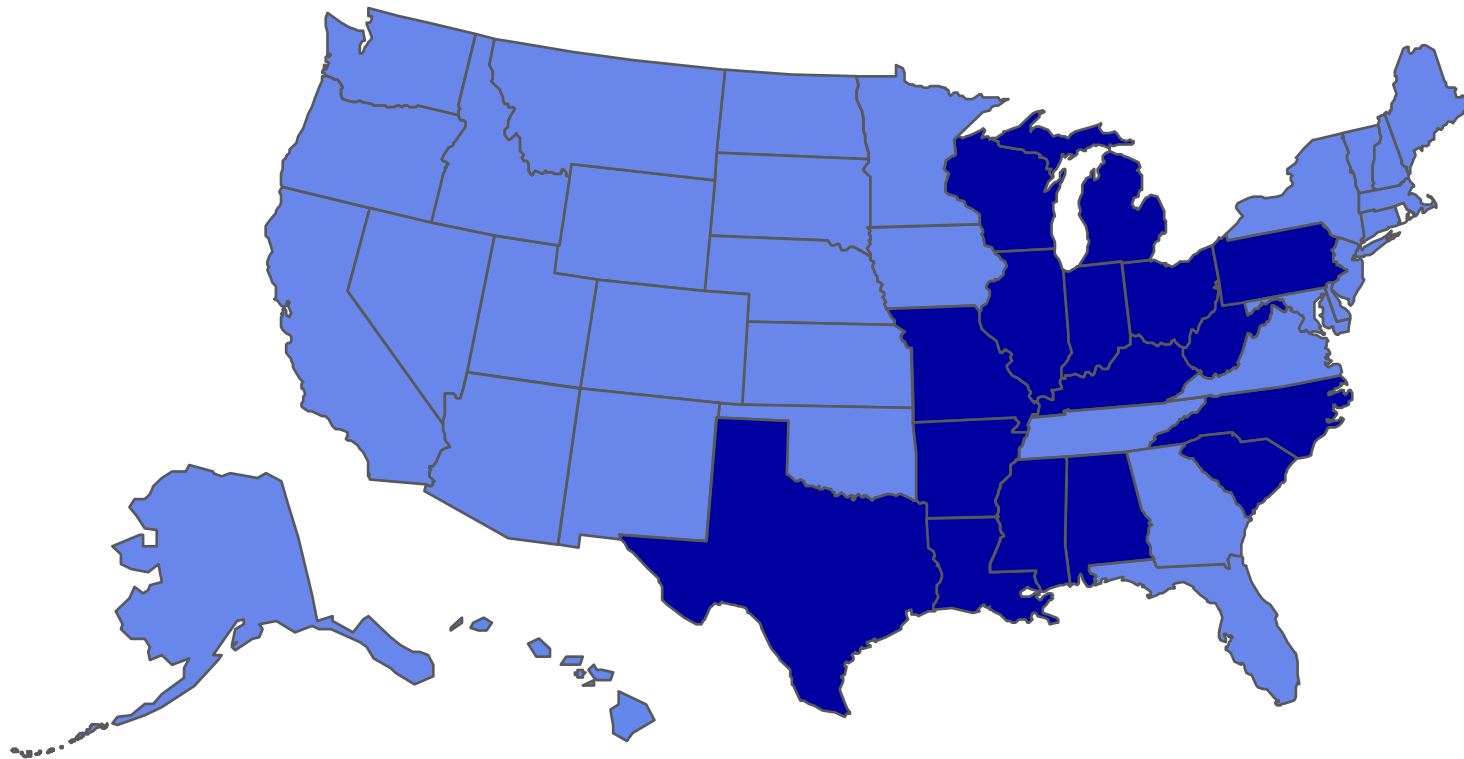
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 1994

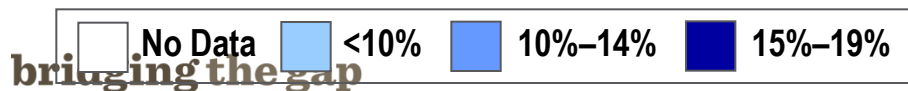
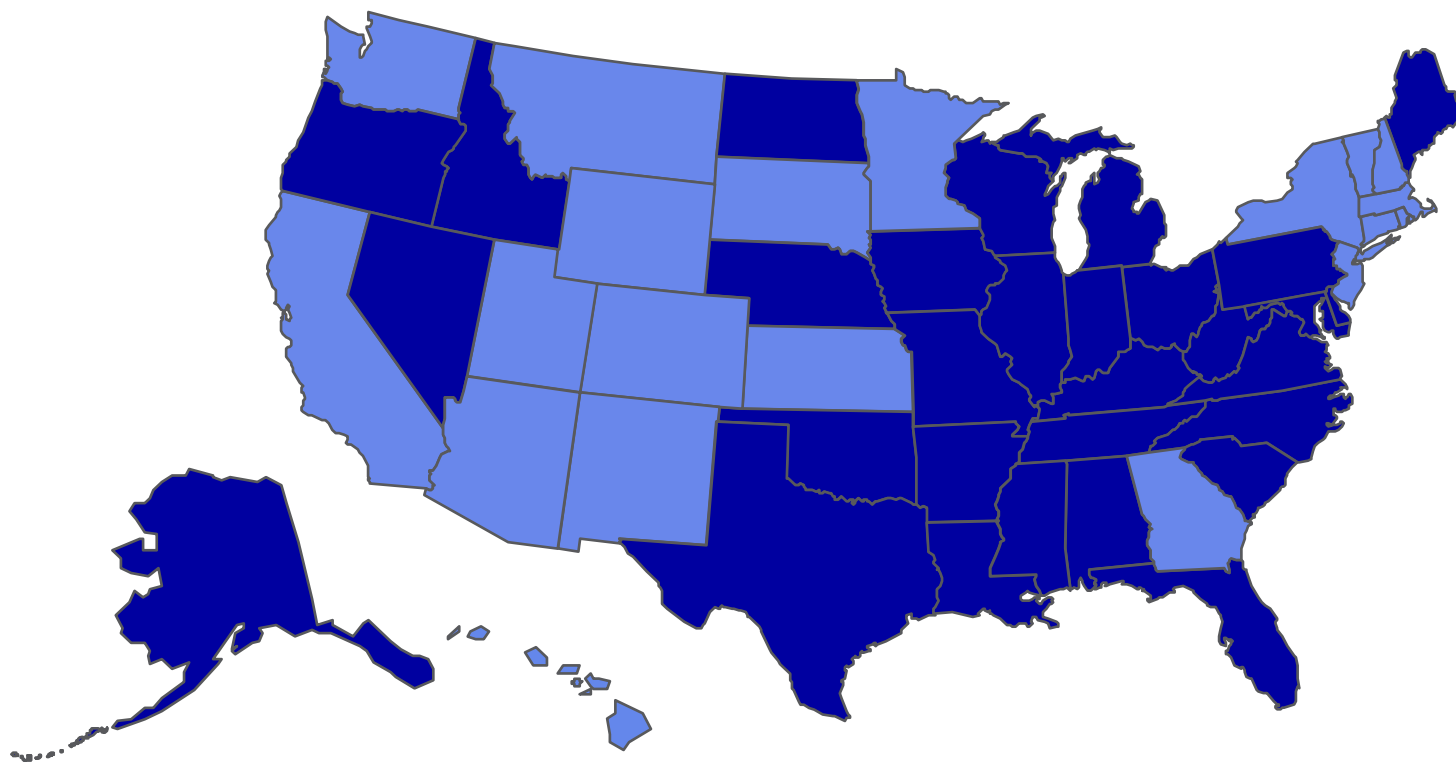
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 1996

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)

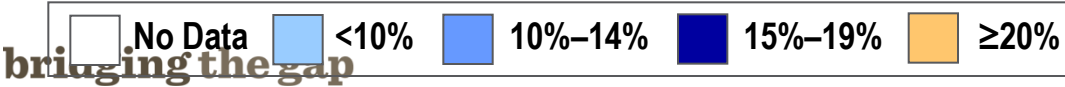
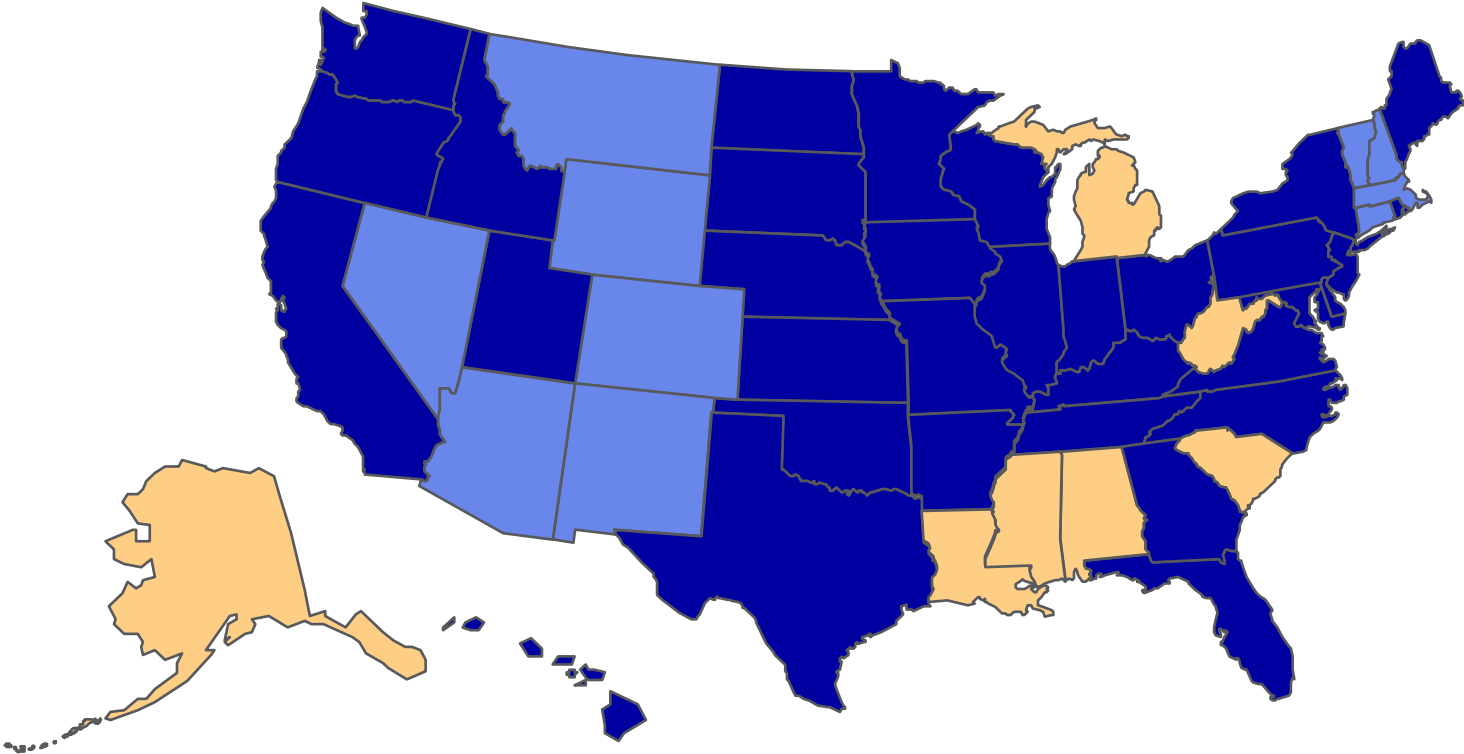


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Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 1998

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)

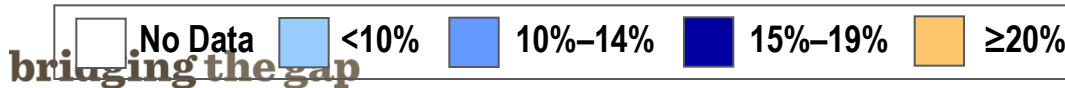
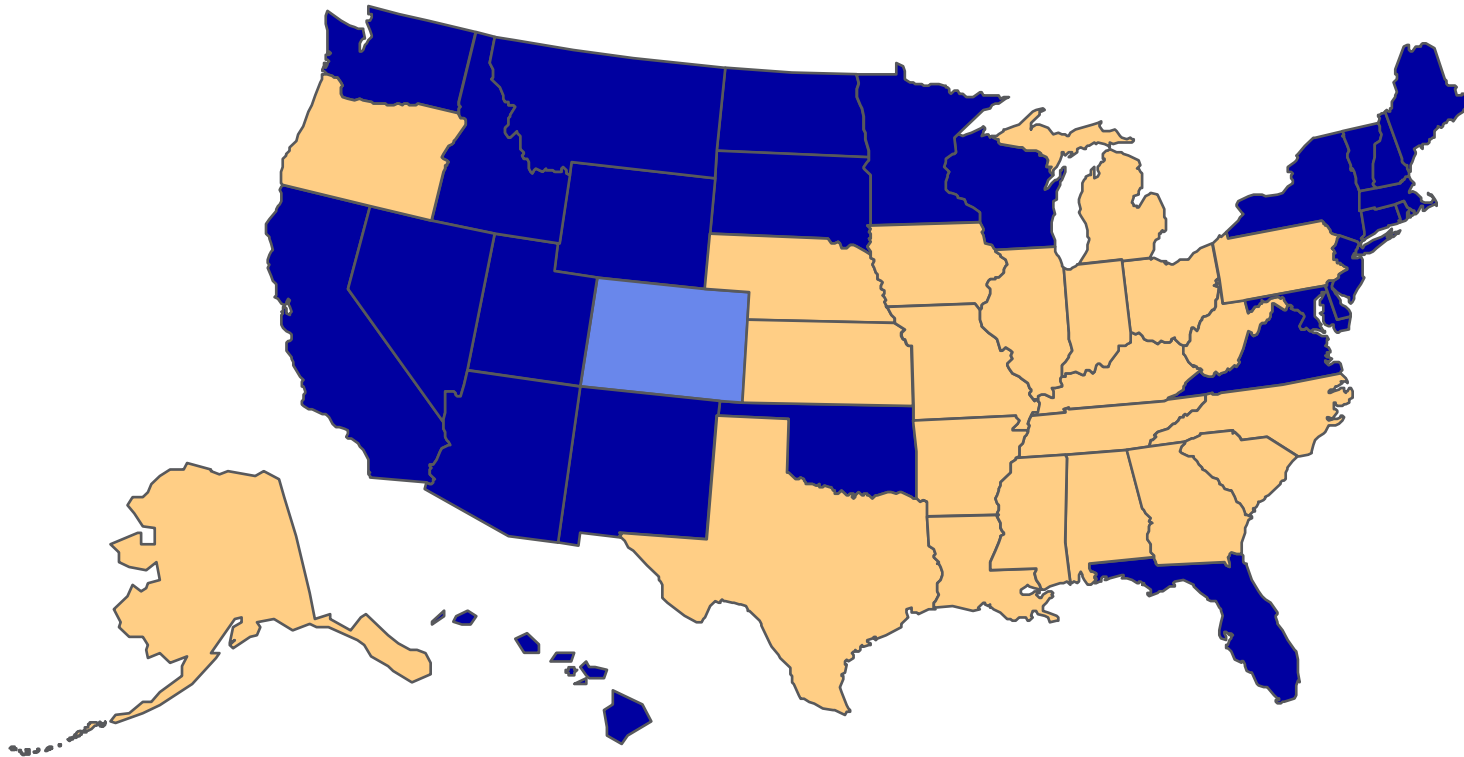


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Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 2000

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)

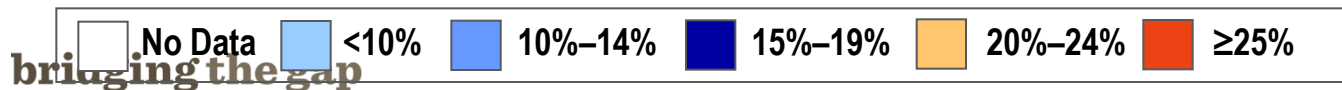
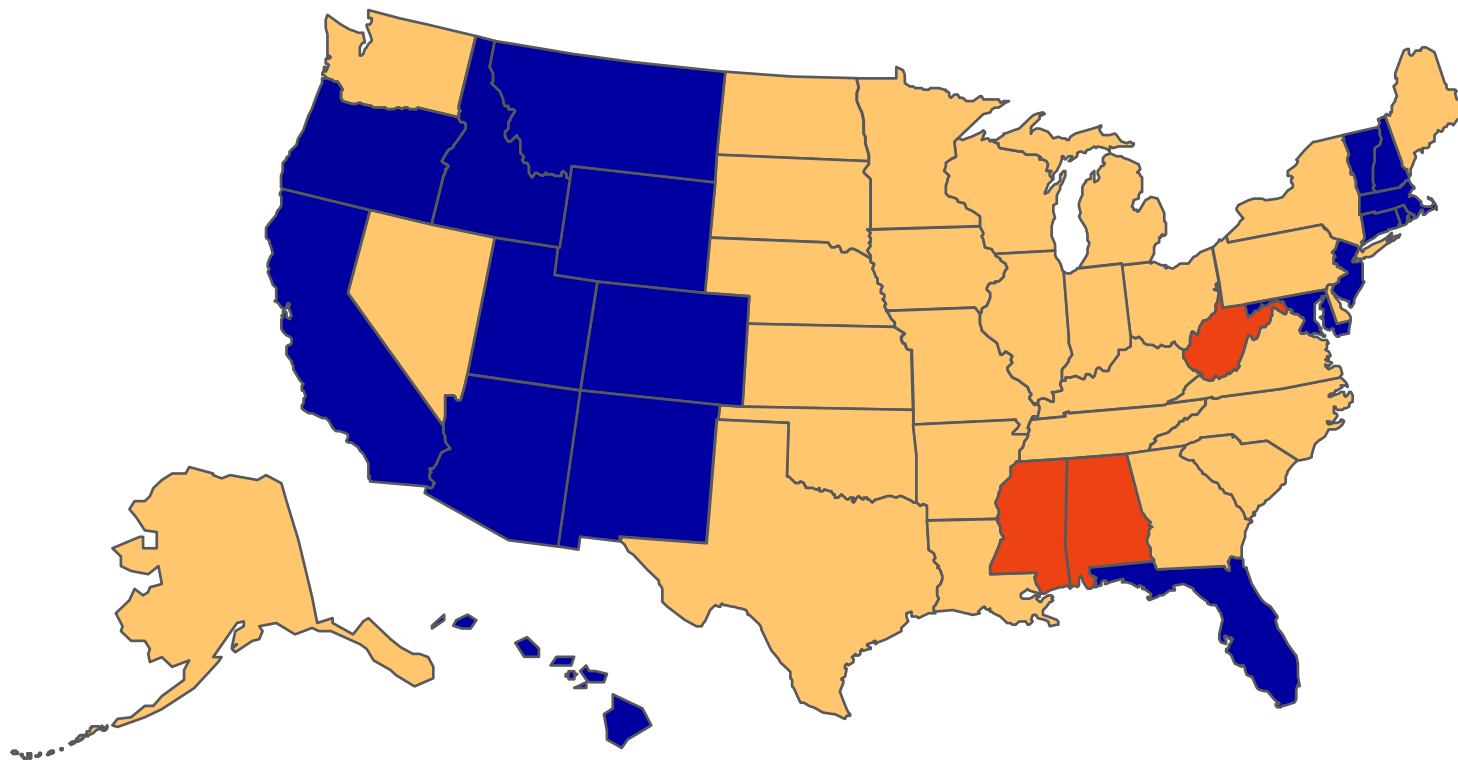


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Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 2002

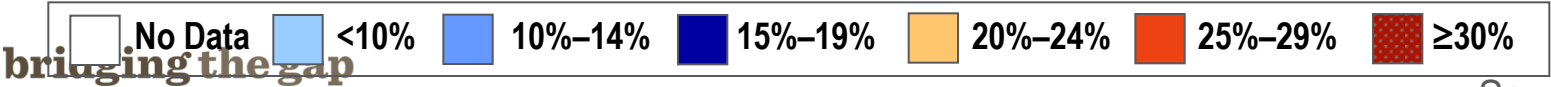
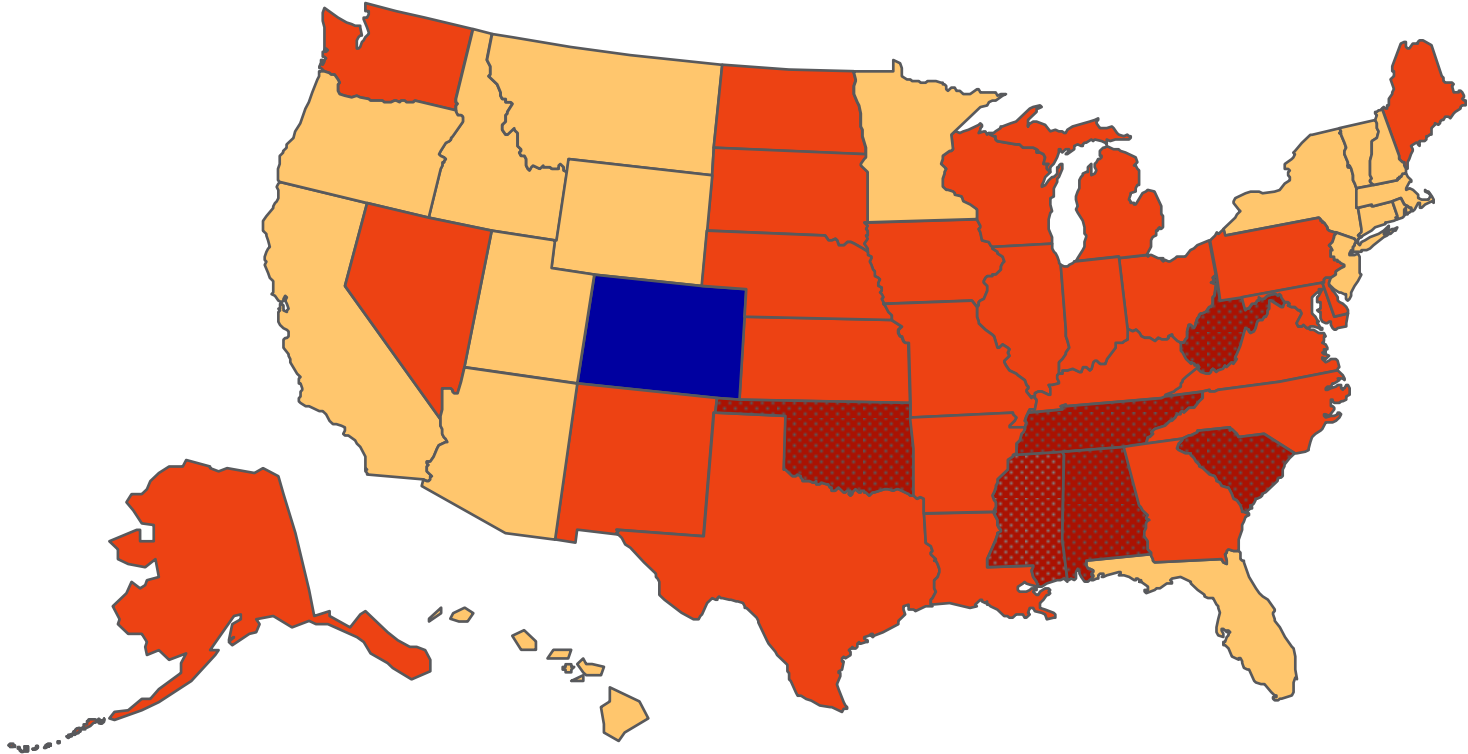
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 2008

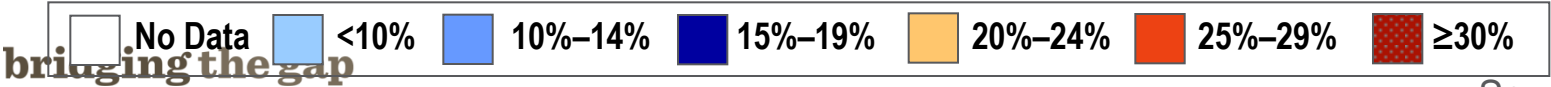
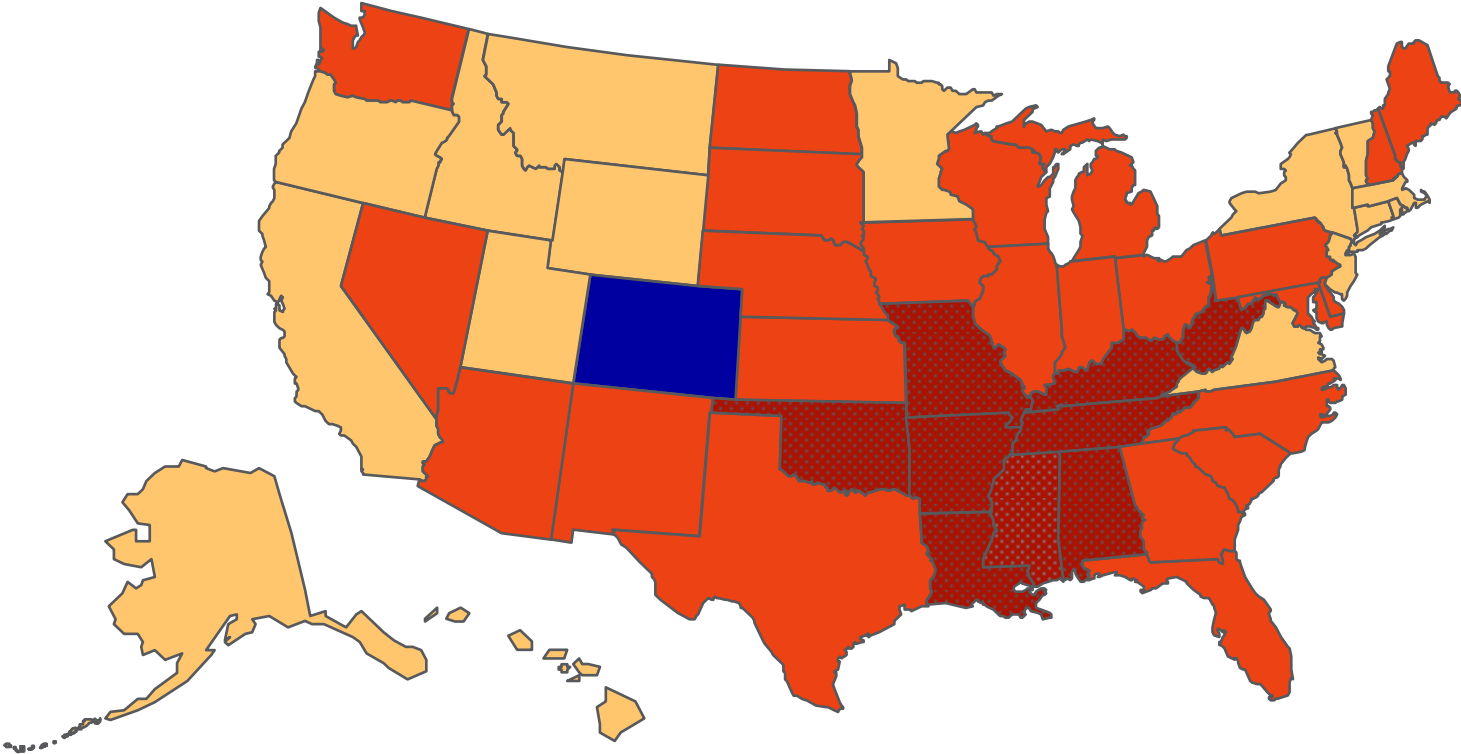
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Source: CDC, 2011

Obesity Trends* Among U.S. Adults, BRFSS 2009

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



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Source: CDC, 2011

Obesity Statistics

Between 1980–2008, obesity prevalence among adults doubled; recent estimates indicate that more than 1/3rd of adults are obese and another 1/3rd are overweight .

- IA: 28.5% obese, 38.7% overweight

Over 1/6th of children are obese, triple the rate in the 1970's and almost 1/3rd are overweight or obese

- IA, 10-17 year olds: 12.8% obese; 28.2% overweight/obese

Significant disparities - much higher rates in lower-income, less educated populations, and minority populations.

- IA: 38.9% obese, income <\$15,000 vs. 26.6%, income > \$50,000

Obesity Costs

- In 2008, the health care costs of obesity were estimated to be as much as \$147 billion, double the amount a decade ago.
- Annual medical expenses for an obese individual estimated to be 42% higher than for a person of a healthy weight.
- Significant share of costs paid for through public health insurance programs
- Additional economic costs from lost productivity due to increased morbidity

Government Can Be Part of the Solution

Policies and environments that affect peoples' health are determined by a variety of state and local government entities, including:

- State legislatures and governor
- City Councils/County Commissions
- Zoning Boards
- School Districts
- Transportation & Planning departments
- Parks & Recreation departments

Why Policy & Environmental Change to Address Obesity?

Potential for *systemic change* in a community's food and physical activity environment.

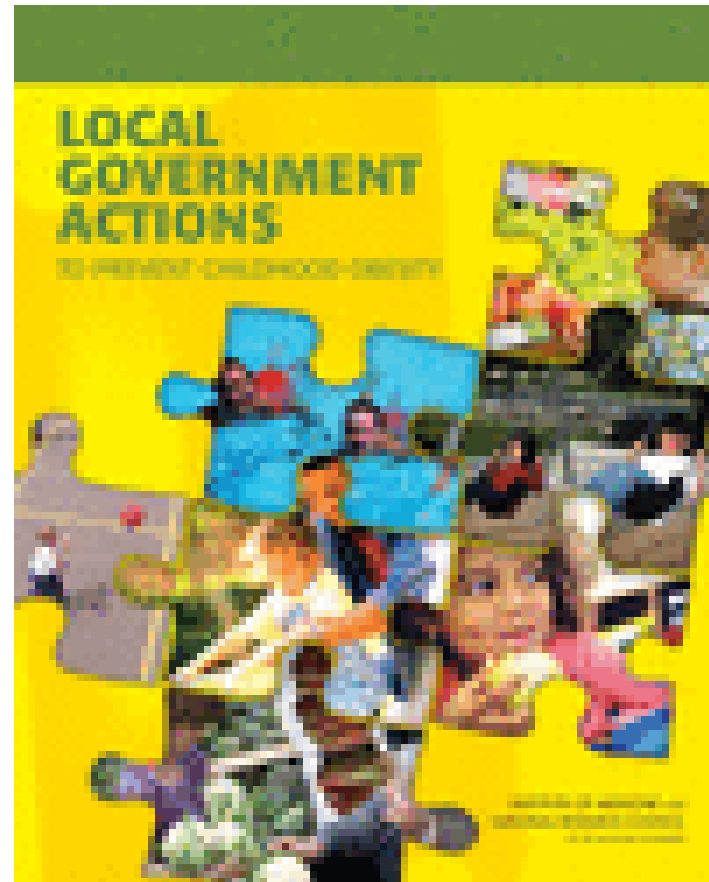
Broad Reach: Opportunity to “*level the playing field*” for all members of a community, including disproportionately impacted populations.

Flexibility: Consider the unique characteristics and needs of your community and implement obesity prevention initiatives to address them.

Demonstrated Effectiveness in previous public health efforts, most notably in reducing tobacco use (taxes, smoke-free policies, comprehensive programs)

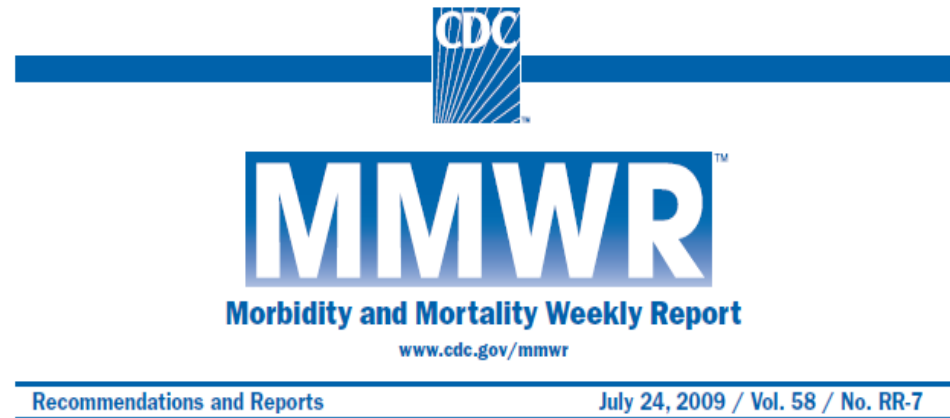
Policy and Environmental Strategies

Various organizations have identified multiple policy and environmental strategies to promote healthier eating and increase physical activity



Policy and Environmental Strategies

Various organizations have identified multiple policy and environmental strategies to promote healthier eating and increase physical activity



**Recommended Community Strategies
and Measurements to Prevent Obesity
in the United States**

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Policy and Environmental Strategies

Various organizations have identified multiple policy and environmental strategies to promote healthier eating and increase physical activity



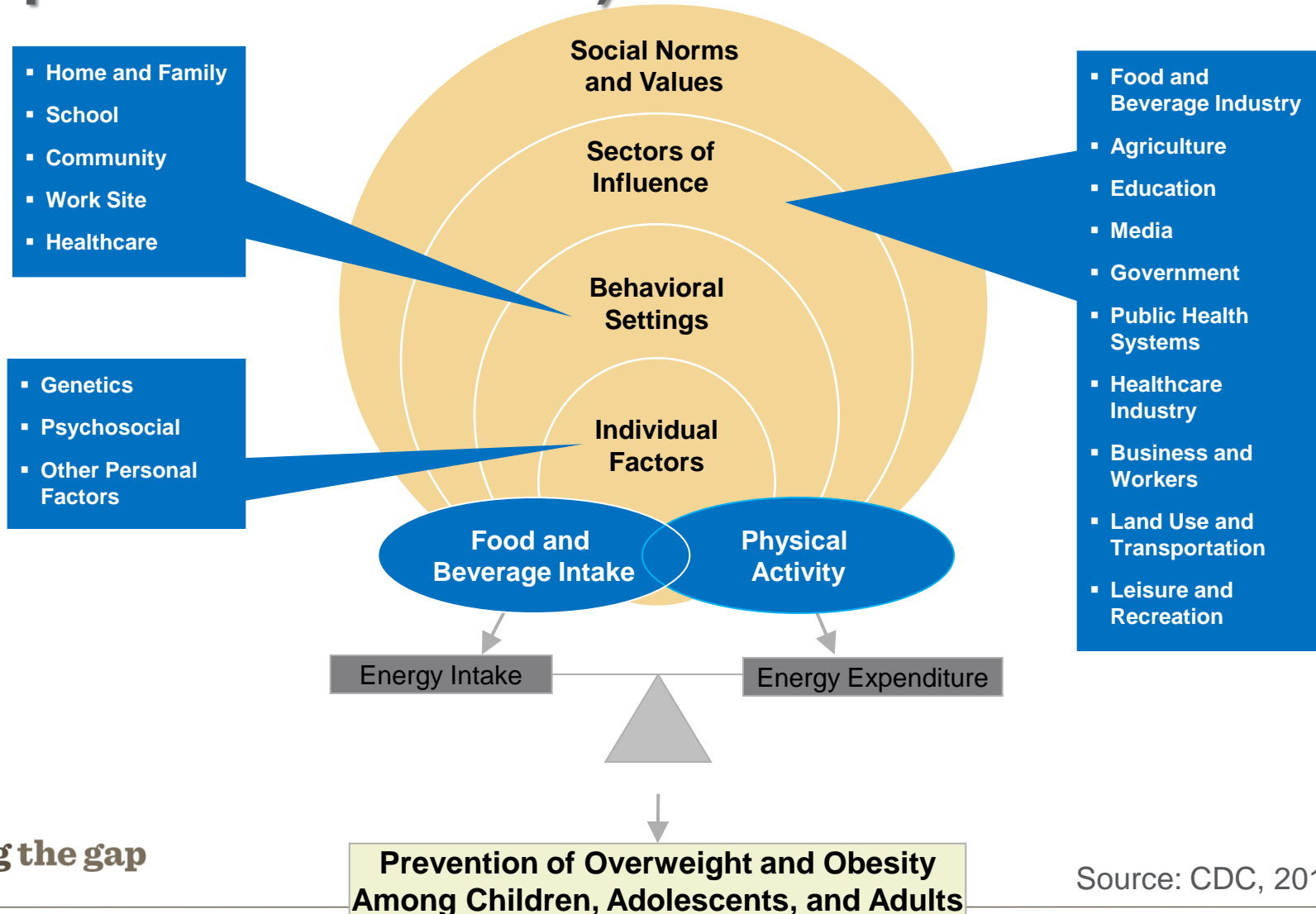
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Our strategy

RWJF funds efforts at the local, state and federal level to change public policies and community environments in ways that promote improved nutrition and increased physical activity—both of which are critical to reversing the childhood obesity epidemic. In particular, we focus on six policy priorities that the evidence suggests will have the greatest and longest-lasting impact on our children. These priorities, which can be supported by numerous approaches, include:

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CDC Framework for Preventing Obesity (adapted from IOM 2005)



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Research Informing Policies & Practices
for Healthy Youth

School Policies and Practices
to Improve Health and Prevent
Obesity: National Elementary
School Survey Results

VOLUME 1

2006-2007
2007-2008
SCHOOL YEARS

November 2010


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Bridging the Gap is a program of the Robert Wood Johnson Foundation.

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Research Informing Policies & Practices
for Healthy Youth

Local Wellness Policies:
Assessing School District
Strategies for Improving
Children's Health

2006-2007
2007-2008
SCHOOL YEARS

nationwide
evaluation
results

July 2009

Robert Wood Johnson Foundation



Results on School Policies and Programs

Overview of Key Findings

2009

Partly Supported by the Robert Wood Johnson Foundation

Improving Healthy Eating

IOM, CDC, and RWJF Recommended Policy and Environmental Change Strategies

Sources: Institute of Medicine (2009), Kettel-Kahn, et al., (2009), Robert Wood Johnson Foundation (2011)

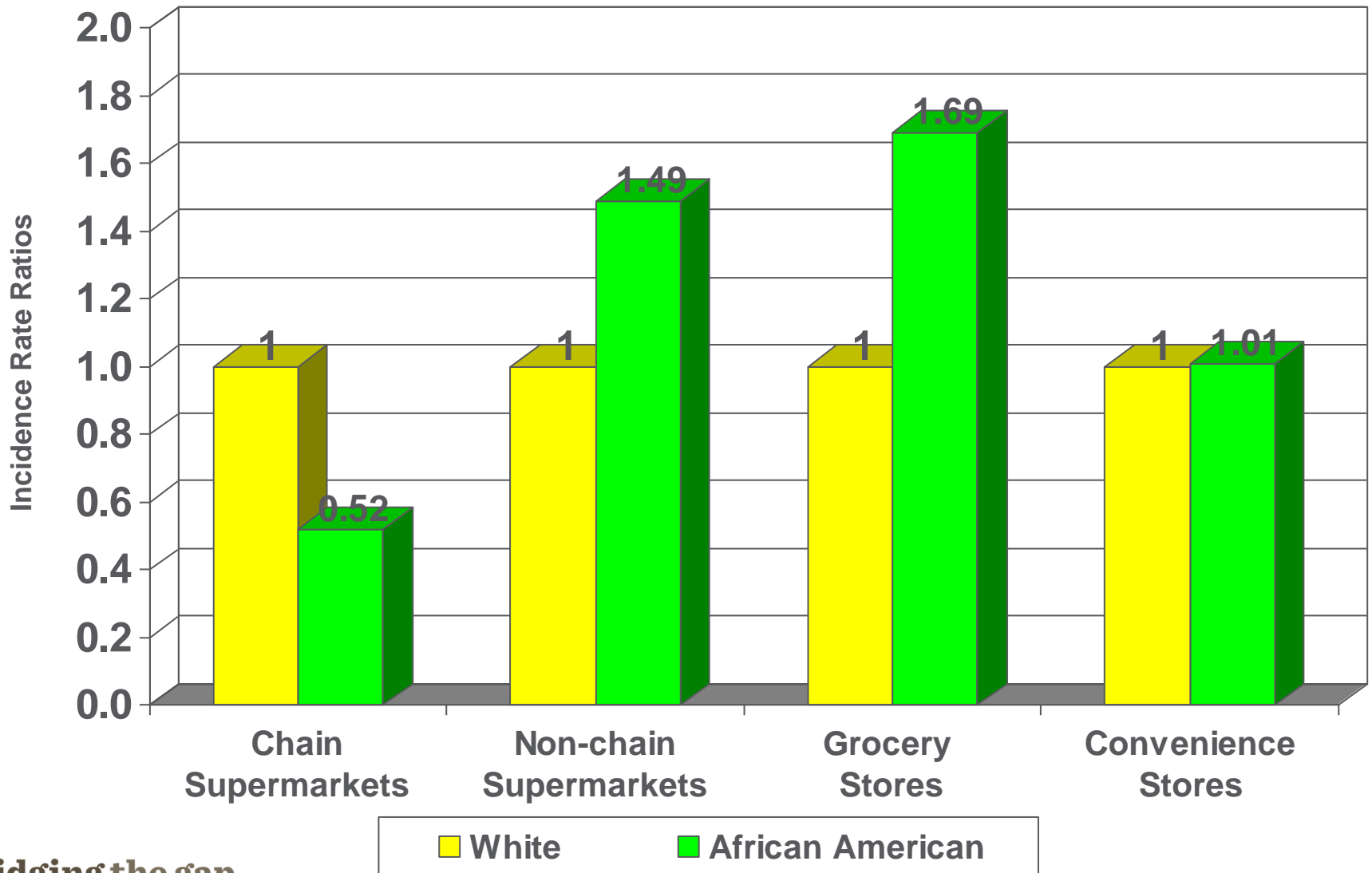
Policy and Environmental Strategies to Promote Healthy Eating

Access to healthier foods:

- Food deserts in low-income and/or minority neighborhoods
 - Lack full-service supermarkets/groceries that carry greater variety of fruits, vegetables, low/non-fat dairy and meat products, whole grains, and other healthier options
 - Predominance of corner stores, convenience stores with limited selection
 - Relatively higher prices for limited selections of healthier products
 - Lack of or limited public transportation to access supermarkets
- Research demonstrates link between food store availability and obesity
 - Better weight outcomes when supermarkets accessible; poorer outcomes associated with convenience/corner stores

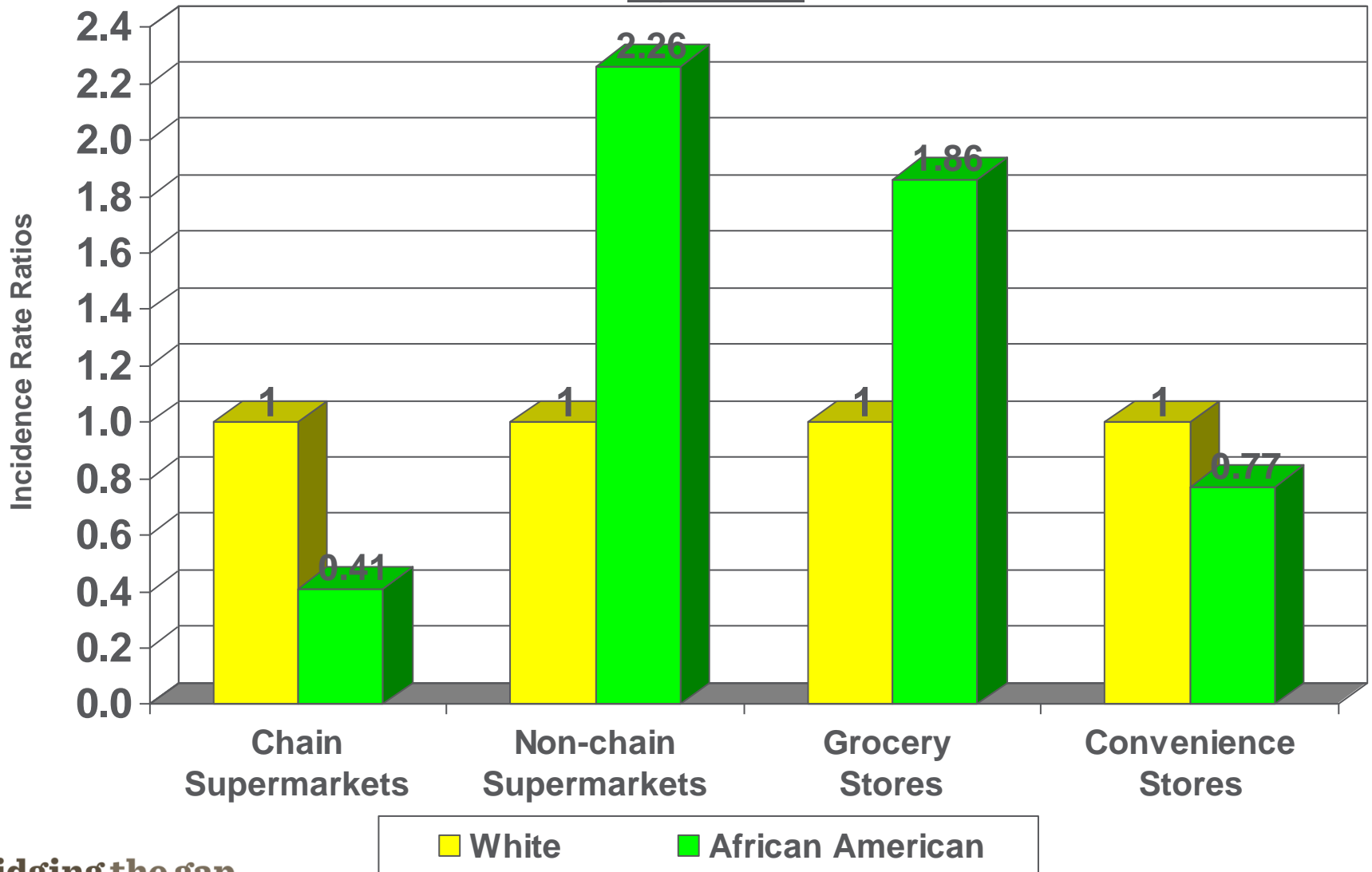
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Availability of Food Store Outlets, by Race

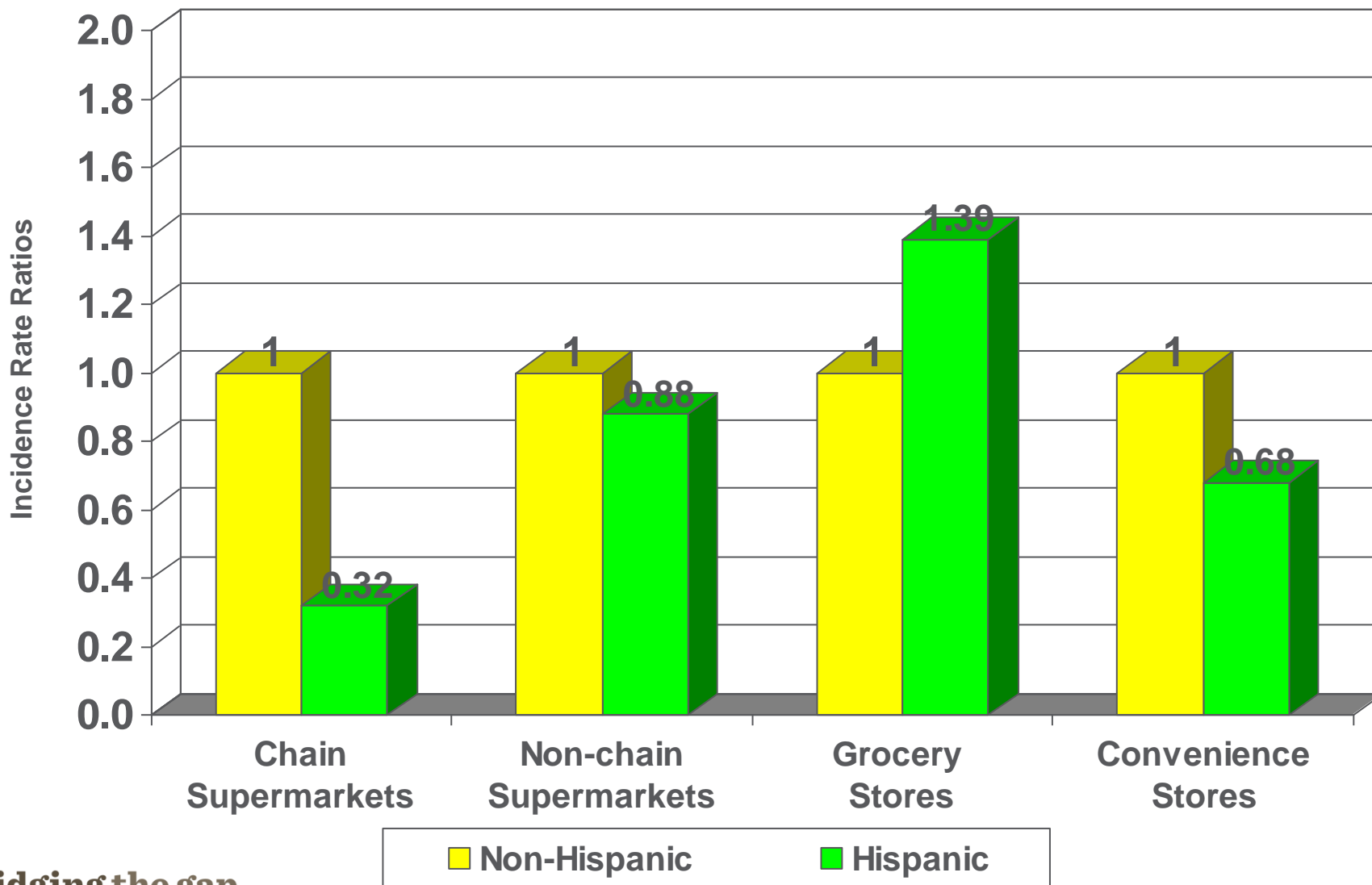


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Availability of Food Store Outlets for Urban Sample, by Race

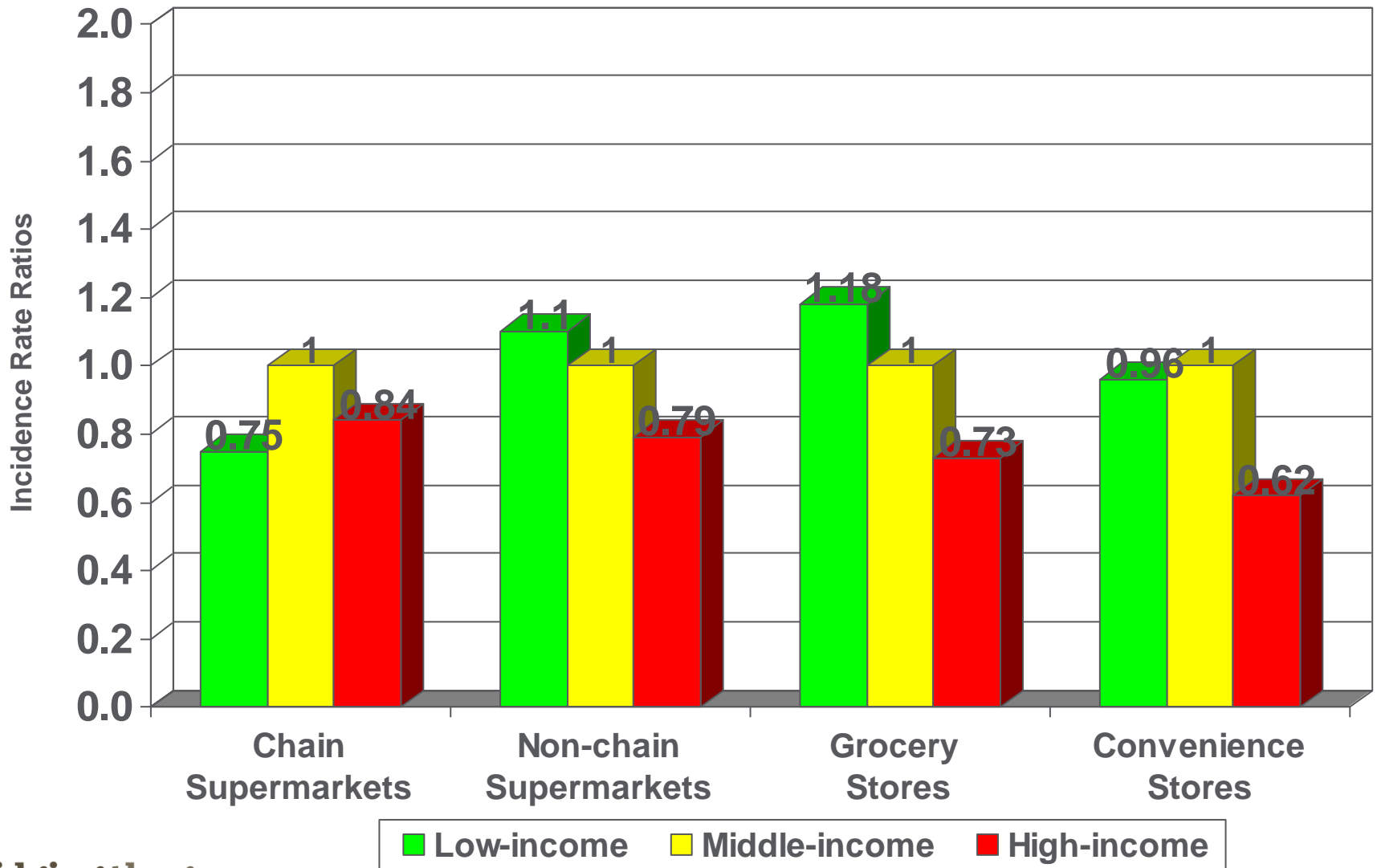


Availability of Food Store Outlets, by Ethnicity



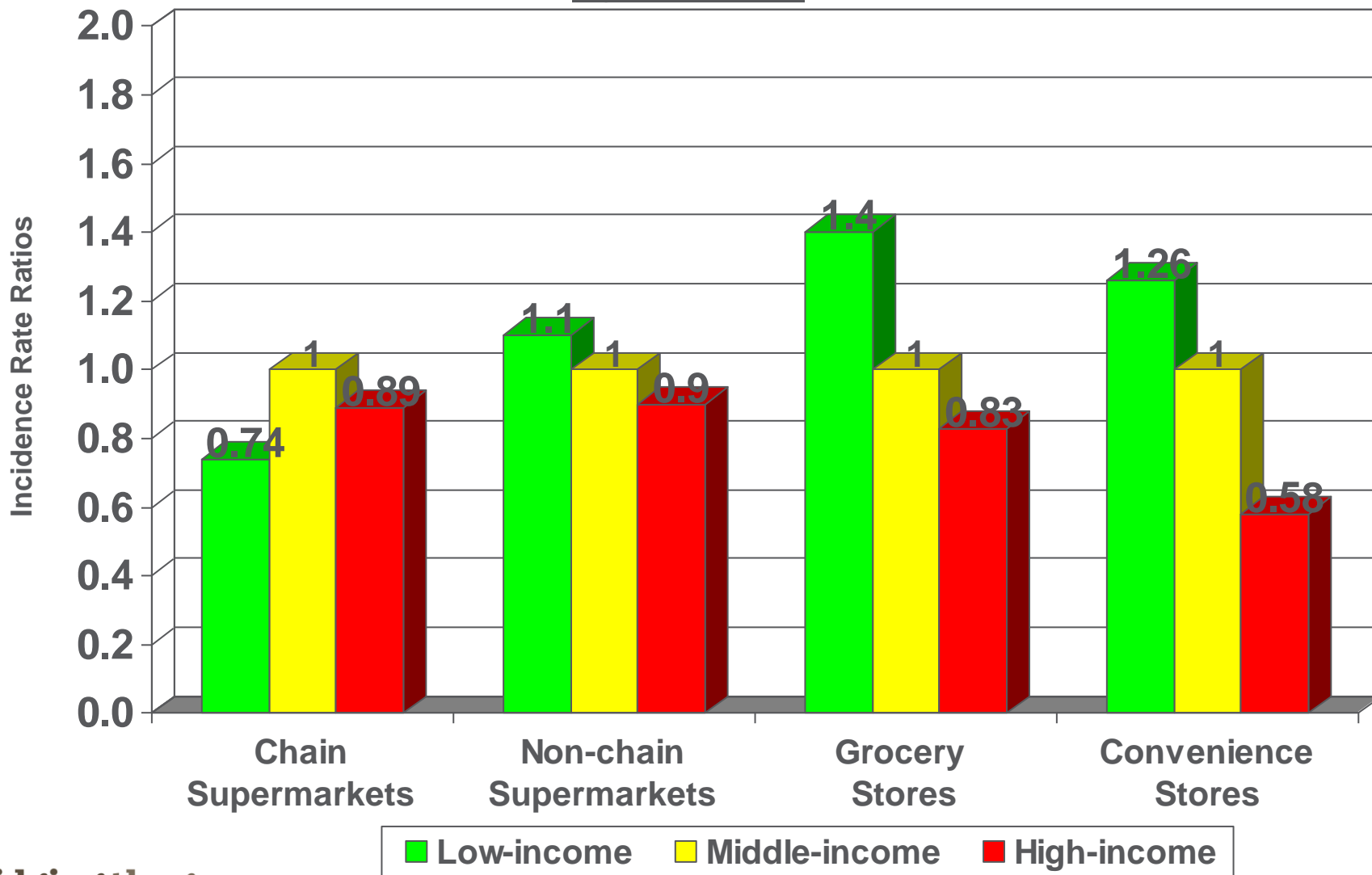
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Availability of Food Store Outlets, by Income



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Availability of Food Store Outlets for Urban Sample, by Income



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Policy and Environmental Strategies to Promote Healthy Eating

Access to healthier foods – actions:

- Provide economic incentives to attract supermarkets/groceries to underserved neighborhoods and/or enable existing stores to carry more affordable, healthier options
 - E.g. tax credits, grants/loans, economic development programs, zoning regulations, improved linkages with wholesalers
- Realign bus routes or provide other transportation to ensure access through affordable public transportation
- Enhance accessibility through public safety efforts
 - E.g. outdoor lighting, increased police presence

Policy and Environmental Strategies to Promote Healthy Eating

Food away from home:

- Increasing prevalence of eating away from home
 - Lack of information on calories, fat content, nutritional composition of foods sold in restaurants, vending, schools, etc.
 - Restaurant food, particularly fast foods, higher in calories, fat than food prepared at home
 - Unhealthy options (e.g. fries, soda, high-fat milk) generally the default
- Research demonstrates link between consumption of restaurant foods, particularly fast food, and obesity
- Early evidence that nutrition information may lead to healthier choices

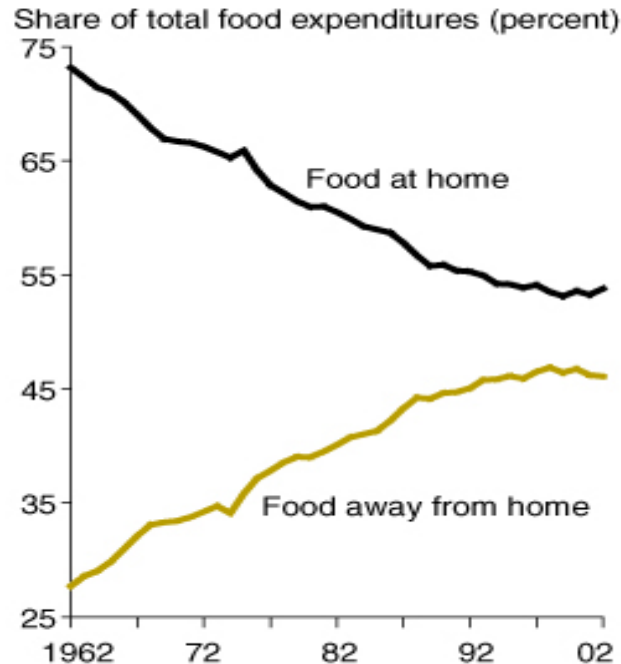
Contributors to Obesity: Dietary Behaviors

Increased frequency of meals eaten away from home



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Americans are eating out more



Source: Food Consumption (Per Capita) Data System, USDA, Economic Research Service.



Source: CDC, 2011

Policy and Environmental Strategies to Promote Healthy Eating

Food away from home – actions:

- Require menu labeling in chain restaurants to provide calorie information on in-store menus and menu boards
 - FDA currently developing guidelines that would apply to chains of 20 or more restaurants
 - Encourage similar information in non-chain, smaller chain restaurants and provide recognition to those that do
- Provide recognition for restaurants that promote healthier options
 - E.g. age appropriate portion sizes, making the healthy option the default

SIDES

- 100 Nachos 3.99
- 101 112 Potatoes & Cheese or Rice 3.99
- 102 Cheesy Fiesta Potatoes 3.99

NACHOS & SPECIALTIES

- 198 Nachos BellGrande 3.09
- 199 Nachos Supreme 2.09
- 140 Mexican Pizza 3.09
- 100 MisoMelt 1.79
- 120 Chicken or Steak Quesadilla 2.99
- 110 Chicken or Steak Grilled Tapitas 2.19
- 140 Crunchwrap Supreme 2.59
- 140 Spicy Chicken Crunchwrap Supreme 2.59

BOWLS & SALADS

- 250 Fiesta Taco Salad 4.29
- 210 Chicken Fiesta Taco Salad 5.49
- 600 Jesty Chicken Bowl 3.99
- 120 Southwest Steak Bowl 3.99

KID'S MEAL

- With Soy, Cheddar Cheese, & Real Sausage
- 99 1 Item 4.39 (Includes Soda 3.59)

CHALUPAS & GORDITAS

- Beef, Supreme or Nacho Cheese Toppings
- 380-450 Chalupa 1.89
- 340-390 Chalupa (2) 2.49
- 300 Nacho Cheese Gordita 1.89
- 310-340 Gordita 1.89
- 290-320 Gordita (2) 2.49
- 370 Nacho Cheese Chalupa 2.49

FRUTISTA FREEZE

- 230, 250 Strawberry or Mango Strawberry 2.29

TACOS

- 270 Ranchero Chicken Soft Taco 1.39
- 260 Grilled Steak Taco 1.99
- 280 Pesto Beef Taco 1.29 (12 or 18) 1.65
- 210 Crunchy Taco Supreme 1.39
- 250 Soft Taco Supreme 1.39
- 170 Spicy Chicken Soft Taco 1.29

BURRITOS

- 690 Grilled Stuff Burrito 2.99
- 640-650 Grilled Stuff Burrito (2) 4.19
- 430 Burrito Supreme 2.49 (4 or 12) 3.09
- 370 Enchirita 1.89
- 350 Chicken Fiesta Burrito 2.79
- 510 7-Layer Burrito 2.19
- 400 Spicy Chicken Burrito 1.59
- 450 1/2 lb. Beef Combo Burrito 1.59
- 530 1/2 lb. Beef & Potato Burrito 1.59

COMBOS

- 1 Burrito Supreme & Taco Supreme 15.29 (12/12)
- 2 Grilled Stuff Burrito & Nacho 15.29 (12/12) 16.29 (12/12)
- 3 Triple Layer Nachos Supreme 5.99 (12/12)
- 4 Mexican Pizza (12) 7.99 (12/12)
- 5 Nachos BellGrande & Taco Supreme 5.99 (12/12)
- 6 2 Chalupas (Supreme or Egg & Real Soy) 16.29 (12/12) 17.49 (12/12)
- 7 Chicken or Steak Quesadilla & Real Soy 15.99 (12/12)
- 8 3 Crunchy or Soft Tacos 4.99 (12/12) 4.99 (12/12)
- 9 1 Crunchwrap Supreme & Soft Taco 15.19 (12/12) 16.19 (12/12)

COMBOS

- Granola Meal 18.19 (12/12) 2.99 (12/12)
- 2.99 (12/12)

NEW! WHY PAY MORE!

- 200 = Cheese Roll-Up 79¢
- 170 = Cinnamon Twists 79¢
- 200 = Triple Layer Nachos 79¢
- 110 = Crunchy Taco 99¢
- 100 = Soft Taco 99¢
- 240 = Bean Burrito 89¢
- 450 = Big Tostito Taco 129¢
- 640 = Cheesy Double Beef Burrito 149¢
- 210 = Coronado Apple Quesadilla 89¢
- 170 = 1/2 lb. Cheesy Bean & Rice Burrito 129¢

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HOT & *freshly* TOASTED
Subs From The Oven!

Cal 6" sub/wrap		6" Sub or Wrap
3.99	560 Meatball Marinara	3.99
4.39	450 Italian B.M.T. 	4.49
4.49	480 Spicy Italian	3.99
4.49	400 Steak & Cheese 	4.99
5.39	380 Subway Melt 	4.99
	580 Chicken & Bacon Ranch	5.49

Hungrier? Make it a FOOTLONG! Only 1.75 More



Cal
6" sub

- 330 DOUBLE Turkey B
- 420 DOUBLE Subway C
- 480 DOUBLE Sweet O Chicken T

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Policy and Environmental Strategies to Promote Healthy Eating

Access to fruits and vegetables:

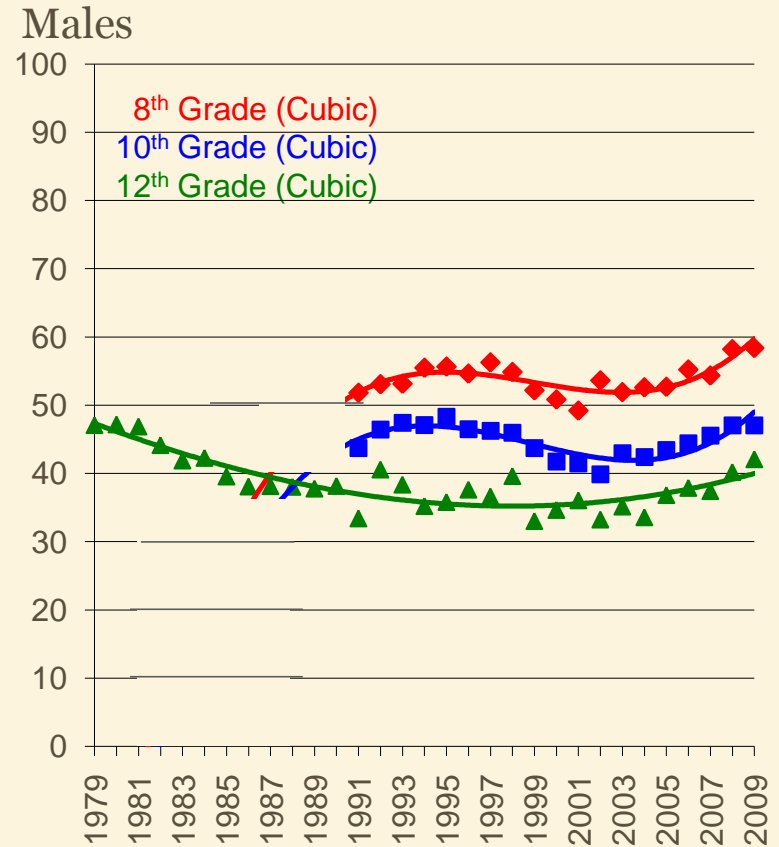
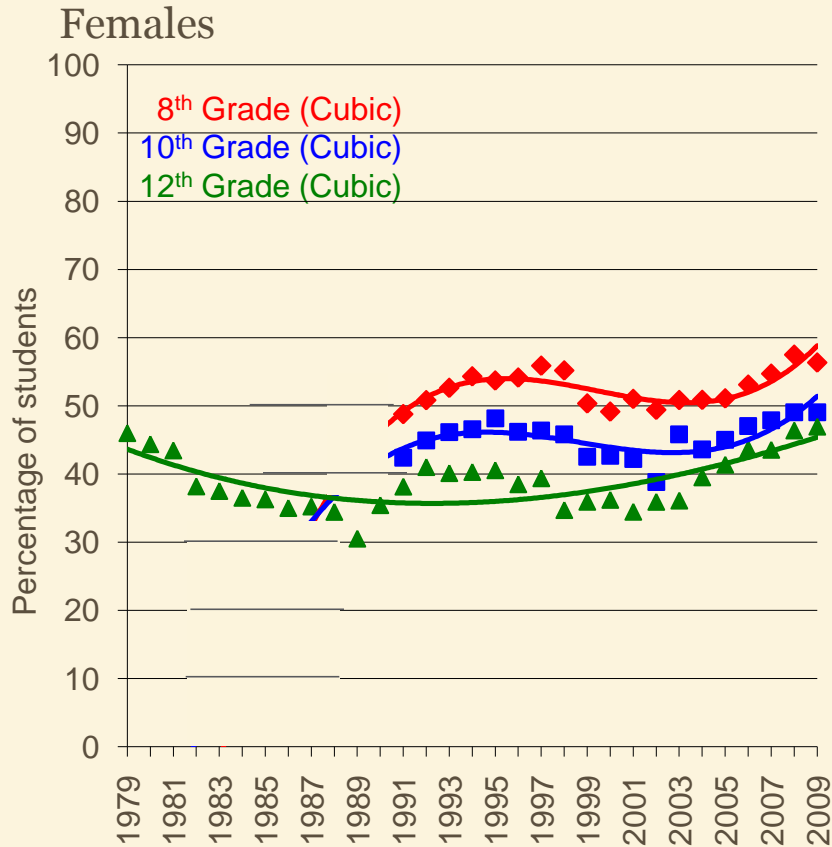
- Under-consumption of fruits and vegetables
 - Fruits & vegetables relatively low in calories and high in fiber and water
 - Consumption of F&V promotes satiety and can reduce overall caloric intake
 - Substituting F&V for energy dense, high calorie foods can reduce obesity
 - Farmers markets, community gardens, farm-to-school programs, and garden-based nutrition intervention programs may increase F&V consumption, particularly among youth

Contributors to Obesity: Dietary Behaviors

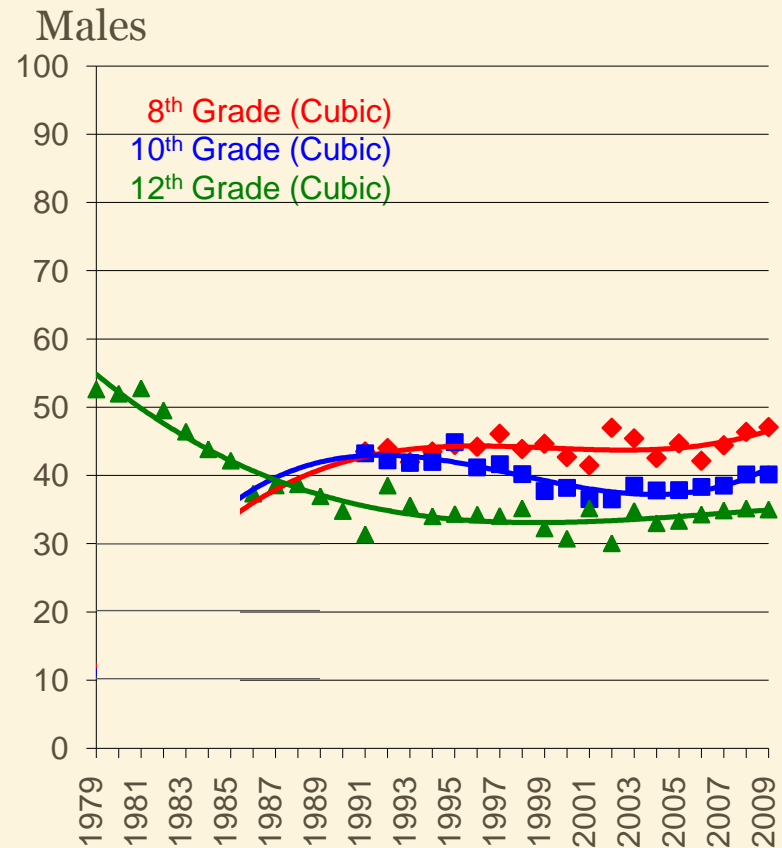
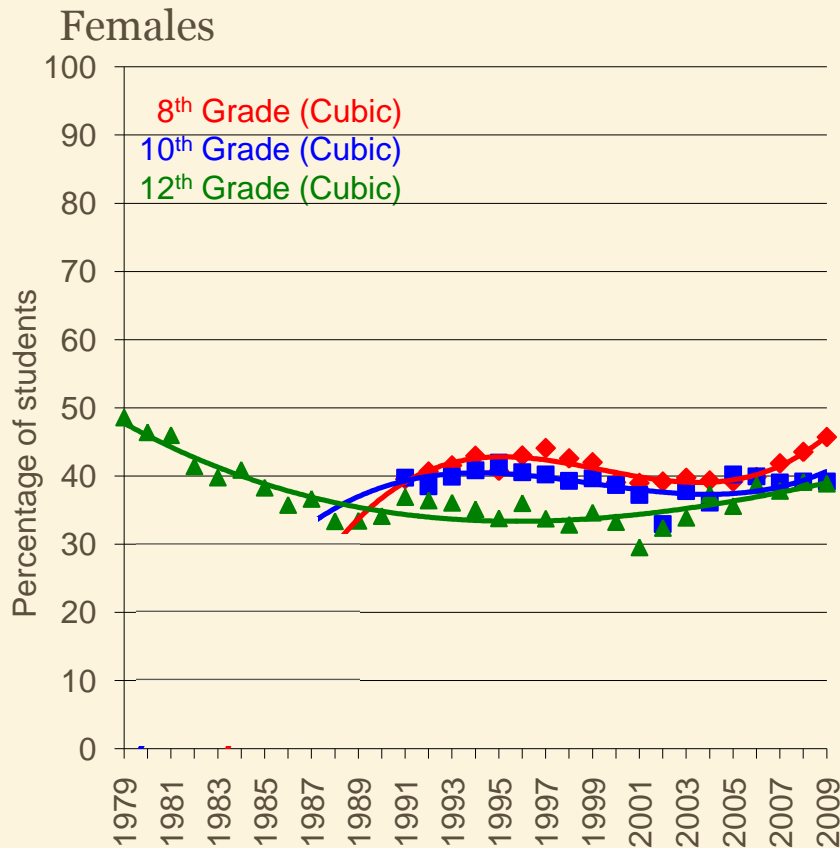
Low consumption of fruits and vegetables

- IA: among adults, 29.6% consume 2 or more servings of fruit daily; 22.5% consume 3 or more servings of vegetables daily; 12.3% do both
- IA: among teens: 28.5%, 13.5% and 8.3%, respectively

Eating Fruit Daily by Gender, 1979-2009



Eating Green Vegetables Daily by Gender, 1979-2009



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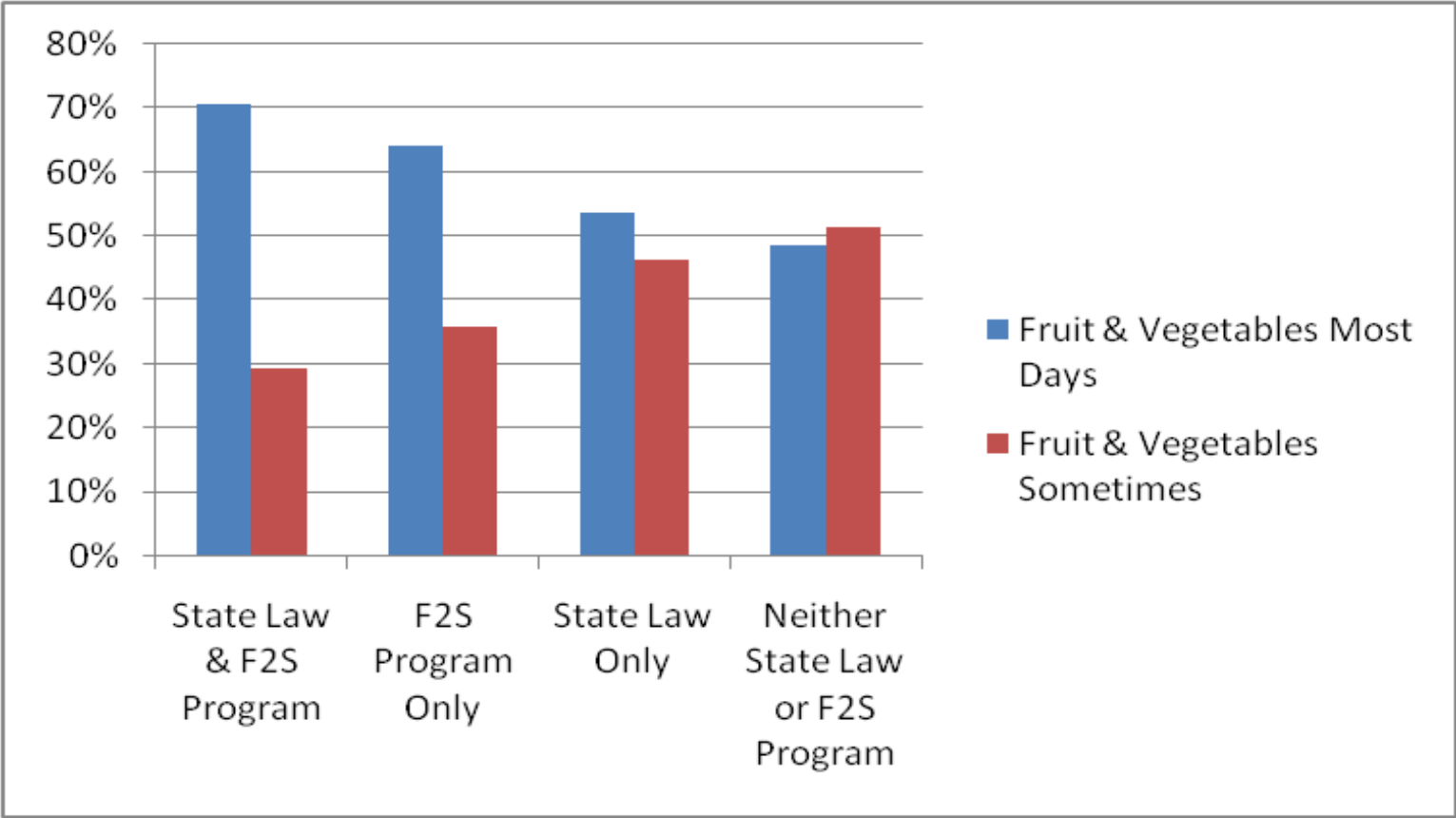
“How often do you eat at least some green vegetables?” 1=Never, 2=Seldom, 3=Sometimes, 4=Most days, 5=Nearly every day, 6=Every day. “Daily” recode: 1=Nearly every day or every day; 0=Other.

Policy and Environmental Strategies to Promote Healthy Eating

Access to fruits and vegetables – actions:

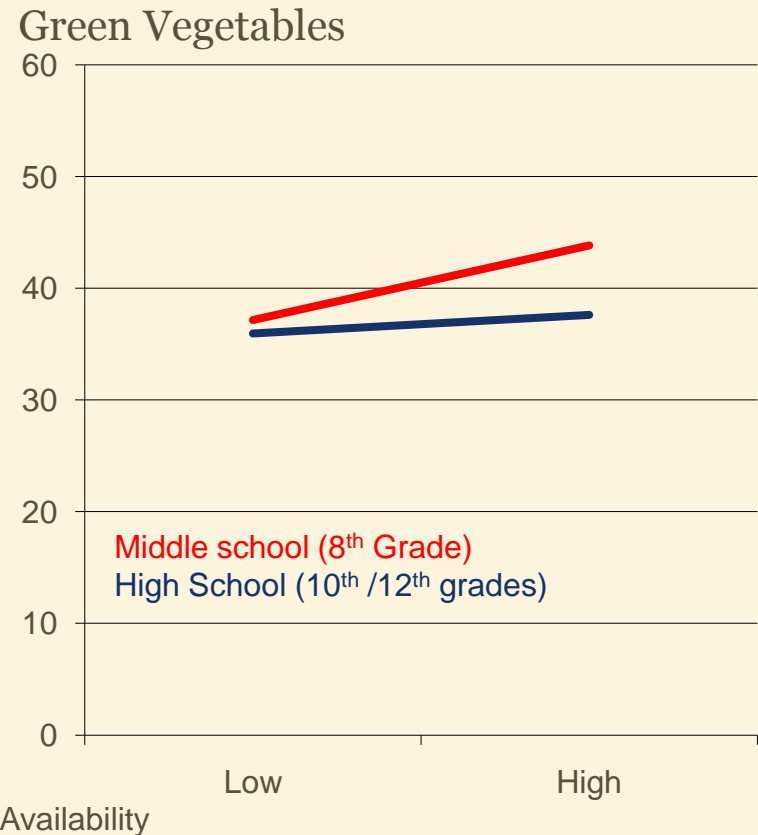
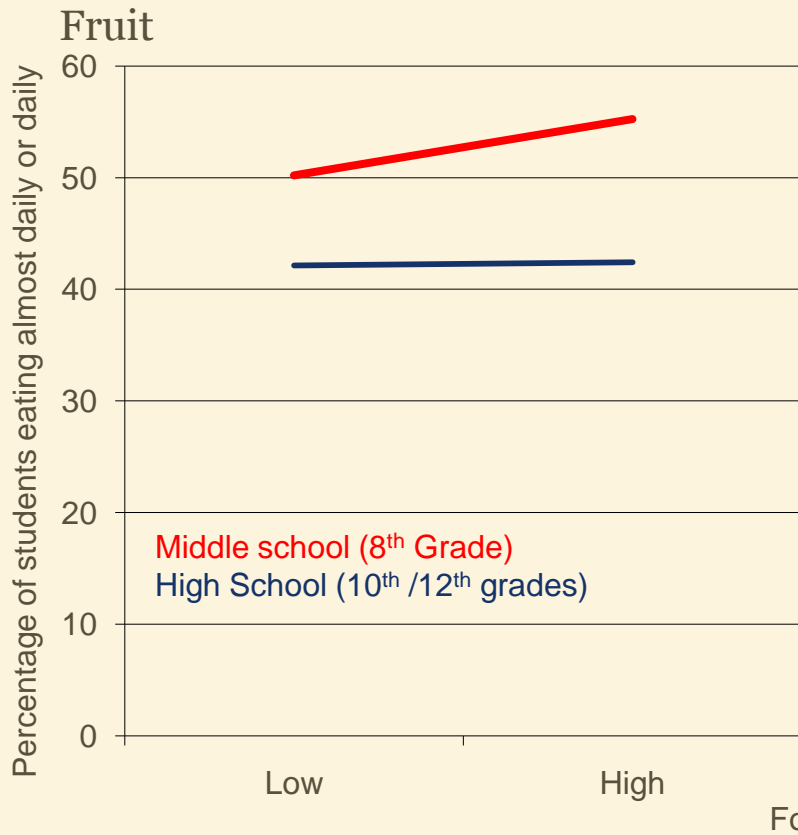
- Promote efforts to provide fruits and vegetables in a variety of settings, such as farmers’ markets, farm stands, mobile markets, community gardens, and youth-focused gardens
 - Encourage farmers markets to accept SNAP and WIC coupons and enable them to accept electronic benefits payments
 - Adopt zoning policies to promote/expand/protect sites for community gardens and farmers’ markets
- Provide incentives for the production, distribution and procurement of foods from local farms
 - Develop community-based group activities that link procurement with improve skills in purchasing and preparing foods
 - Adopt, implement farm-to-school programs

Fruits and vegetables are more commonly available in elementary school meals in states with Farm-to-School Laws and schools with Farm-to-School Programs



Source: Nicholson, Chriqui, Schneider, et al., in preparation

Student Consumption of Fruit and Vegetables by School Availability in Lunch Meal or À la Carte, 2004-2007



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Terry-McElrath, Y. M., O'Malley, P. M., Delva, J., & Johnston, L. D. (2009). The school food environment and student body mass index and food consumption: 2004-2007 national data. *Journal of Adolescent Health, 45*, S45-S56.

Policy and Environmental Strategies to Promote Healthy Eating

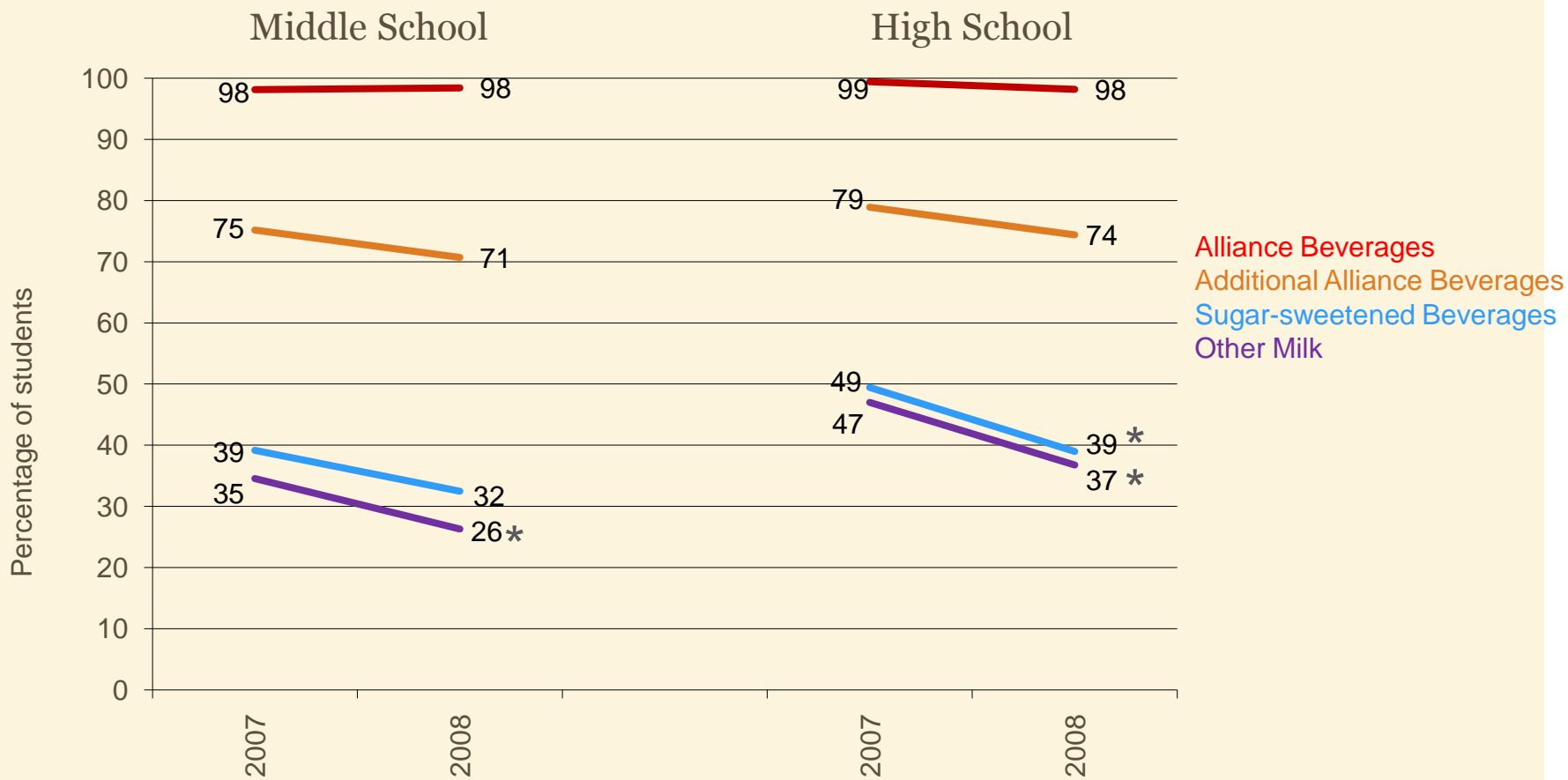
Food/Beverages in Public Places:

- Relatively greater availability of less healthy foods and beverages than healthier options in
 - Schools and after school programs
 - Child care centers
 - Recreation centers
 - City and county buildings
 - Prisons and juvenile detention centers
- Less healthy foods/beverages in these settings relatively more affordable than healthier options
- Access to free, safe drinking water in public places often limited



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Types of Beverages Available as Part of the School Lunch Meal, 2007-2008

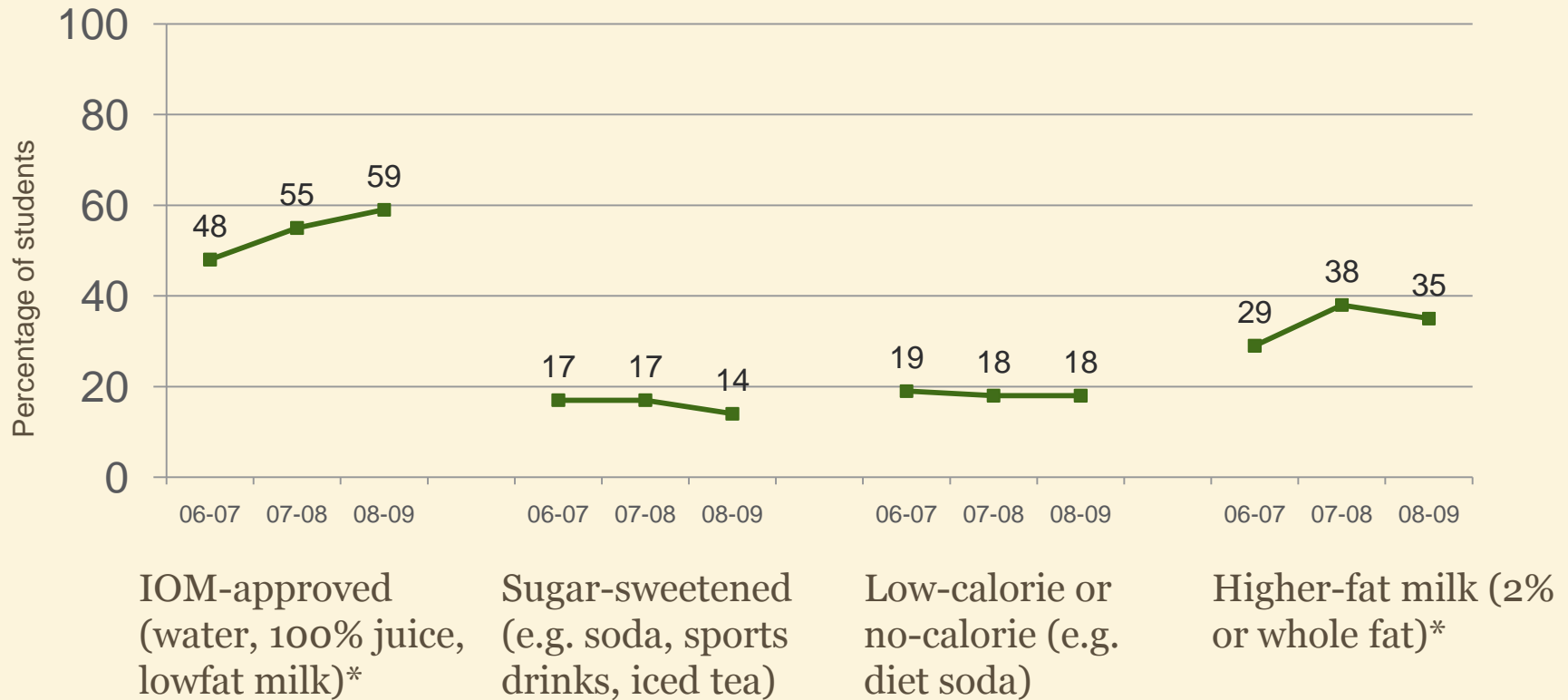


Alliance Beverages: bottled water; 100% fruit or vegetable juice, low-fat or non-fat milk.
Additional Alliance Beverages: diet soft drinks; other no- or low-calorie beverages; “light” juices.
Sugar-sweetened Beverages: regular soft drinks; sports drinks; fruit drinks that are not 100% fruit juice and that are high in calories. Other Milk: whole or 2% milk, or flavored milk.

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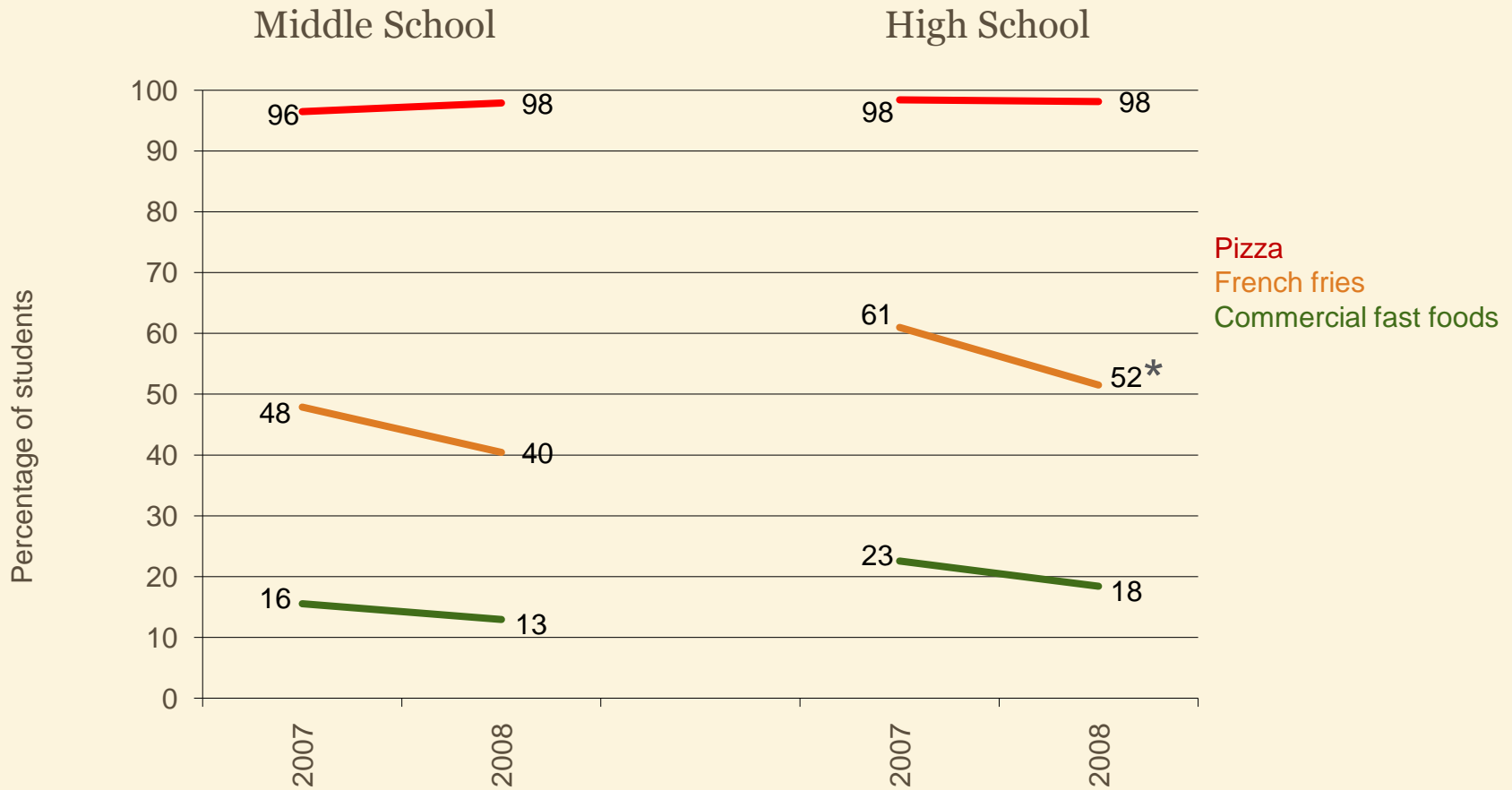
*p<.05

Availability of Beverages in Any Competitive Venue (vending, stores/snack bar, à la carte) in Elementary Schools



* 2007-08 and 2008-09 significantly higher than 2006-07, $p < .05$

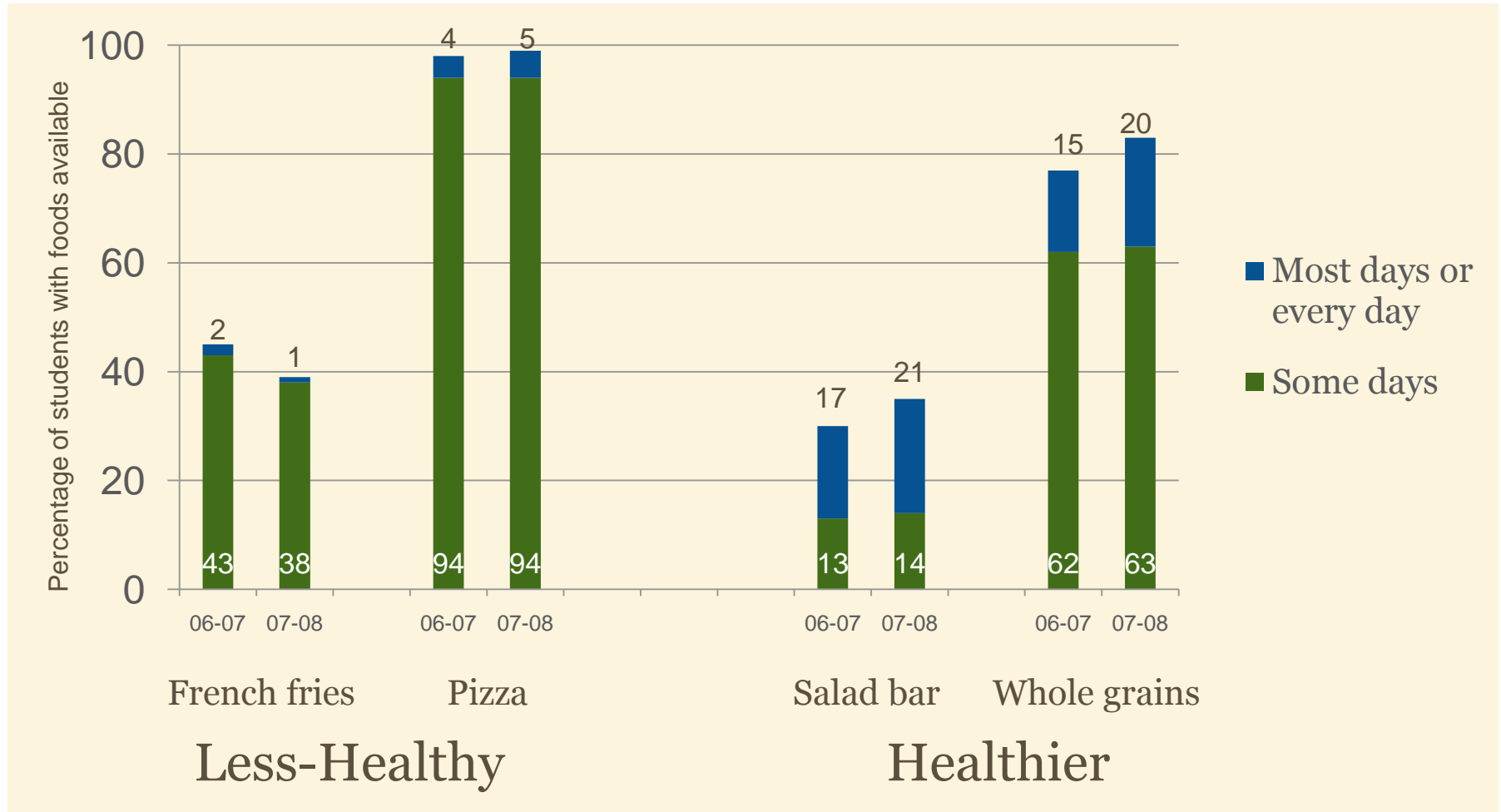
Student Access to Less Healthy Lunch Meal Foods, 2007-2008



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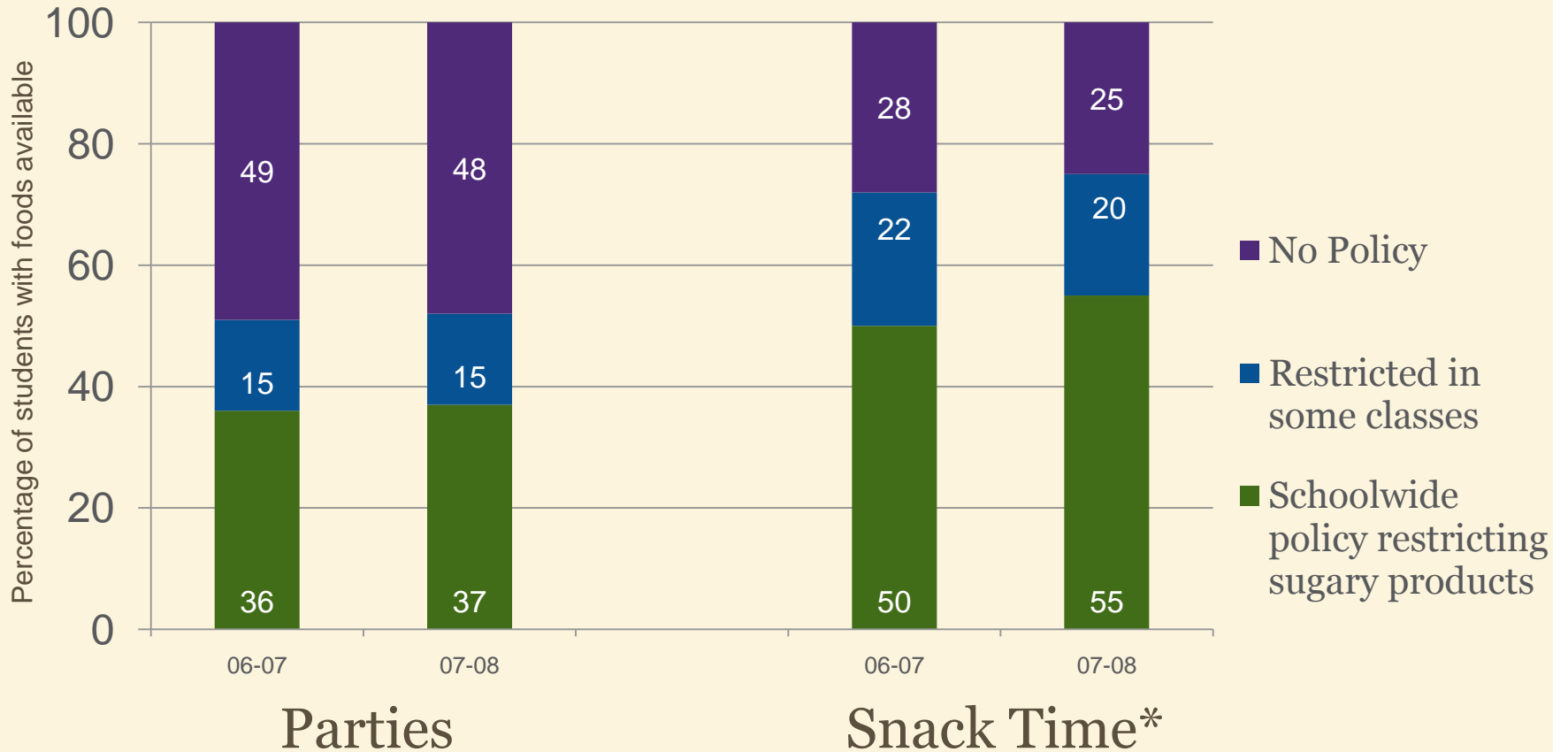
*p<.05

Foods Available in Lunches Offered at Elementary Schools Participating in the National School Lunch Program



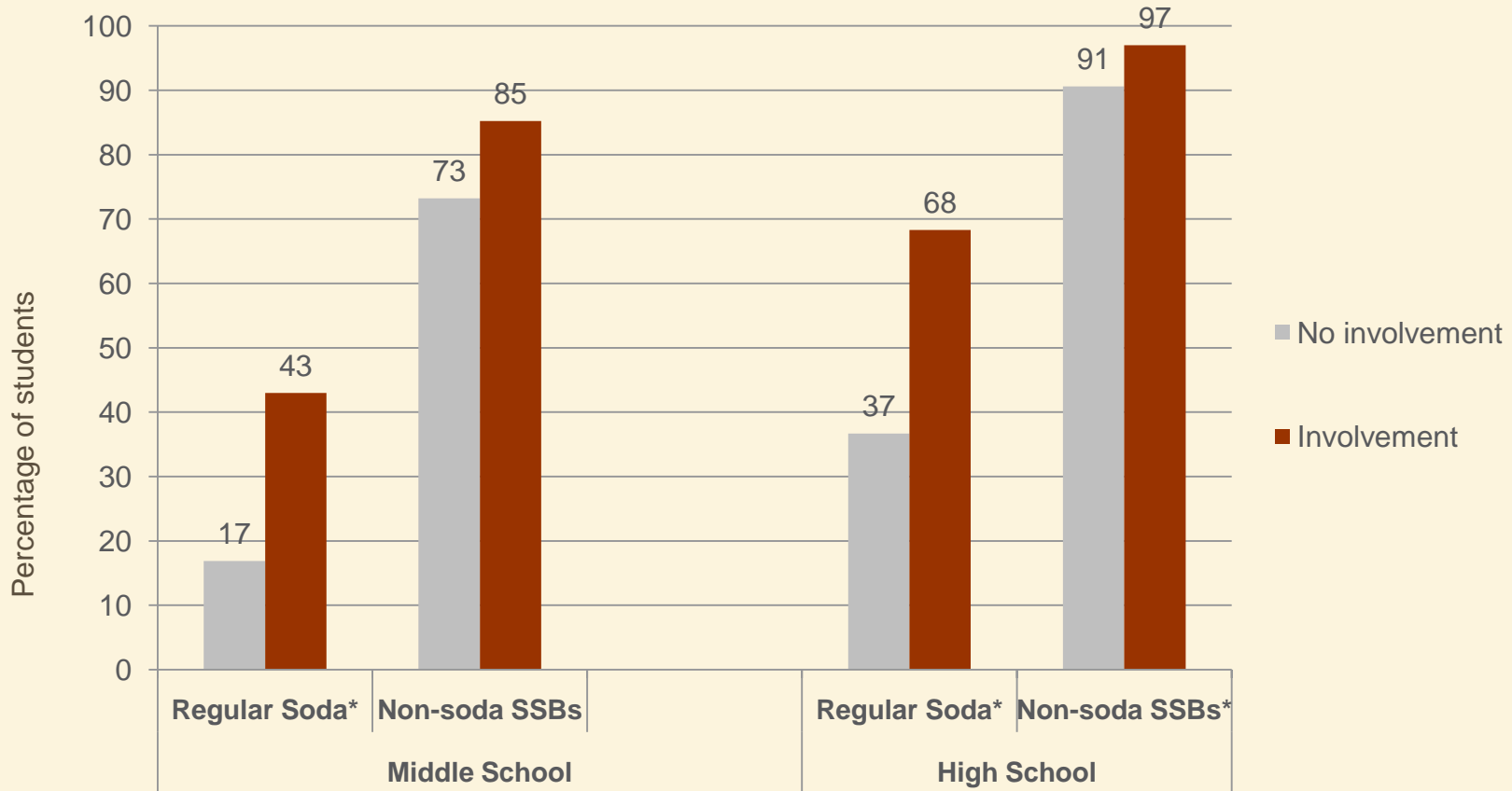
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Policies or Restrictions on Sugary Foods During Parties and Snack Time in Elementary Schools



* Analyses limited to schools that offered snack time

Competitive Venue SSB Availability by Beverage Supplier Involvement in Vending Beverage Choices, 2007-2009



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SSBs: Sugar-sweetened beverages. Regular soda: regular soft drinks (such as Coke, Pepsi, or Dr. Pepper). Non-soda SSBs: sports drinks; fruit drinks that are not 100% fruit juice and that are high in calories.

*p<.05

Policy and Environmental Strategies to Promote Healthy Eating

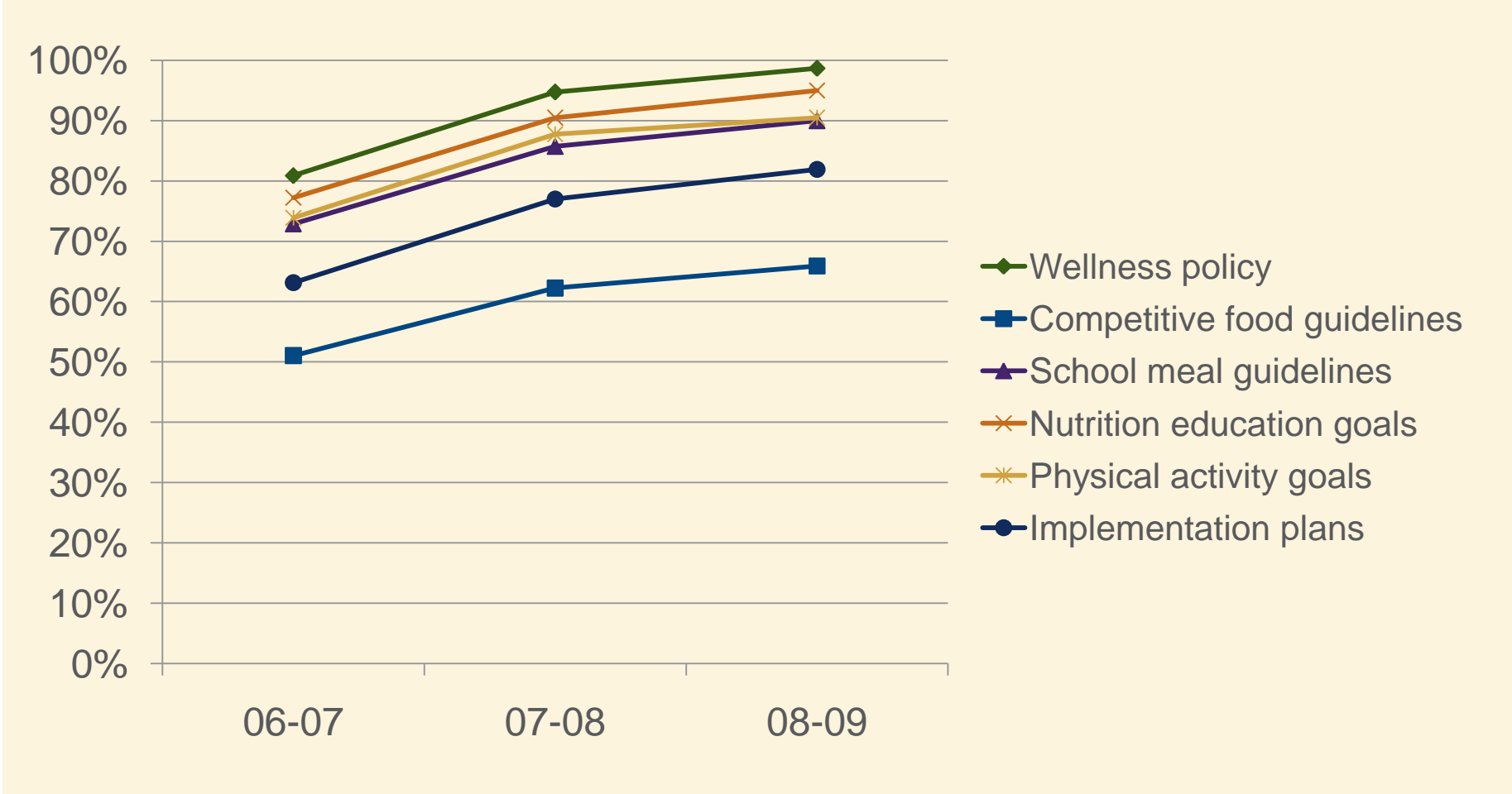
Foods/Beverages in public places – actions:

- Ensure that publicly –run entities implement policies and practices to promote healthy foods and beverages and reduce or eliminate the availability of calorie-dense, nutrient poor foods
 - Mandate and implement strong nutrition standards for foods and beverages available in schools, after-school programs, recreation centers, parks and child-care facilities
 - Ensure that local government agencies that operate cafeterias and vending options have strong nutrition standards in place wherever foods and beverages are sold or available
 - provide incentives or subsidies to government run or regulated programs to provide healthy foods at competitive prices and to limit or eliminate availability of unhealthy options
 - Institute smaller portion size options in public service venues

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Wellness Policy Requirements

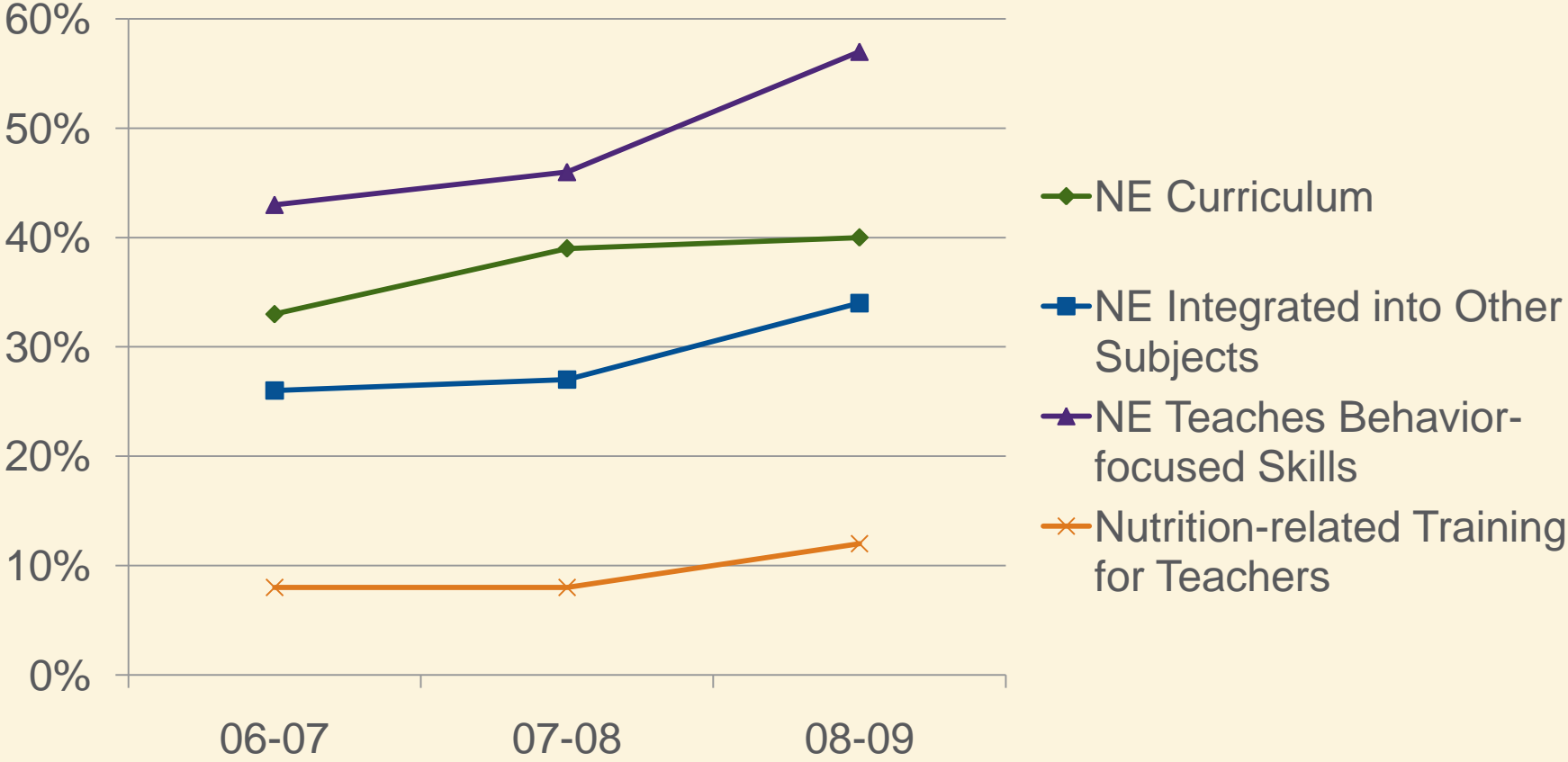
% of Students in Districts with Policy by Year



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Selected Nutrition Education Policy Requirements

% of Students in Districts with Policy by Year

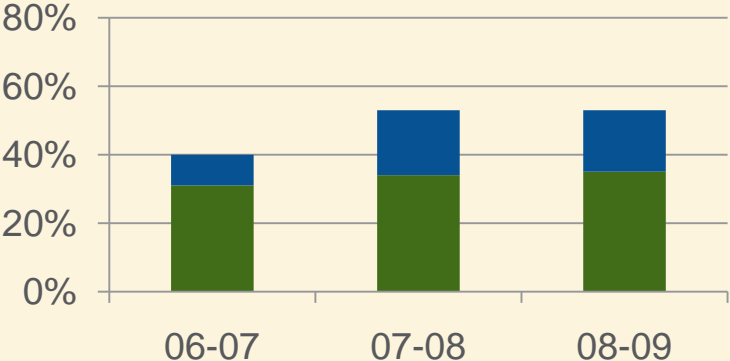


bridging the gap

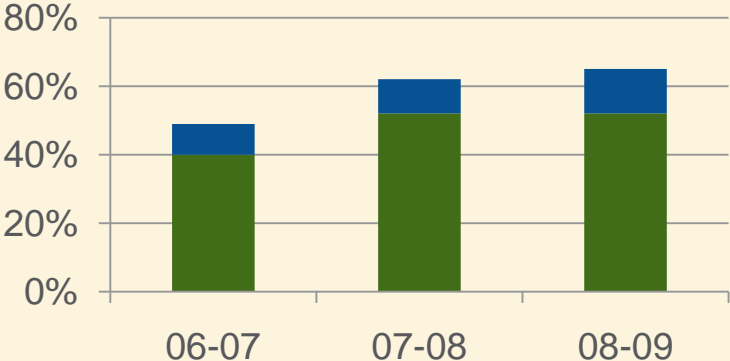
Selected School Meal Policy Provisions

% of Students in Districts with Policy by Year

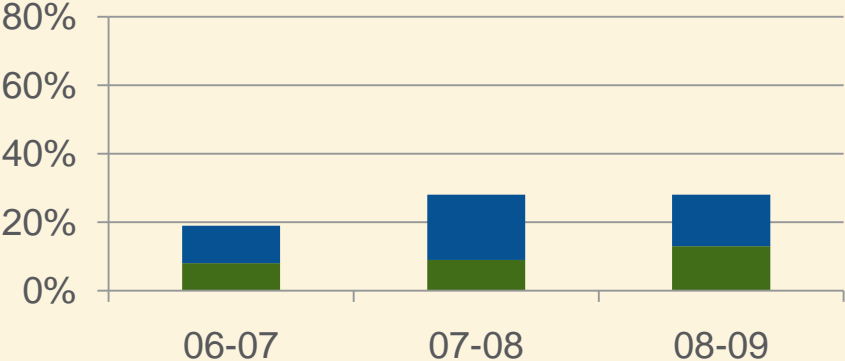
Meals Meet Dietary Guidelines



Adequate Time to Eat



Nutritional Content Info for Meals



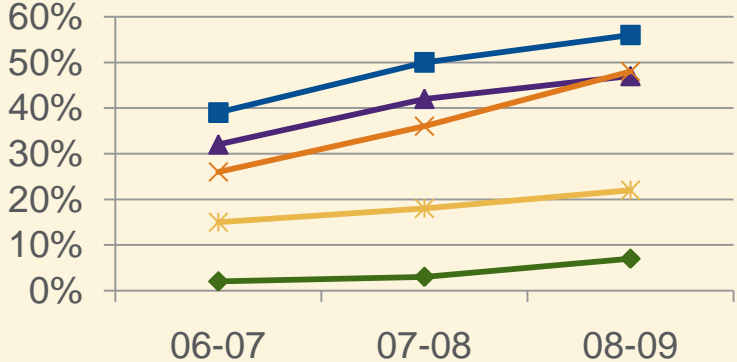
- Strong policy (Required)
- Weak policy

bridging the gap

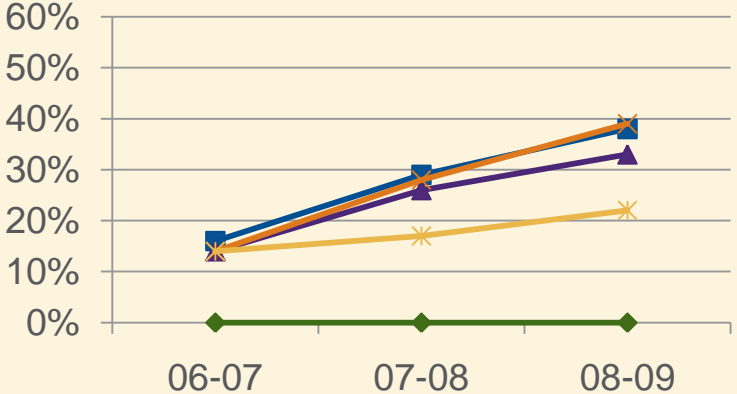
Competitive Food & Beverage Location Restrictions by Grade Level and Year

% of Students in Districts with Policy by Grade Level and Year

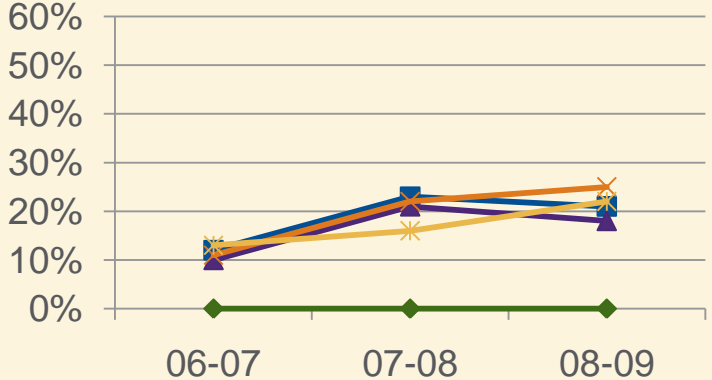
Elementary



Middle



High

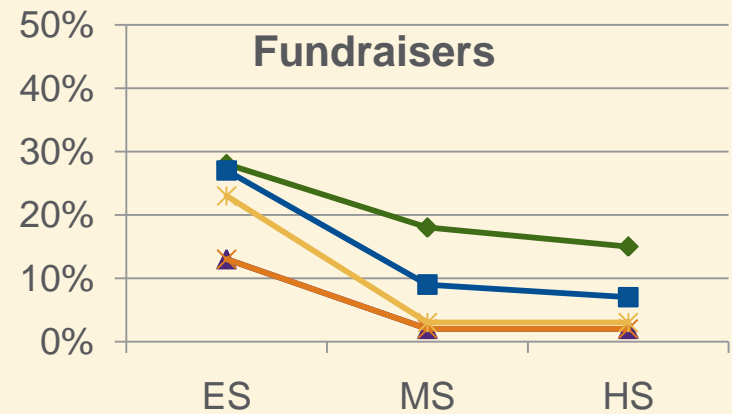
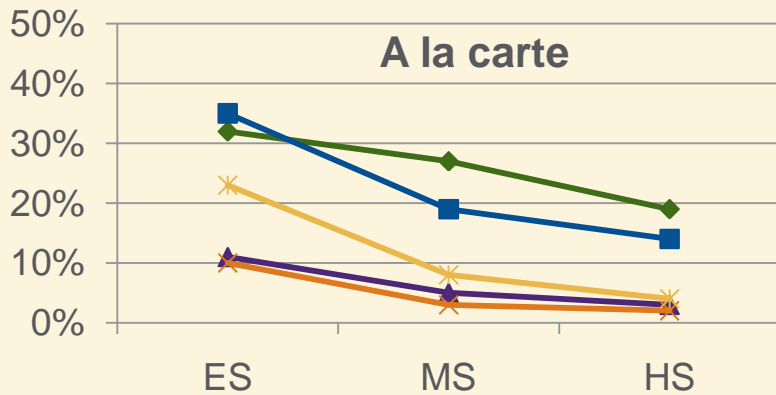
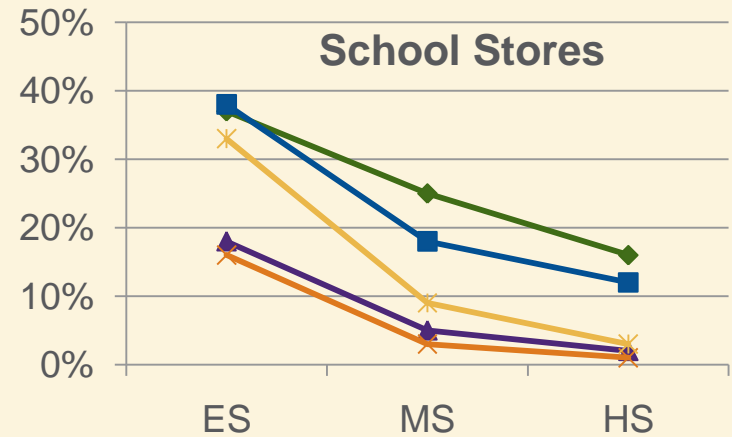
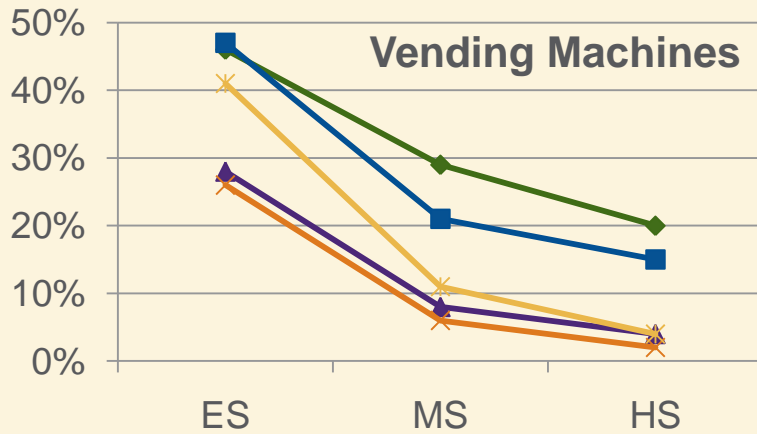


- ◆ Ban
- Vending Machines
- ▲ School Stores
- ✕ A la Carte
- * Guidelines apply to contracts

bridging the gap

Competitive Food Content Restrictions that Meet IOM Standards or Ban Such Sales, SY 2008-09

% of students in districts with policy by grade level

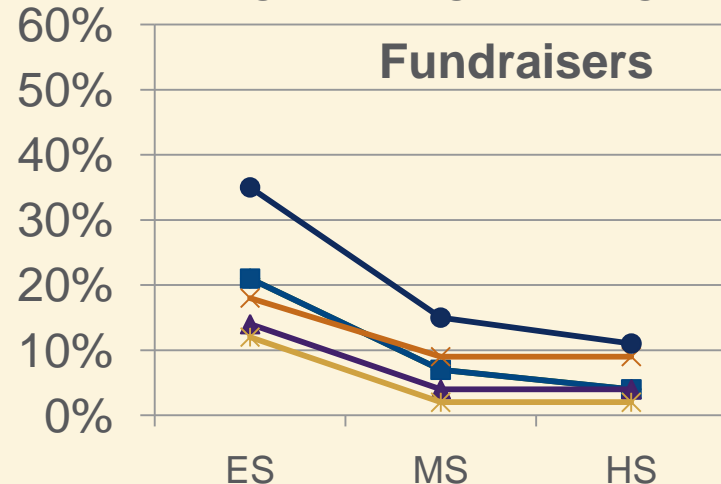
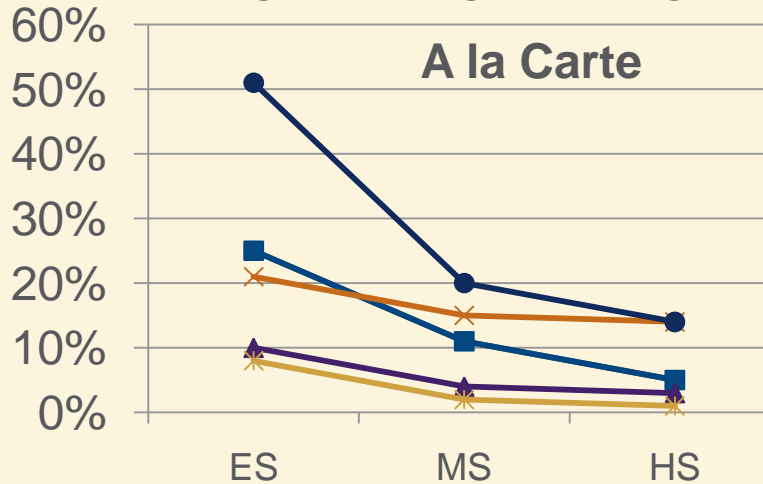
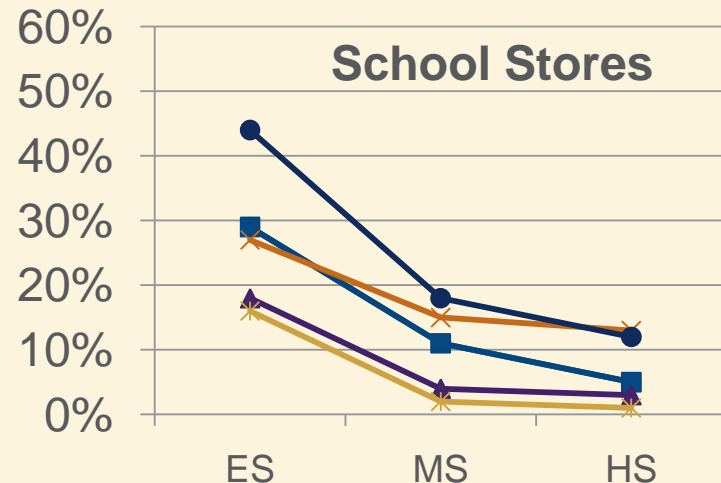
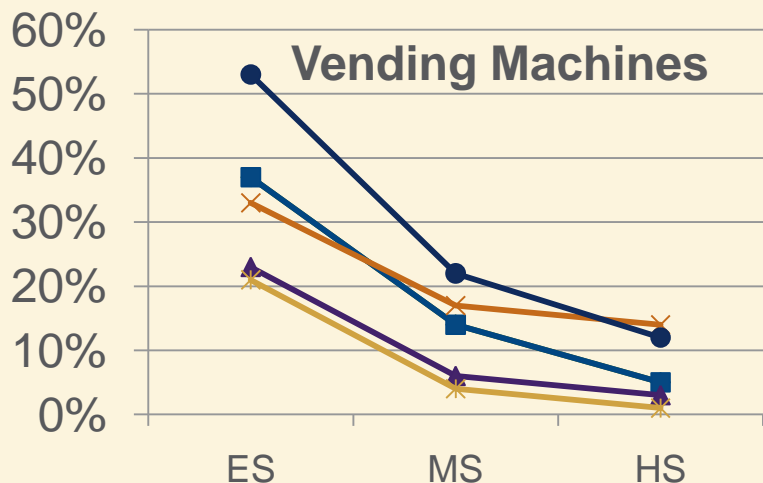


◆ Sugar ■ Fat ▲ Trans Fat ✕ Sodium * Calories

bridging the gap

Competitive Beverage Content Restrictions that Meet IOM Standards or Ban Such Sales, SY 2008-09

% of students in districts with policy by grade level

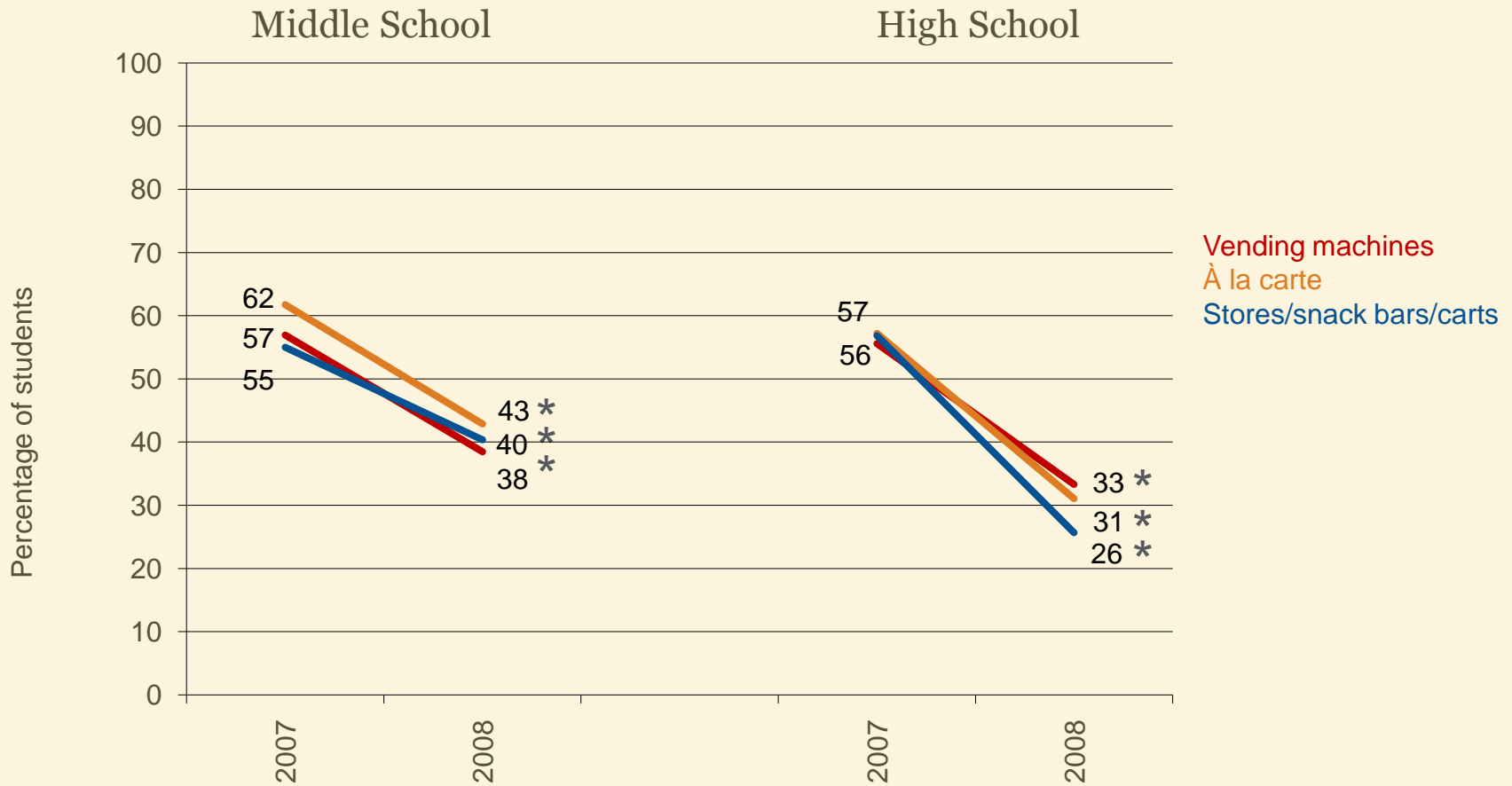


ES MS HS Soda SSB Sugar/Milk Fat/Milk Serving Size Caffeine

bridging the gap

*Note: Soda/SSBs overlap

Student Access to Competitive Venues Not Implementing School Beverage Guidelines, 2007-2008

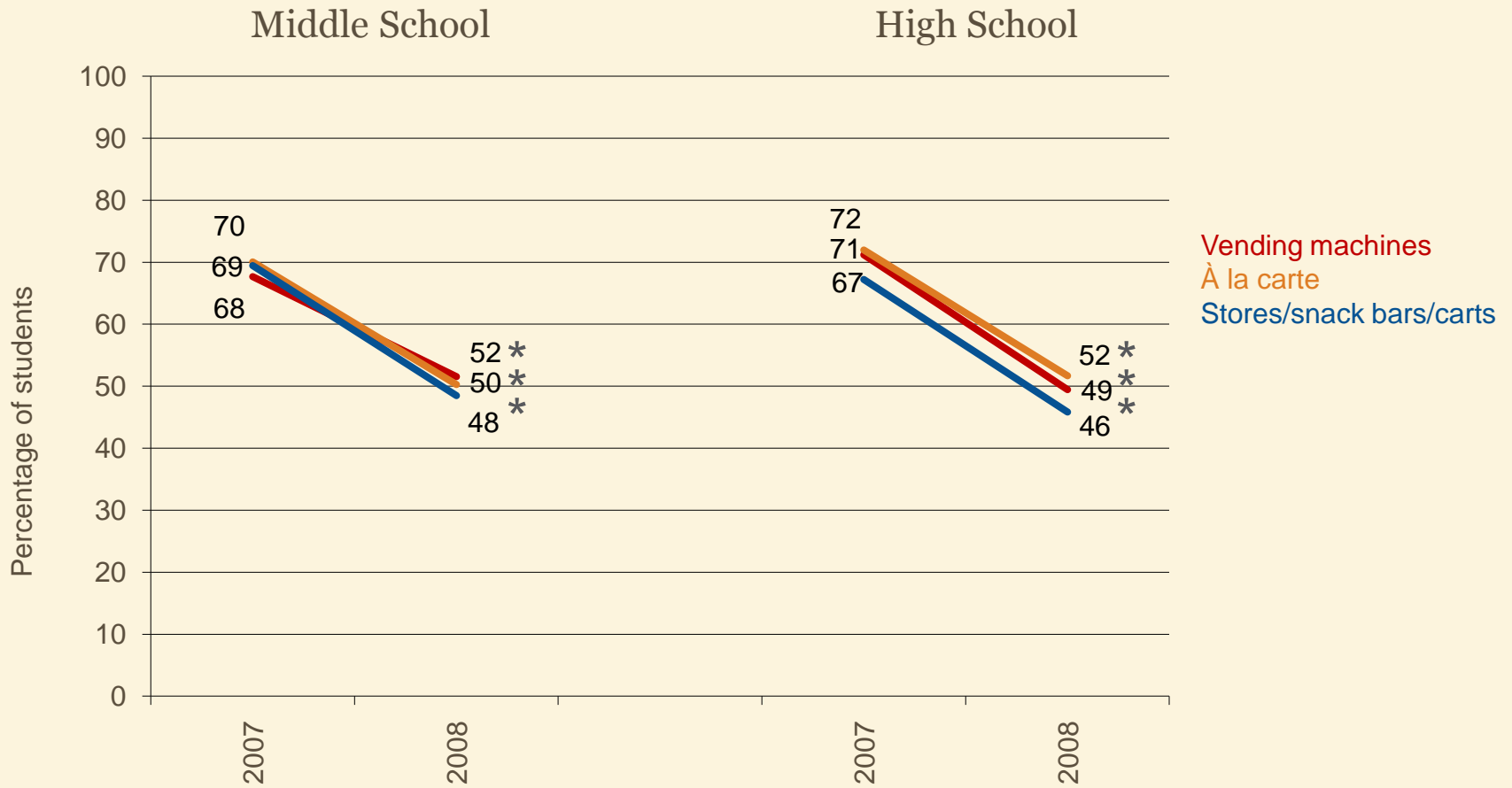


bridging the gap

The 2007 value was 57% for high school students for both à la carte and stores/snack bars/carts.

*p<.05

Student Access to Competitive Venues Not Implementing Nutritional Guidelines for Competitive Foods, 2007-2008



bridging the gap

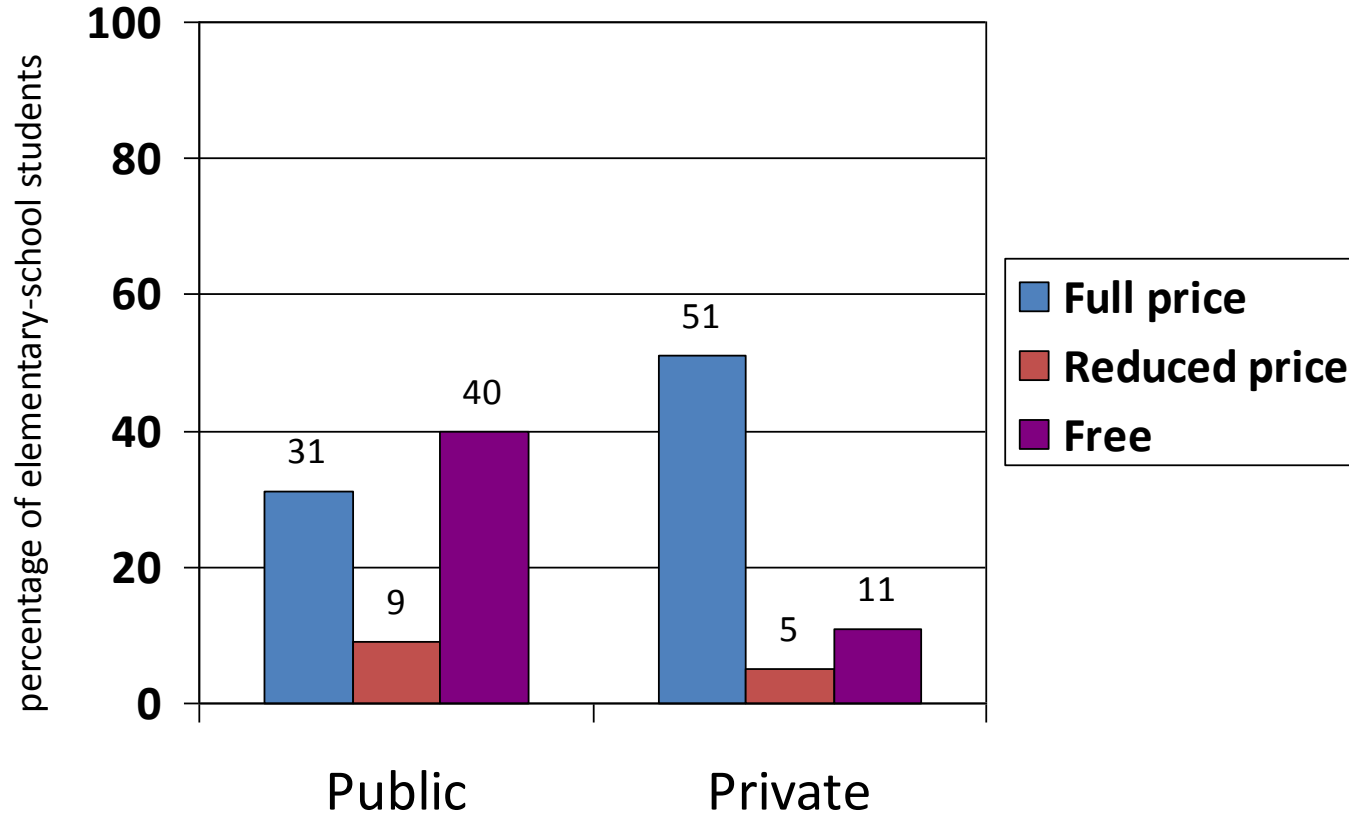
*p<.05

Policy and Environmental Strategies to Promote Healthy Eating

Participation in Nutrition Assistance Programs:

- Under-participation in various federal, state and local nutrition assistance programs, including:
 - Women, Infants and Children program
 - National School Breakfast and Lunch Programs
 - Child and Adult Care Food Program
 - After School Snacks Program
 - Summer Food Service Program
 - Supplemental Nutrition Assistance Program
- Program participation associated with improved diets and reduced likelihood of overweight/obesity

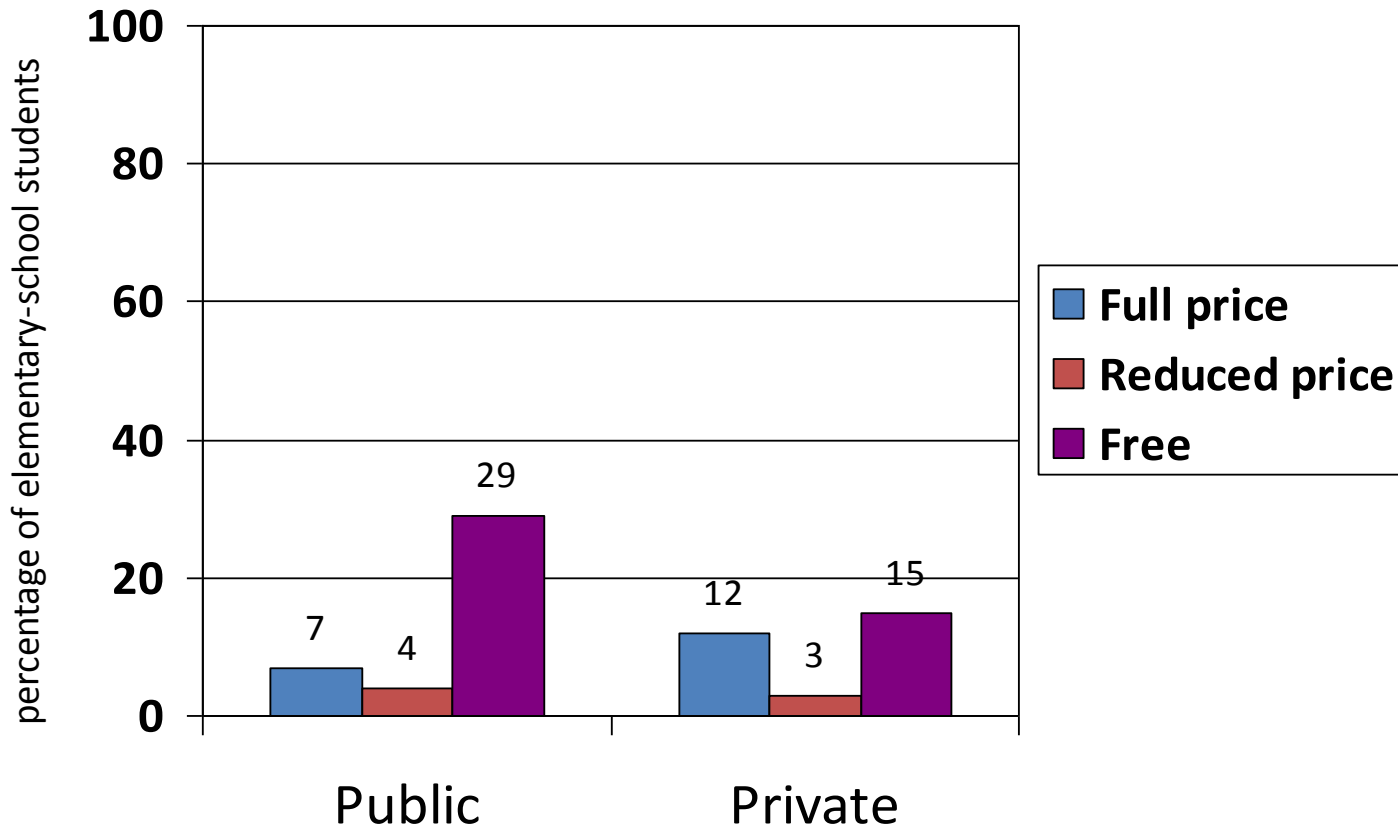
Figure 4.5 Typical Daily Student Participation in the National School Lunch Program at Each Payment Level, 2007–08



Public differs from private at $p < .01$ or better.

b)

Figure 4.2 Typical Daily Student Participation in the School Breakfast Program at Each Payment Level, 2007–08



Percentage of students eating lunch for free differs between public and private at $p < .01$ or better.

Policy and Environmental Strategies to Promote Healthy Eating

Participation in Nutrition Assistance Programs – Actions:

- Implement policies that require government run or regulated agencies responsible for administering programs to collaborate to increase enrollment and participation
 - E.g. ensure that eligible WIC participants also participate in SNAP
- Ensure that child-care and after-school program licensing agencies encourage utilization of the nutrition assistance programs and increase nutrition program enrollment

Policy and Environmental Strategies to Promote Healthy Eating

Breastfeeding:

- **Barriers to breastfeeding despite national recommendations to increase breastfeeding initiation and duration**
 - **Attitudes/social norms towards breastfeeding in public places**
 - **Lack of facilities/time for pumping/storing breast milk for working mothers**
 - **Limited awareness about the benefits of breastfeeding**
- **Breastfeeding provides multiple benefits to infants and mothers and the longer a child breastfeeds, the less like he/she is to be overweight**

Policy and Environmental Strategies to Promote Healthy Eating

Breastfeeding - Actions:

- Encourage breastfeeding and promote breastfeeding friendly communities
 - Adopt practices in hospitals that are consistent with the Baby-Friendly Hospital Initiative USA that promotes, protects and supports breastfeeding
 - Permit breastfeeding in public places and rescind any laws or regulations that discourage or do not allow it
 - Create lactation rooms in public places
 - Create incentives for breastfeeding friendly worksites that include lactation rooms
 - Fund WIC clinics to obtain/provide breast pumps for participants

bridging the gap

Policy and Environmental Strategies to Promote Healthy Eating

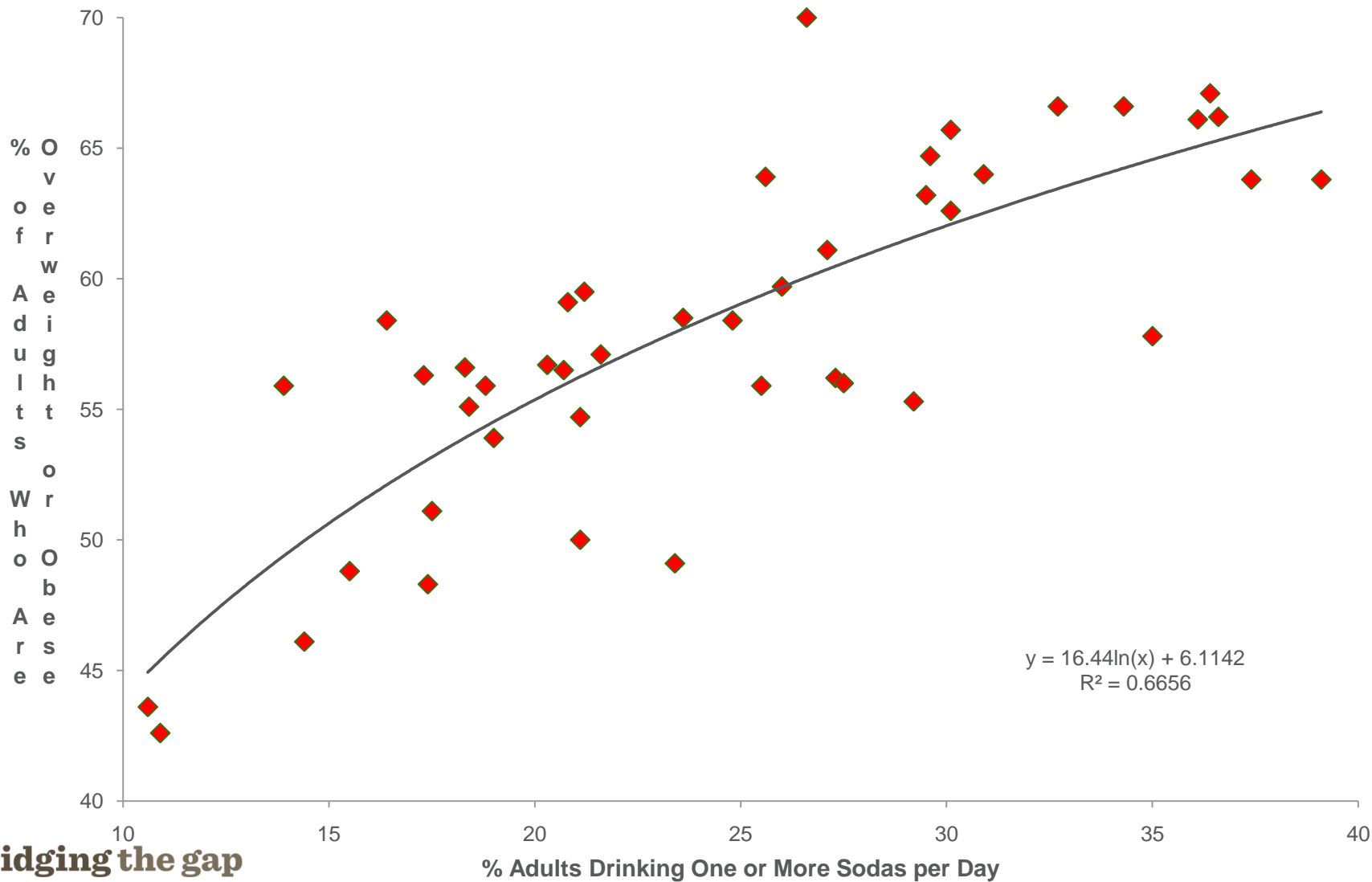
Access to, Affordability of Calorie-Dense, Nutrient-Poor Foods:

- “Food Swamps”
 - near constant access to foods high in refined grains, added fats and sugars and to sugar-sweetened beverages
 - Fast food restaurants, convenience/corner stores relatively more available in low-income, minority neighborhoods
 - Access around schools relatively high
 - Prices for less healthy options relatively low compared to healthy options
- Consumption of these products results in increased likelihood of obesity

bridging the gap

Soda Consumption & Obesity

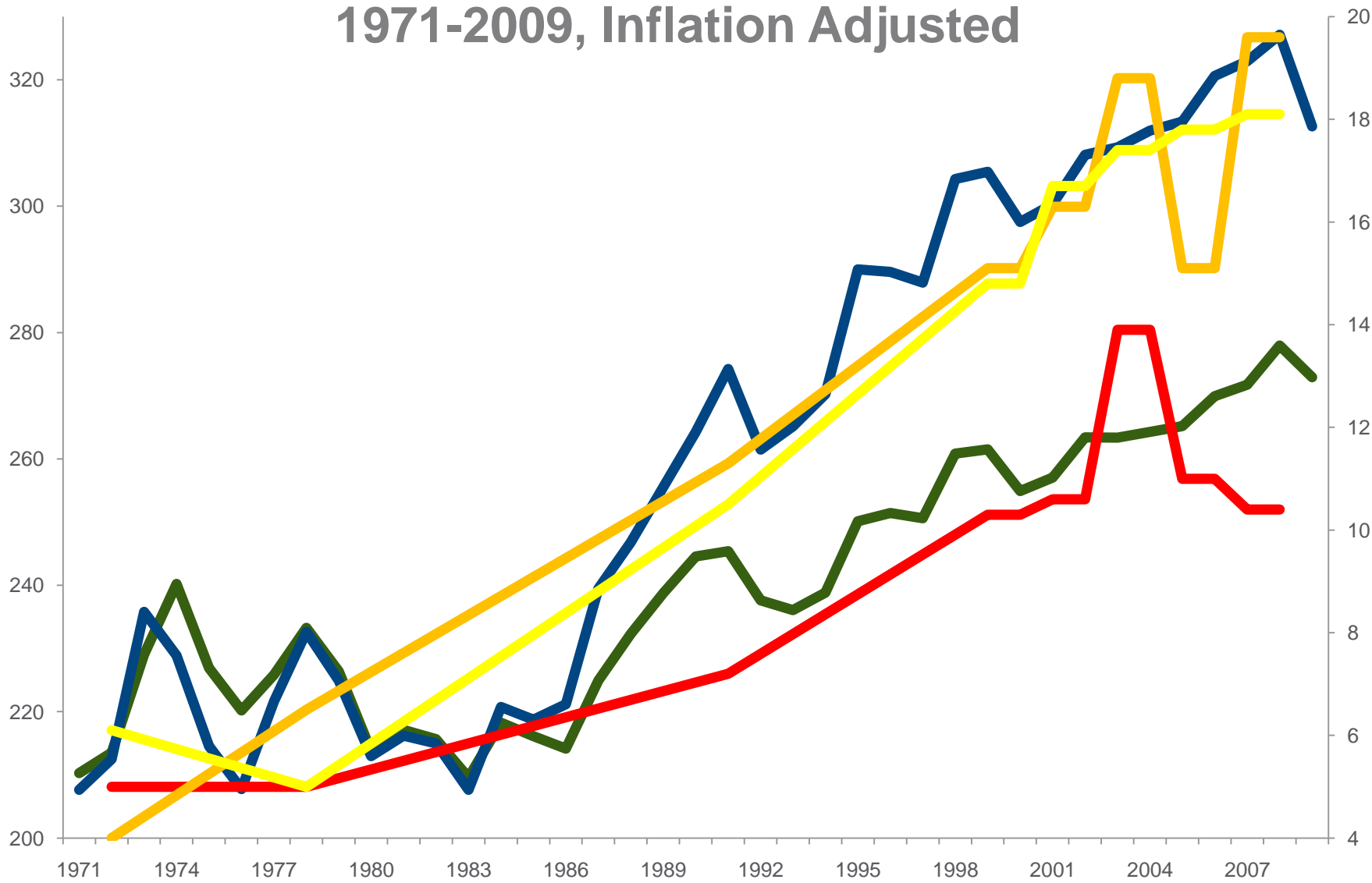
California Counties, 2005



bridging the gap

Selected Food Price & Youth Weight Trends

1971-2009, Inflation Adjusted

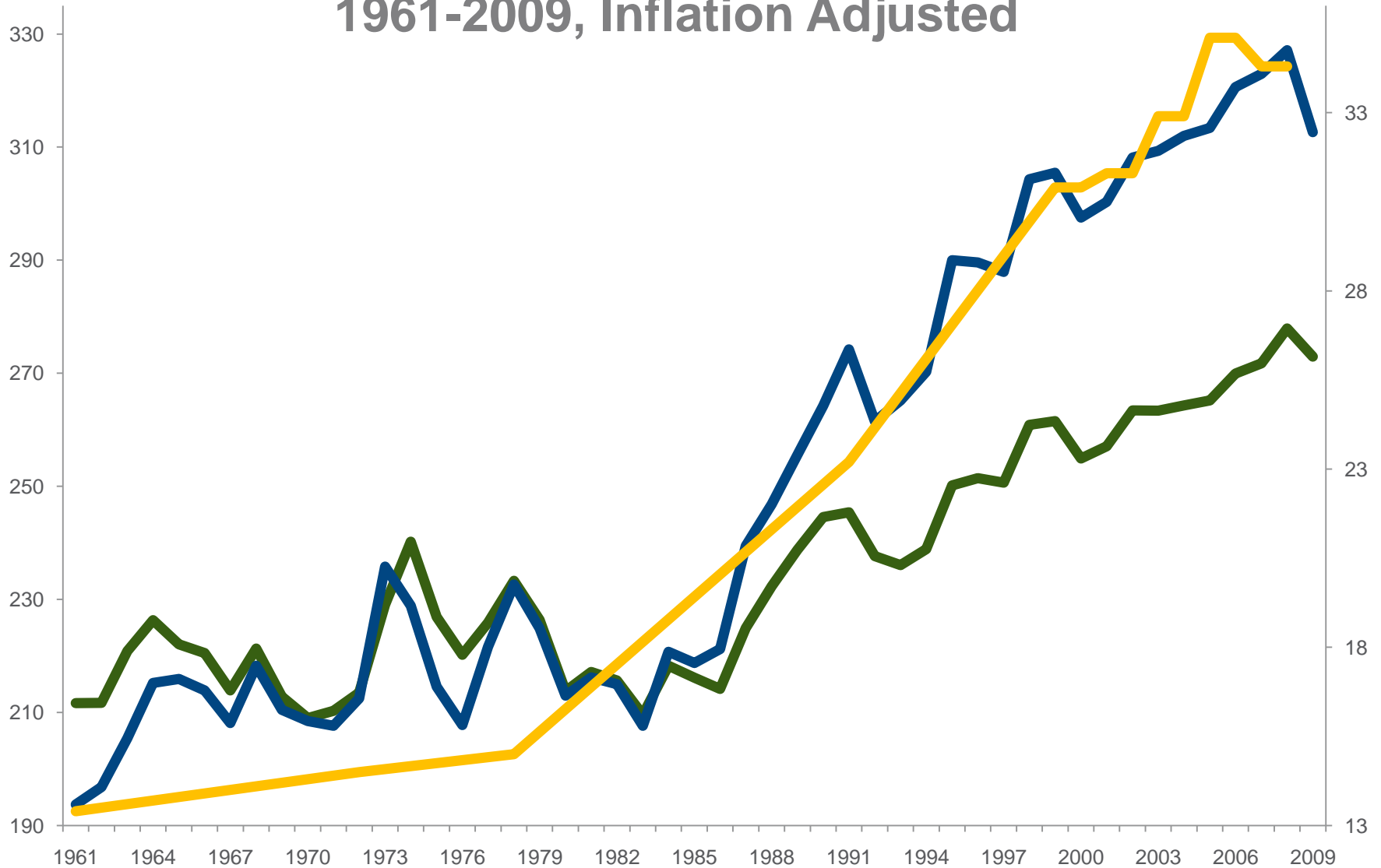


bridging the gap

— Fruits & Veg
 — Fresh Fruits & Veg
 — 2-5
 — 6-11
 — 12-19

Selected Food Price & Adult Weight Trends

1961-2009, Inflation Adjusted

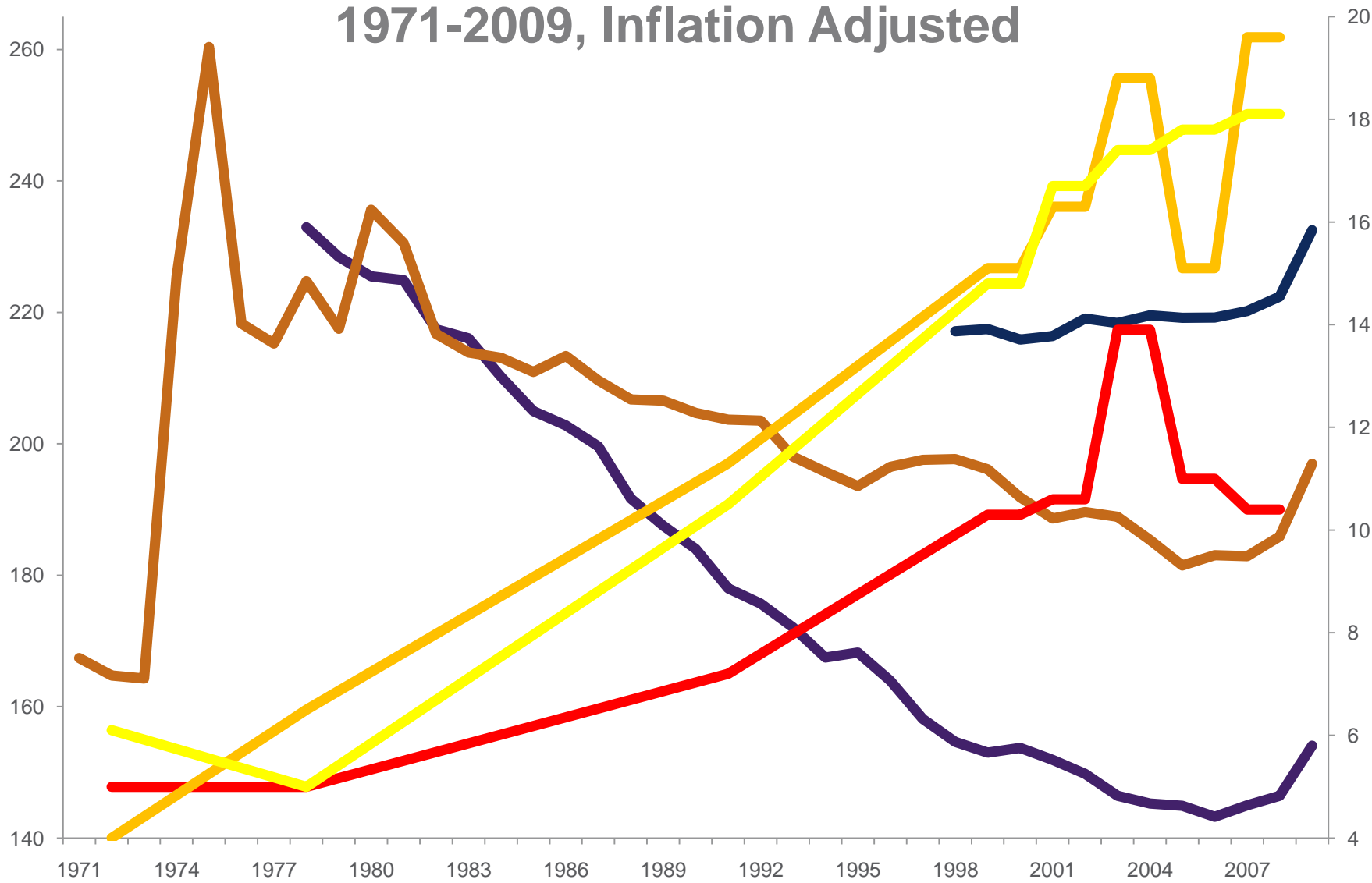


bridging the gap

— Fruits & Veg — Fresh Fruits & Veg — % Obese

Selected Food Price & Youth Weight Trends

1971-2009, Inflation Adjusted



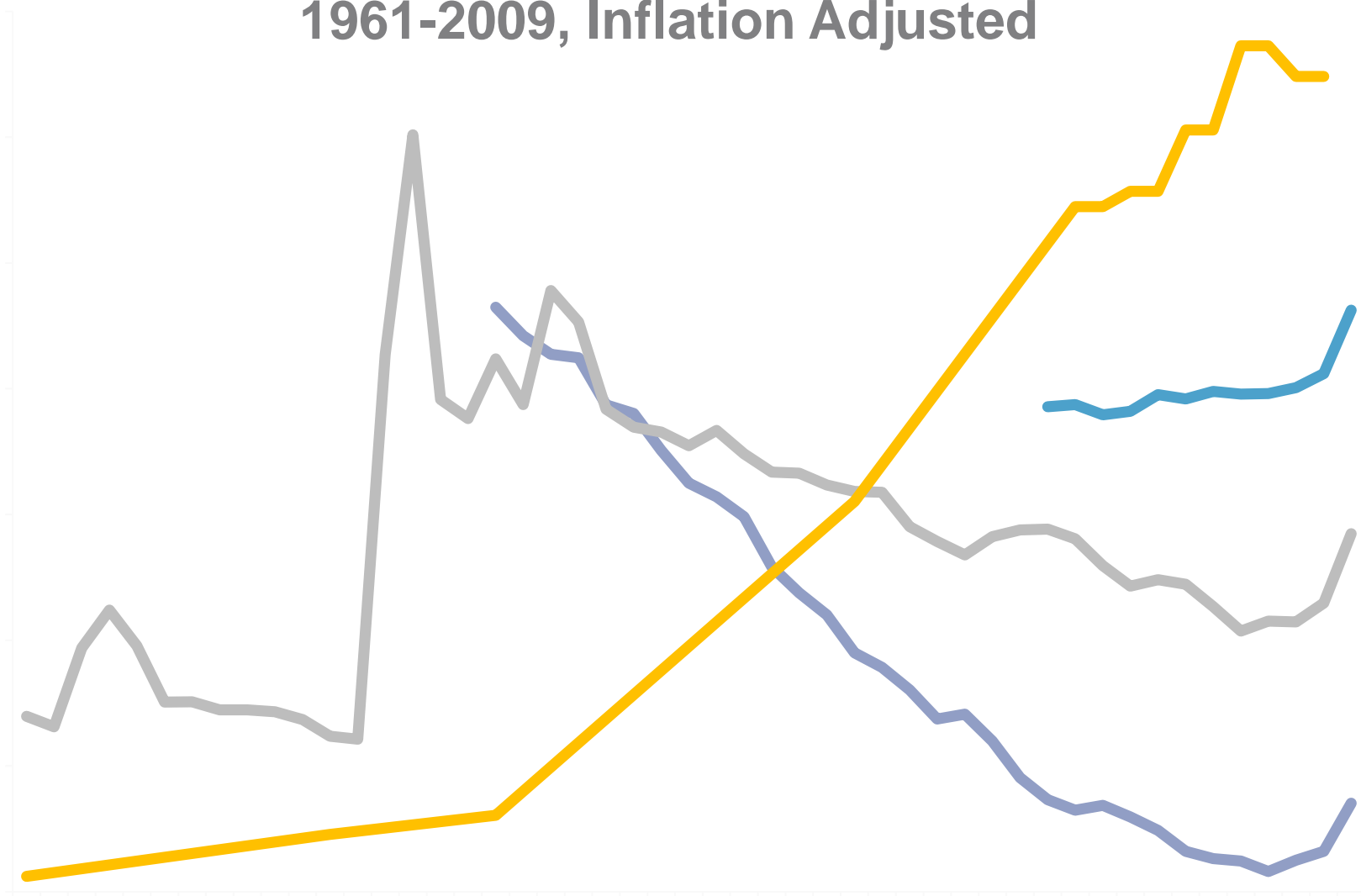
bridging the gap

- Carb. Bev.
- Sweets
- Fast Food
- 2-5
- 6-11
- 12-19

Source: BLS; NHES-I 1960-62; NHANES, 1971-74, 1976-80, 1988-94, 1999-2000, 2001-02, 2003-04, 2005-06, 2007-08

Selected Food Price & Adult Weight Trends

1961-2009, Inflation Adjusted



bridging the gap



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 Weight Outcomes

Relatively limited research to date on impact of food and beverage prices and weight outcomes:

- Higher prices for sugary foods would significantly reduce prevalence of overweight and obesity among adults (Miljkovic et al., 2008)
- 10% increase in fast food prices would reduce prevalence of adolescent obesity by almost 6% (Powell, et al., 2007)
- Weight outcomes among low-income populations and those with higher BMI more responsive to prices
 - BMI of kids in families below poverty level about 50% more responsive to F&V prices
 - BMI for kids at unhealthy weight levels 39% more responsive to F&V prices
 - BMI of adolescents at unhealthy weight levels about 4 times more responsive to F&V and fast food prices.

bridging the gap

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



bridging the gap

— Carb. Bev.

— Obese

Policy and Environmental Strategies to Promote Healthy Eating

Access to, affordability of Calorie-Dense, Nutrient-Poor Foods - Actions:

- Implement tax policies to discourage consumption of foods and beverages with minimal nutritional value
 - SSB taxes, junk food taxes, food taxes, taxes based on nutritional composition of foods/beverages
- Adopt zoning, land use and other policies targeting fast-food restaurants and mobile vendors
 - Restrict placement near schools, playgrounds, parks
 - Limit density of fast food restaurants

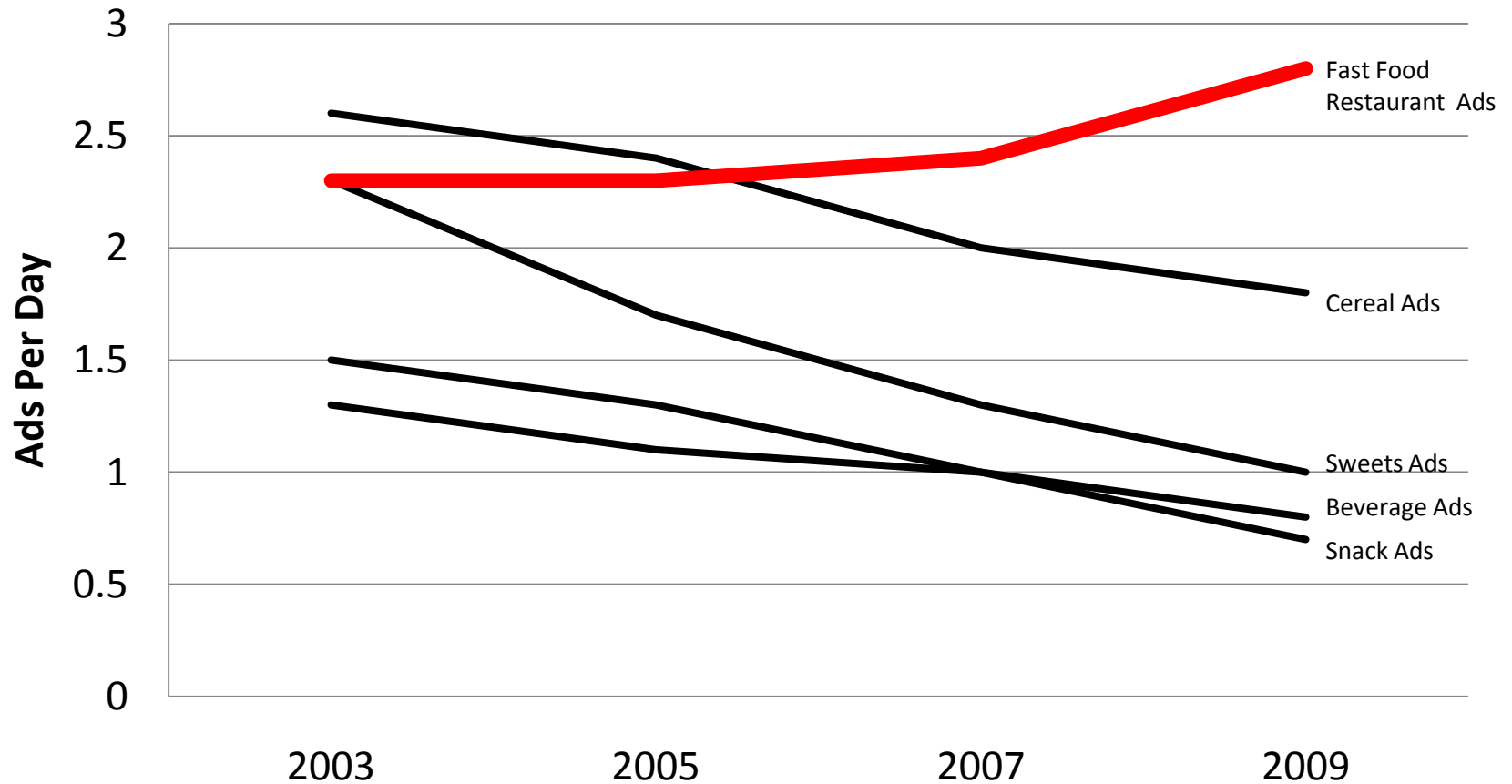
Policy and Environmental Strategies to Promote Healthy Eating

Marketing of Calorie-Dense, Nutrient-Poor Foods:

- Pervasive marketing of unhealthy products
 - Through multiple channels including television, radio, print, billboards, transit, other outdoor, Internet
 - Particularly problematic for children
 - Extensive price promotions
- Exposure to marketing influences consumption choices and likely contributes to obesity
- Industry self-regulatory efforts weak, inconsistent and not comprehensive

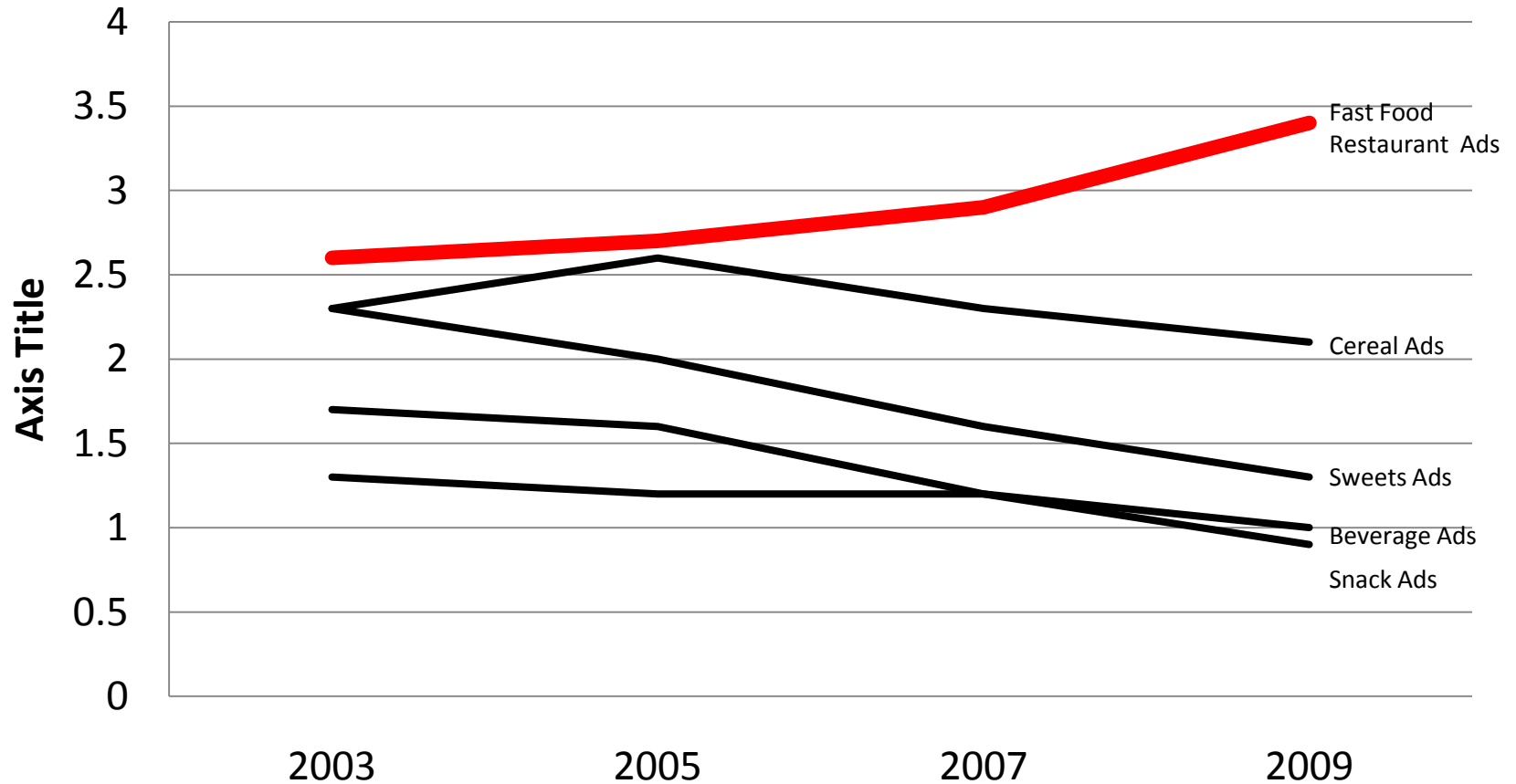
Exposure to Food Advertisements per Day for Children by Year

Children Ages 2-5 Years



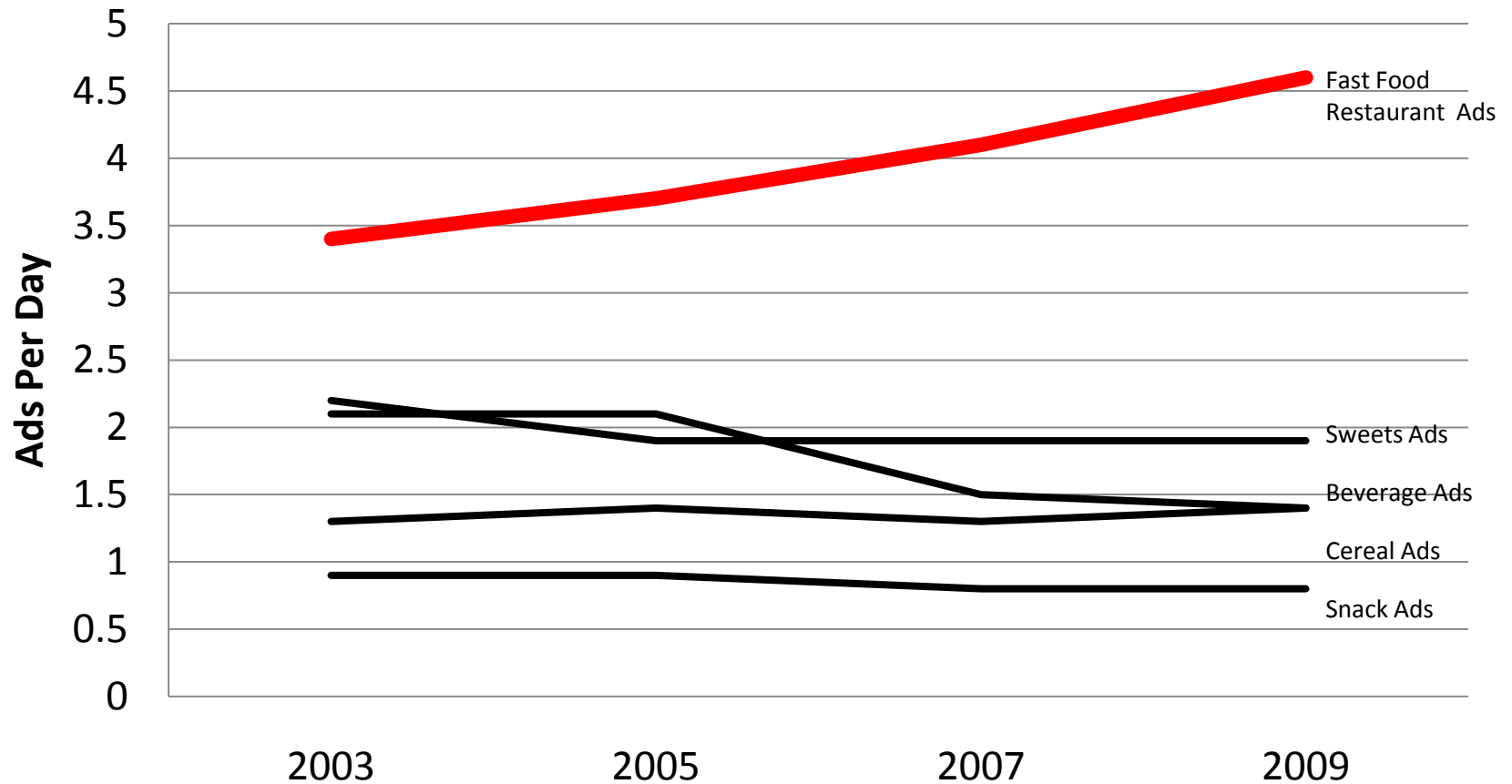
Exposure to Food Advertisements per Day for Children by Year

Children Ages 6-11 Years



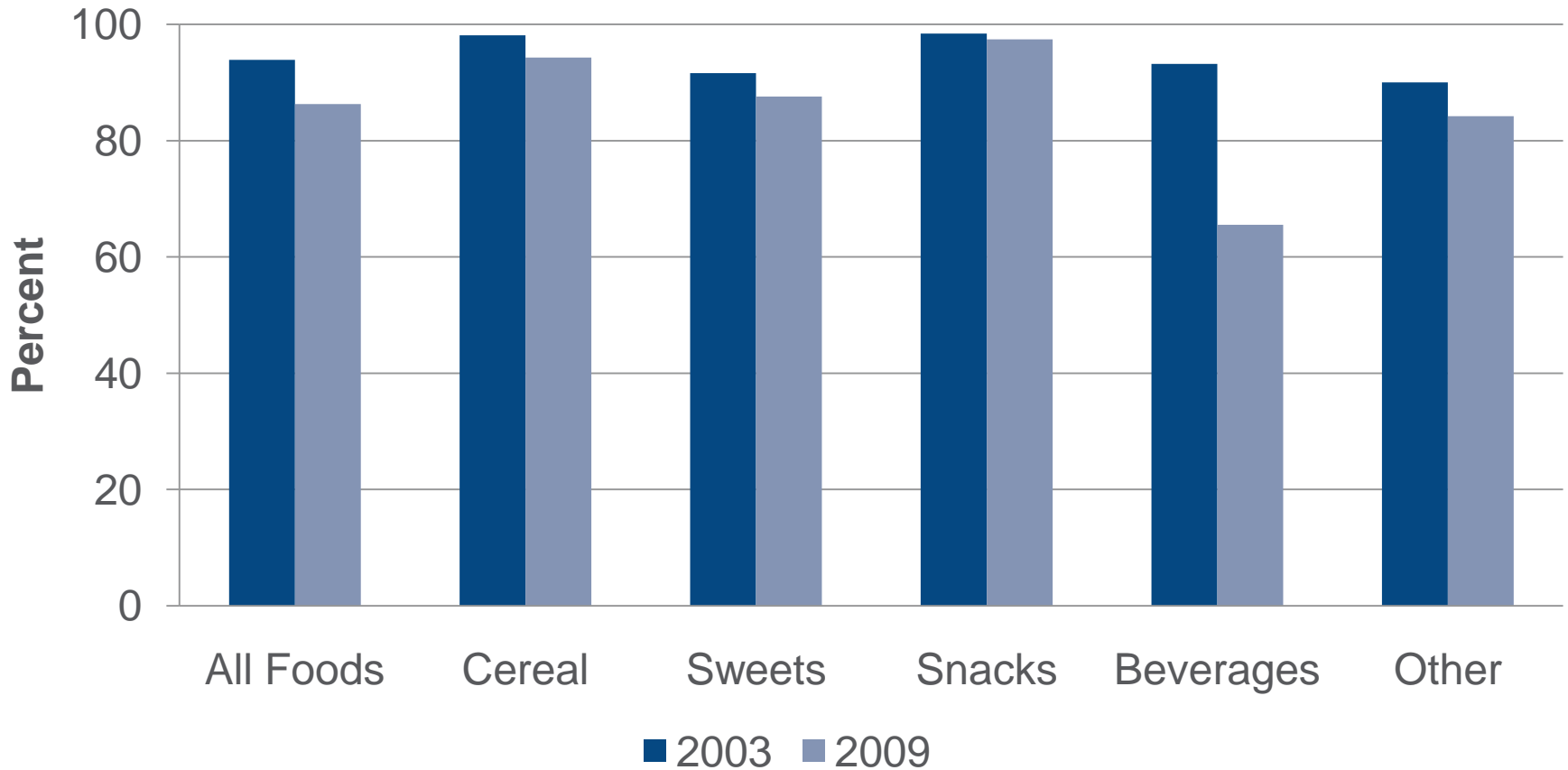
Exposure to Food Advertisements per Day for Adolescents by Year

Adolescents Ages 12-17 Years



Food Ads High in Saturated Fat, Sugar or Sodium

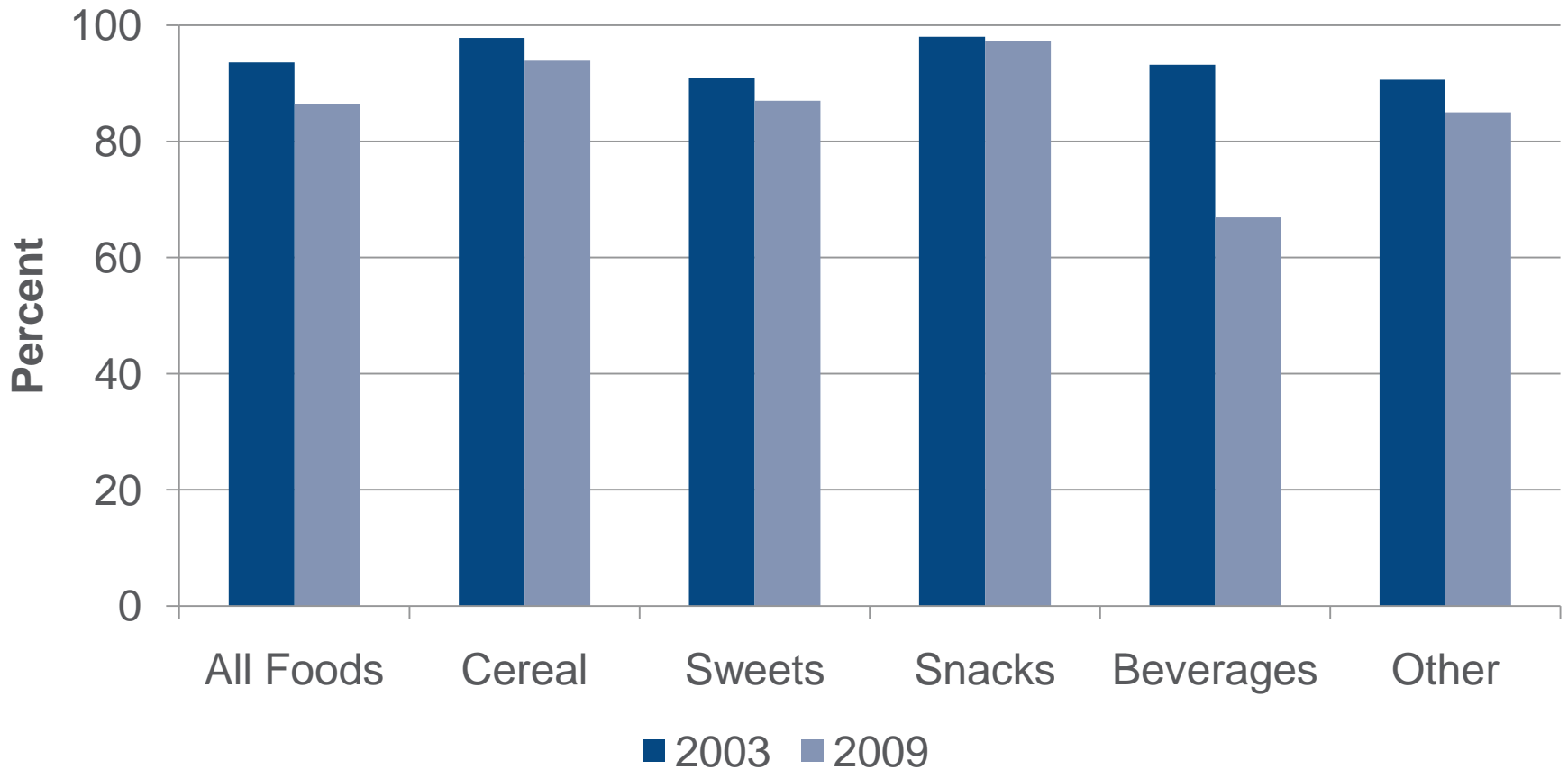
Children Ages 2-5 Years



bridging the gap

Food Ads High in Saturated Fat, Sugar or Sodium

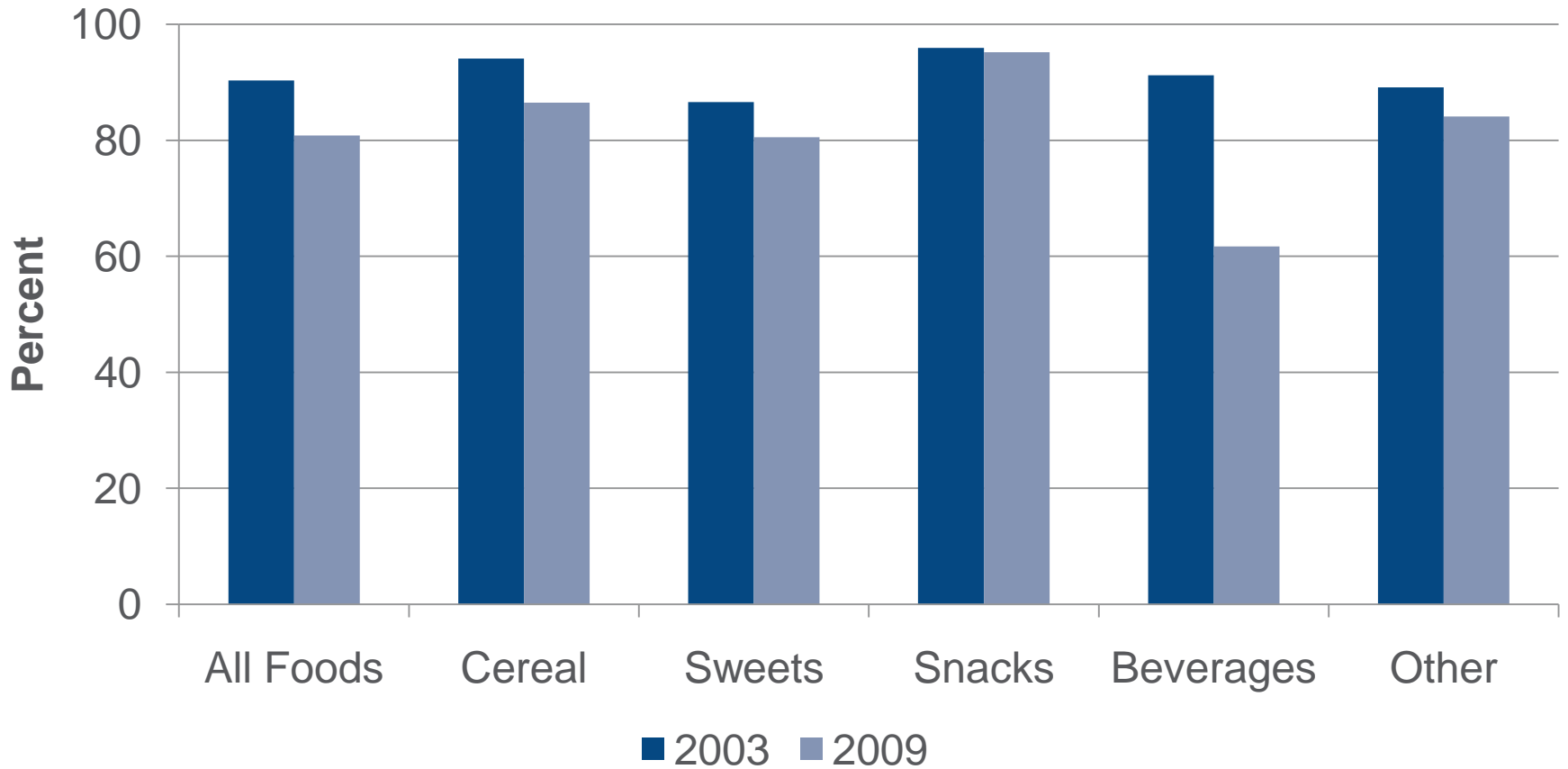
Children Ages 6-11 Years



bridging the gap

Food Ads High in Saturated Fat, Sugar or Sodium

Adolescents Ages 12-17 Years



bridging the gap

Number of Ads Seen and Nutritional Content (%) of Ads for Selected Companies in the CFBAI Children Ages 6-11 Years

	General Mills		Kellogg		Kraft Foods		Coca-Cola		Pepsi		Nestle	
	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009
Number of Ads Seen	2.1	2.1	1.3	0.7	1.3	0.8	0.2	0.1	0.6	0.3	0.4	0.3
High Fat	4.6	9.1	12.4	7.5	37.9	30.6	0.0	0.0	21.1	23.2	59.6	31.4
High Sat Fat	14.9	19.1	15.4	11.9	40.5	30.6	0.0	0.0	16.7	3.2	72.2	55.2
High Sugar	90.5	81.6	71.8	66.4	64.9	36.8	82.9	41.4	66.4	58.2	57.8	18.6
High Sodium	50.4	60.8	73.9	60.4	38.0	60.0	0.0	0.0	44.8	23.4	16.0	16.3
Low Fiber	67.0	43.0	69.7	26.0	76.9	80.3	100	100	49.1	61.0	91.9	92.7
High Sat Fat, Sugar or Sodium	96.6	97.3	98.7	88.7	97.5	94.9	93.9	41.4	91.7	81.6	91.0	72.3

bridging the gap

Number of Ads Seen and Nutritional Content (%) of Ads for Selected Companies in the CFBAI Children Ages 6-11 Years

	General Mills		Kellogg		Kraft Foods		Coca-Cola		Pepsi		Nestle	
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High Fat	4.6	9.1	12.4	7.5	37.9	30.6	0.0	0.0	21.1	23.2	59.6	31.4
High Sat Fat	14.9	19.1	15.4	11.9	40.5	30.6	0.0	0.0	16.7	3.2	72.2	55.2
High Sugar	90.5	81.6	71.8	66.4	64.9	36.8	82.9	41.4	66.4	58.2	57.8	18.6
High Sodium	50.4	60.8	73.9	60.4	38.0	60.0	0.0	0.0	44.8	23.4	16.0	16.3
Low Fiber	67.0	43.0	69.7	26.0	76.9	80.3	100	100	49.1	61.0	91.9	92.7
High Sat Fat, Sugar or Sodium	96.6	97.3	98.7	88.7	97.5	94.9	93.9	41.4	91.7	81.6	91.0	72.3

bridging the gap

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	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009
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High Fat	4.6	9.1	12.4	7.5	37.9	30.6	0.0	0.0	21.1	23.2	59.6	31.4
High Sat Fat	14.9	19.1	15.4	11.9	40.5	30.6	0.0	0.0	16.7	3.2	72.2	55.2
High Sugar	90.5	81.6	71.8	66.4	64.9	36.8	82.9	41.4	66.4	58.2	57.8	18.6
High Sodium	50.4	60.8	73.9	60.4	38.0	60.0	0.0	0.0	44.8	23.4	16.0	16.3
Low Fiber	67.0	43.0	69.7	26.0	76.9	80.3	100	100	49.1	61.0	91.9	92.7
High Sat Fat, Sugar or Sodium	96.6	97.3	98.7	88.7	97.5	94.9	93.9	41.4	91.7	81.6	91.0	72.3

bridging the gap

Number of Ads Seen and Nutritional Content (%) of Ads for Selected Companies in the CFBAI Children Ages 6-11 Years

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	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009
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High Fat	4.6	9.1	12.4	7.5	37.9	30.6	0.0	0.0	21.1	23.2	59.6	31.4
High Sat Fat	14.9	19.1	15.4	11.9	40.5	30.6	0.0	0.0	16.7	3.2	72.2	55.2
High Sugar	90.5	81.6	71.8	66.4	64.9	36.8	82.9	41.4	66.4	58.2	57.8	18.6
High Sodium	50.4	60.8	73.9	60.4	38.0	60.0	0.0	0.0	44.8	23.4	16.0	16.3
Low Fiber	67.0	43.0	69.7	26.0	76.9	80.3	100	100	49.1	61.0	91.9	92.7
High Sat Fat, Sugar or Sodium	96.6	97.3	98.7	88.7	97.5	94.9	93.9	41.4	91.7	81.6	91.0	72.3

bridging the gap

Policy and Environmental Strategies to Promote Healthy Eating

Marketing of Calorie-Dense, Nutrient-Poor Foods - Actions:

- Regulate marketing of less healthy foods and beverages
 - Prohibit marketing in schools, on school grounds, and on school buses
 - Adopt zoning policies that restrict placement of advertising near schools, play grounds, parks, etc.
 - Prohibit marketing in local government facilities
 - Advocate for stronger voluntary standards that extend to all under 18 years of age
 - Support efforts to regulate advertising directed to children on television and through other channels

Policy and Environmental Strategies to Promote Healthy Eating

Information:

- Lack of information about health and economic consequences of unhealthy eating
 - Compounded by extensive marketing and relative availability and affordability of calorie dense, nutrient poor foods
- Evidence that mass-media social marketing campaigns can improve awareness and promote healthier eating
 - Further supported by experiences with mass media anti-smoking campaigns in reducing tobacco use

Policy and Environmental Strategies to Promote Healthy Eating

Information - actions:

- Promote media and social marketing campaigns on healthy eating and childhood obesity prevention
 - Use multiple channels (print, radio, television, Internet, social networking and others)
 - Develop campaign that frames access to healthy foods as a health equity issue and that reframes obesity as a consequence of environmental inequities and not just poor individual choices
 - Develop counter-advertising campaigns targeting unhealthy products
 - Could be funded by earmarking revenues from SSB, junk food, and/or fast food taxes

New York's "Pouring on the Pounds" Campaign



ARE YOU POURING ON THE POUNDS?

DON'T DRINK YOURSELF FAT.
Cut back on soda and other sugary beverages.
Go with water, seltzer or low-fat milk instead.



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New York's "Pouring on the Pounds" Campaign



ARE YOU POURING ON THE **POUNDS?**

Drink	Number of Calories	Teaspoons of Sugar
Iced White Chocolate Mocha (16 oz)	340	14
Cola (20 oz)	250	10
Lemon Lime Soda (20 oz)	240	10
Orange Delight Drink (16 oz)	225	9
100% Apple Juice (16 oz)	220	9
Lemon Flavored Iced Tea (20 oz)	210	9
Café Latte (16 oz)	190	8
Sports Drink (20 oz)	120	5
Water, Seltzer (20 oz)	0	0

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Promoting Physical Activity

IOM, CDC, and RWJF Recommended Policy and Environmental Change Strategies

Sources: Institute of Medicine (2009), Kettel-Kahn, et al., (2009), Robert Wood Johnson Foundation (2011)

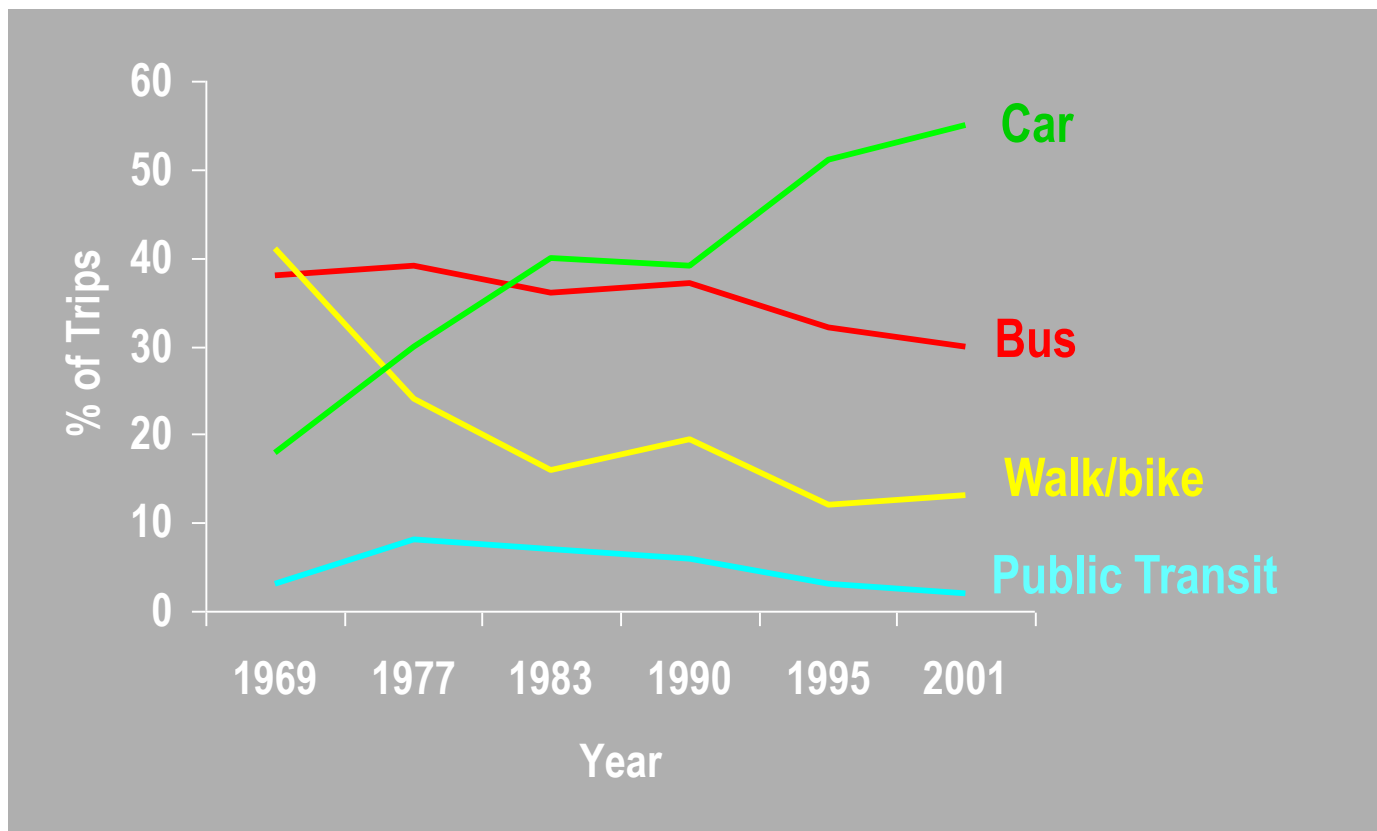
Policy and Environmental Strategies to Promote Healthy Eating

Built Environment:

- **Barriers to walking and biking either for transportation or for recreation/exercise**
 - Lack of sidewalks or problems with existing sidewalks (incomplete or discontinuous, in disrepair, no curb cuts, etc.)
 - Lack of designated bike lanes and/or shoulders
 - Unsafe crossings;
 - Traffic volume and speed
 - Land use patterns that promote driving
- **Improvements in built environment promote walking and biking and can reduce obesity**

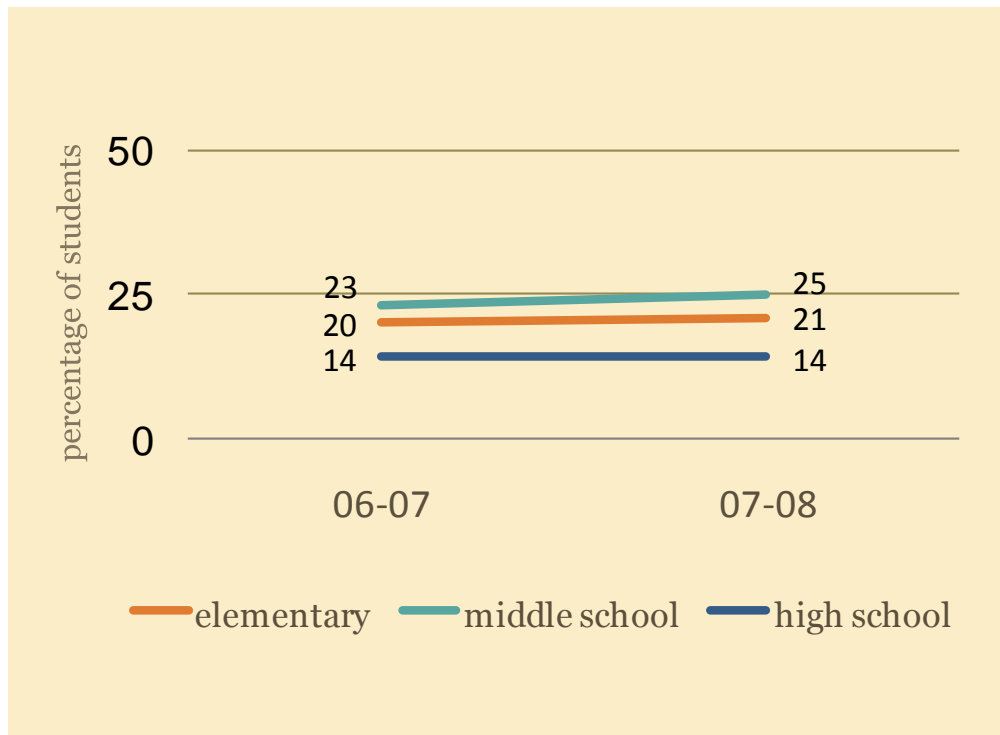
Contributors to Obesity: Community Design & the Built Environment

Standardized Share of Mode for Trips to School: National Personal Transportation Survey



Walking and Biking to School

School Practices:



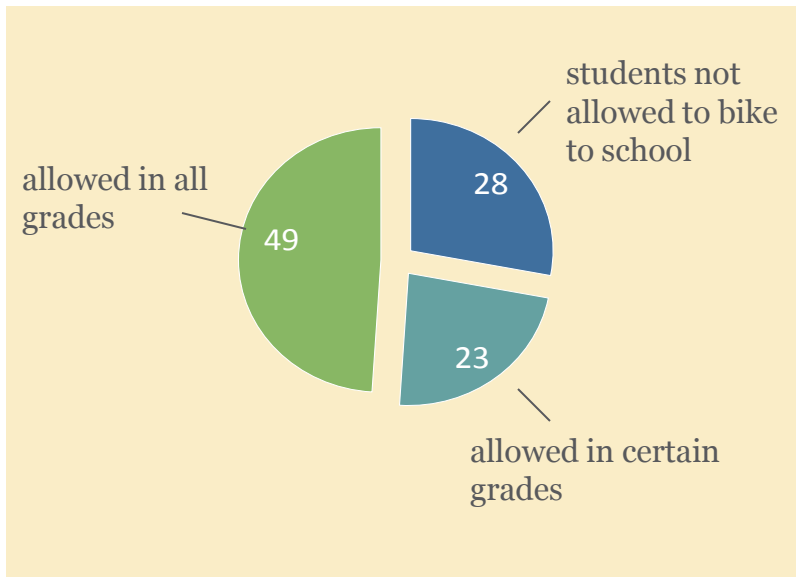
In the 2007-08 school year, 15% of elementary students attended a school that participated in the Safe Routes to School Program

bridging the gap

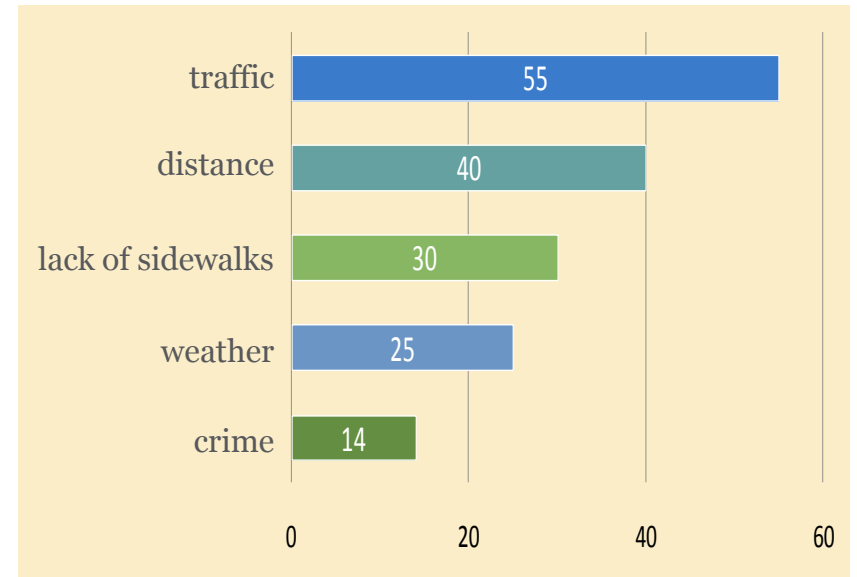
Biking to School: Restrictions and Barriers for Elementary Students

School Practices, 2007-08 school year:

school restrictions on students biking to school



principal perceptions of barriers to walking/biking



Policy and Environmental Strategies to Promote Healthy Eating

Built Environment - Actions:

- Encourage walking and biking for transportation and recreation through improvements in the built environment
 - Adopt a pedestrian and bicycle master plan to develop and implement opportunities for walking and biking
 - Plan, build and maintain a network of sidewalks and street crossings that creates a safe and comfortable walking environment and that connects to schools, parks and other destinations
 - Plan, build and retrofit streets so as to reduce vehicle speeds, accommodate bicyclists, and improve the walking environment
 - Plan, build and maintain a well-connected network of off-street trails and paths for pedestrians and bicyclists
 - Locate schools within easy walking/biking distance of

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Policy and Environmental Strategies to Promote Healthy Eating

Built Environment - Actions:

- Encourage walking and biking for transportation and recreation through improvements in the built environment
 - Adopt zoning and other policies and create incentives that promote mixed use development that increase destinations within walking and bicycling distance for community residents
 - Locate schools within easy walking/biking distance of neighborhoods and away from heavily trafficked roads
 - Improve access to public transportation
 - Enhance personal and traffic safety in areas where people can walk and bike

Policy and Environmental Strategies to Promote Healthy Eating

Recreational Physical Activity:

- Lack of access to safe parks, community recreation centers, affordable commercial physical fitness and/or recreation facilities, and other opportunities for recreational physical activity
 - Particular disparities in physical and economic access for low income and minority populations
- Increased access associated with increases in physical activity and better weight outcomes

Contributors to Obesity: Physical Activity

- **35.5% of adults do not get recommended levels of physical activity and 25.4% report no leisure-time activity**
 - IA: 35.9% short of goals and 24.4% report none
- **In 2009, 81.6% of high school students did not participate in 60 or more minutes of physical activity on any day of the previous 7 days.**
 - IA: 73.7% short of goals
- **Only 30.3% of high school students, grades 9-12, have daily P.E.**
 - IA: 20% get daily PE

Policy and Environmental Strategies to Promote Healthy Eating

Recreational Physical Activity- Actions:

- Promote recreational physical activity
 - Build and maintain parks and playgrounds that are safe and attractive for playing and in close proximity to residential neighborhoods
 - Adopt community policing strategies that improve safety and security for park use, especially in higher crime neighborhoods
 - Improve access to public and private recreational facilities in communities with limited recreational options through reduced costs, increased operating hours and development of culturally appropriate activities
 - Create after school activity programs and other publicly or privately supported active recreation

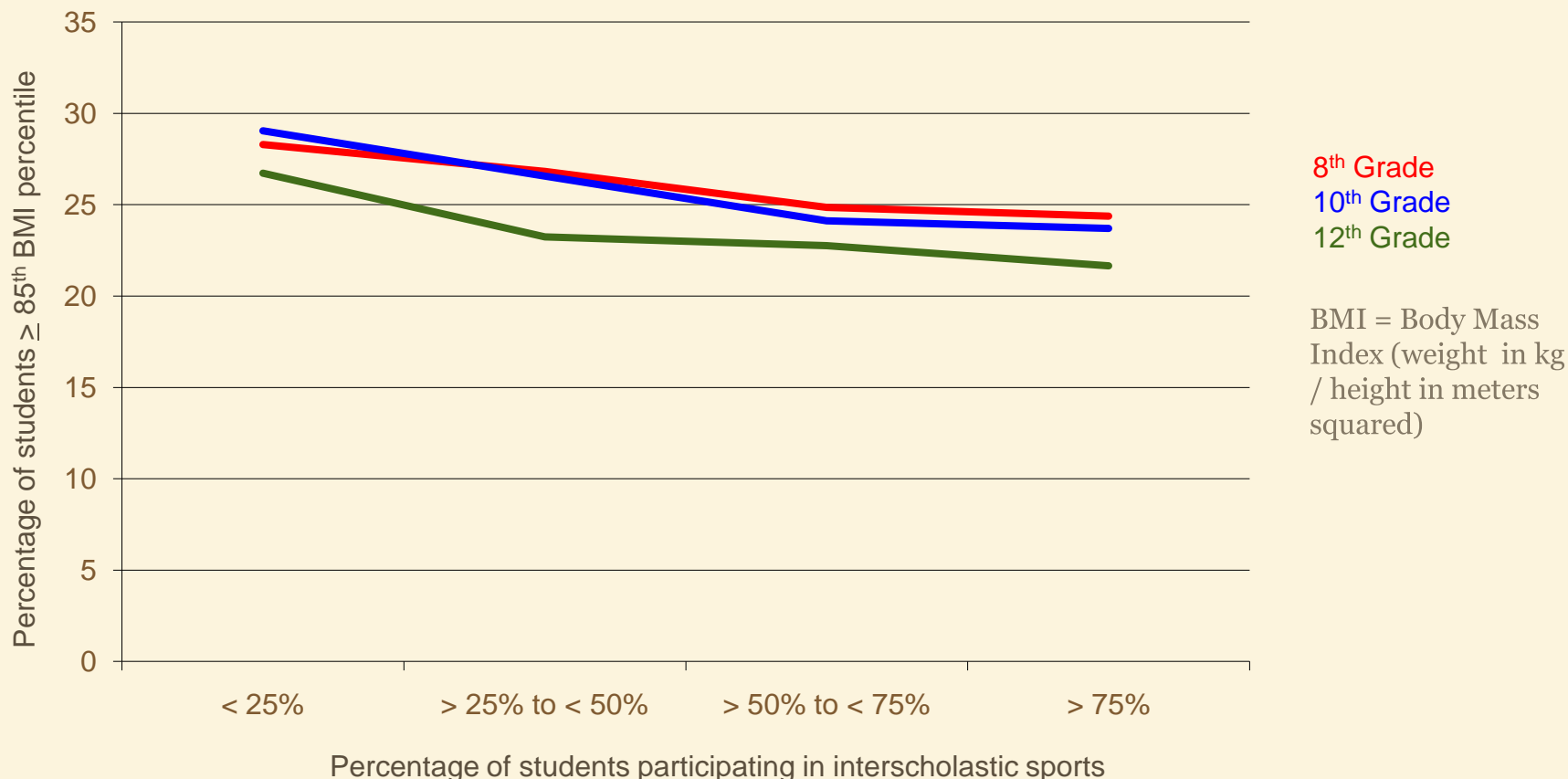
Policy and Environmental Strategies to Promote Healthy Eating

Recreational Physical Activity- Actions:

- Promote recreational physical activity
 - Collaborate with school districts and other organizations to establish joint use agreements that allow playing fields, playgrounds and recreation centers to be used by community residents when schools are closed
 - Adopt regulatory and legislative policies to address liability issues that may be barriers to implementation
 - Create and promote youth athletic leagues and increase access to fields with special emphasis on gender equity
 - Build and provide incentives to build recreation centers in neighborhoods
 - Increase opportunities for student extracurricular physical activity

bridging the gap

Percent of Students $\geq 85^{\text{th}}$ BMI Percentile by Percent Participating in Interscholastic Sports, 2004-2007

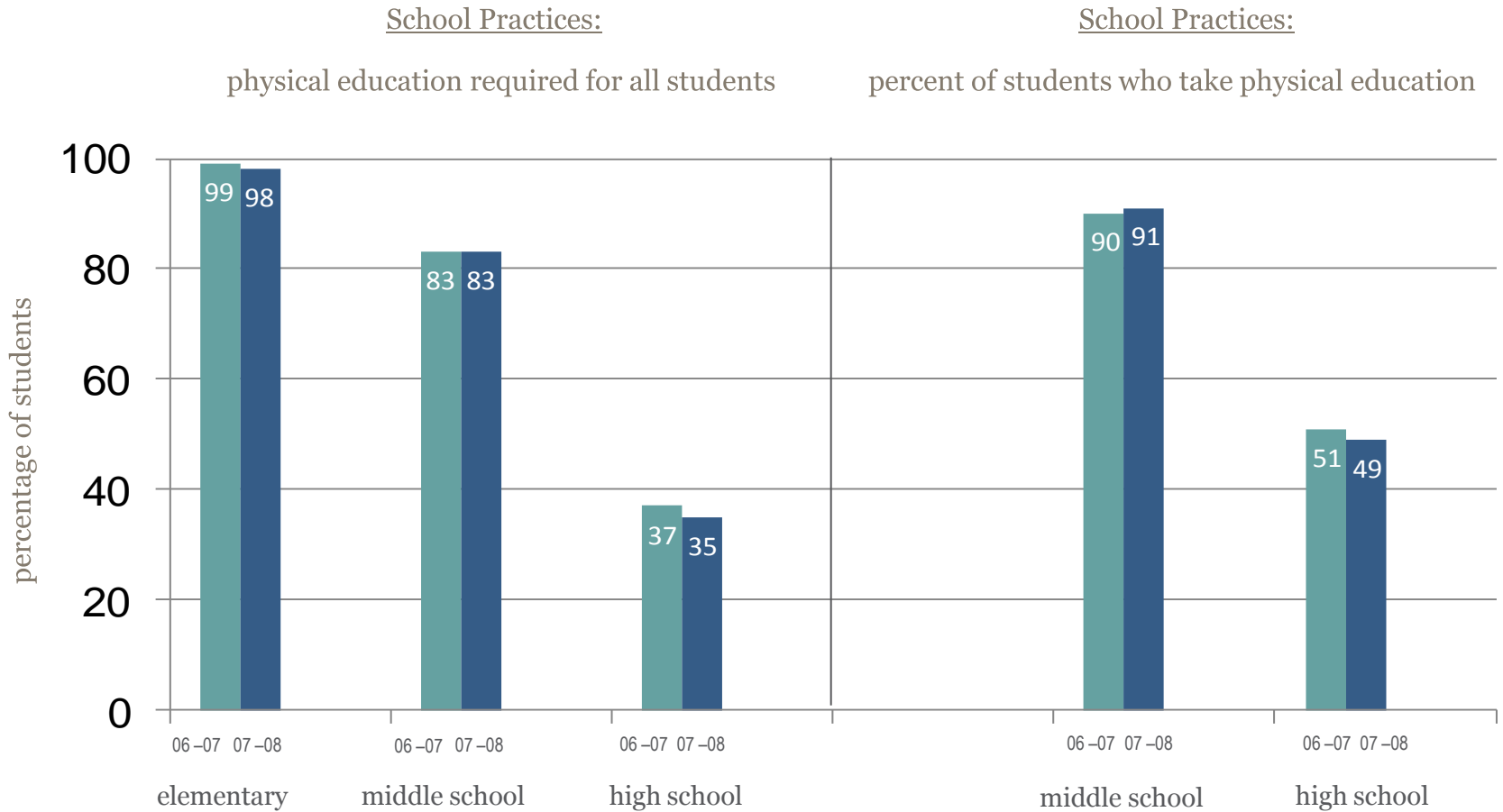


Policy and Environmental Strategies to Promote Healthy Eating

Daily Physical Activity:

- Environment tends to make inactivity the default choice
 - Building design promotes using the elevator rather than the stairs
 - Worksites provide few opportunities for daily activity
- Schools provide increasingly less physical education and physical activity opportunities for students
 - Often do not require PE; when do, often less than daily and much time spent in PE is inactive
 - Less recent for younger students
 - Few opportunities for activity in classrooms
- Building activity into daily routine makes activity automatic, creates positive social norms, and improves weight outcomes

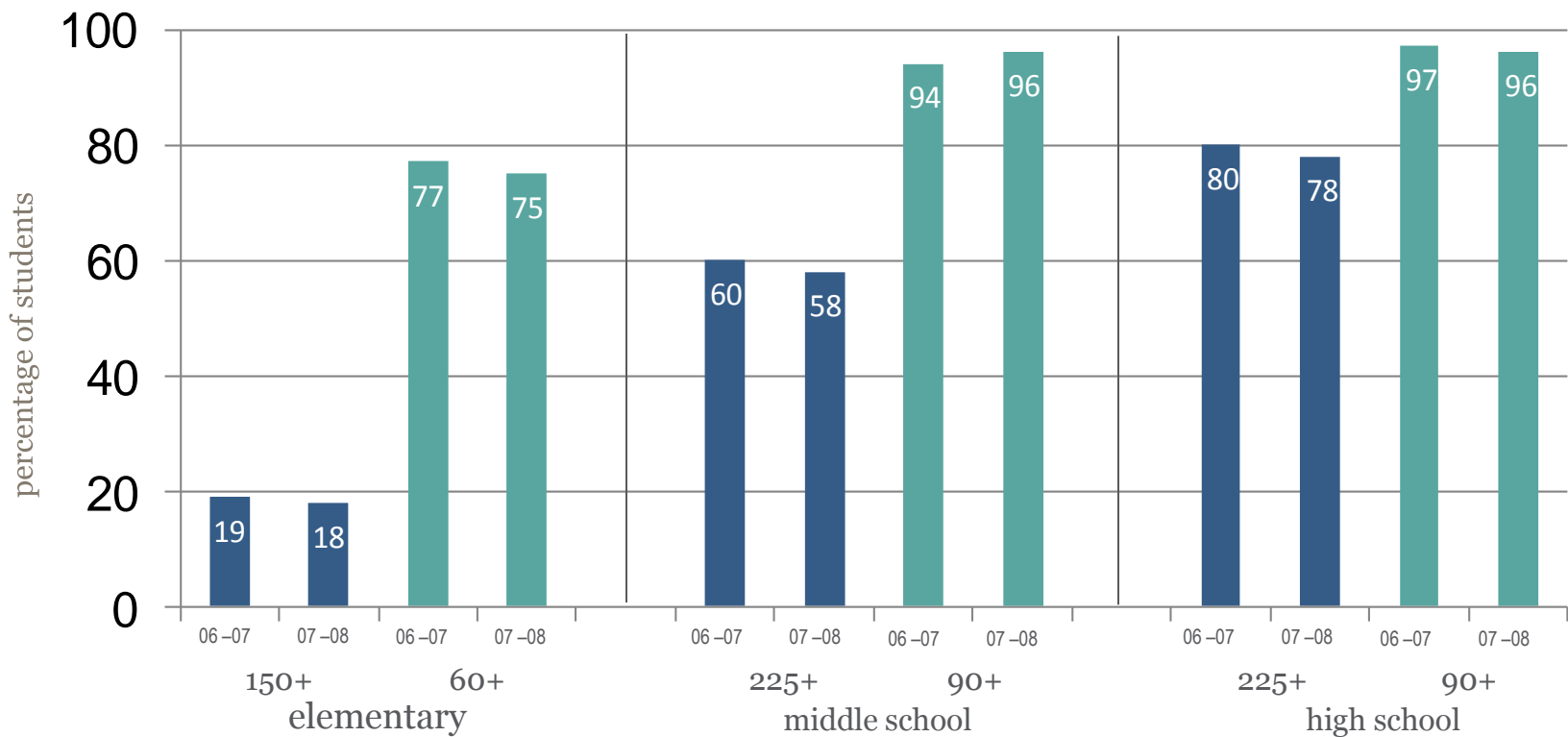
Physical Education: Who is required to take it? Who actually takes it?



bridging the gap

Physical Education Time: School Practices

- NASPE standards: ≥ 150 mins/wk ES, ≥ 225 mins/wk MS and HS
- Alliance bronze standards: ≥ 60 mins/wk ES, ≥ 90 mins/wk MS, $\frac{1}{2}$ year HS



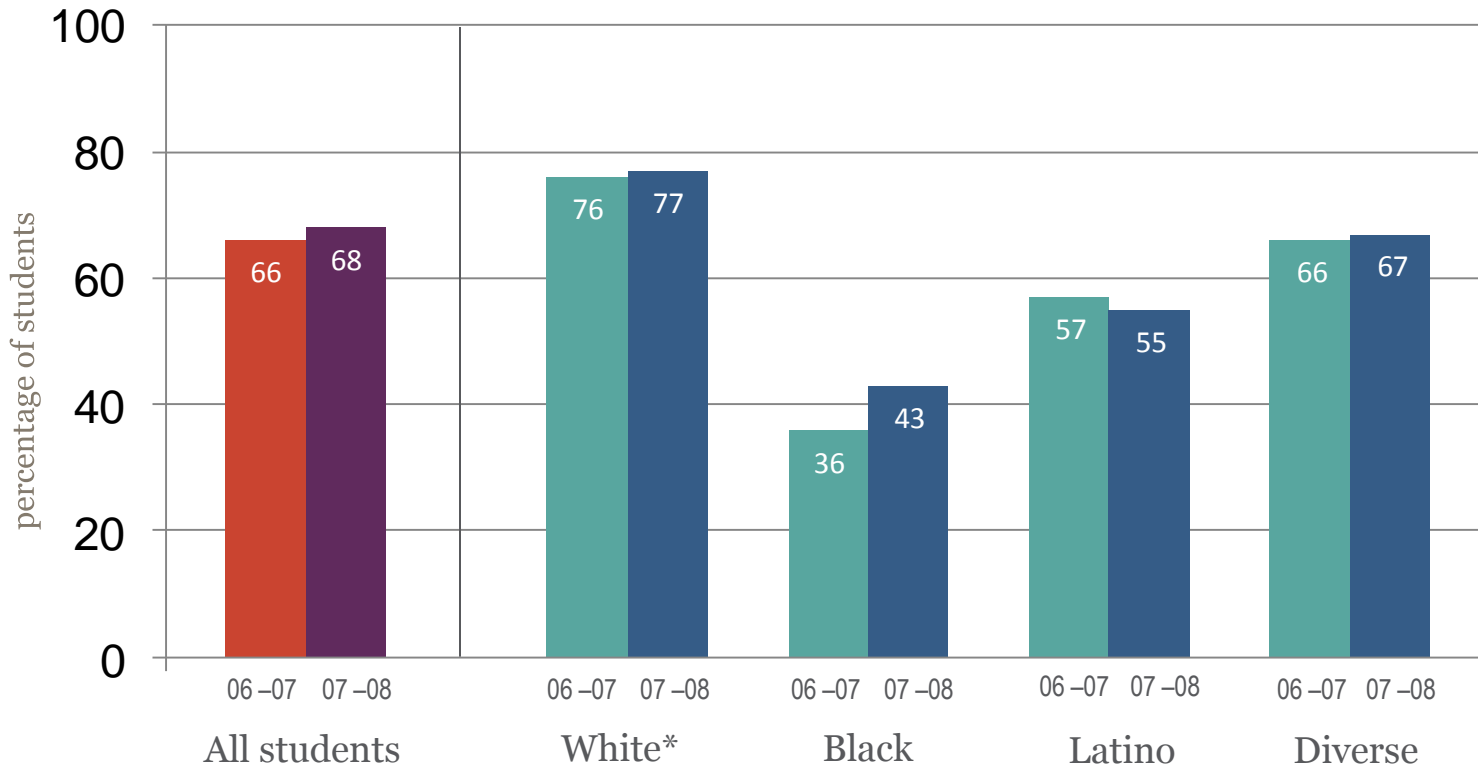
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Elementary Only:

Students provided recess daily for 20+ mins/day (100+ mins/wk)

School Practices:

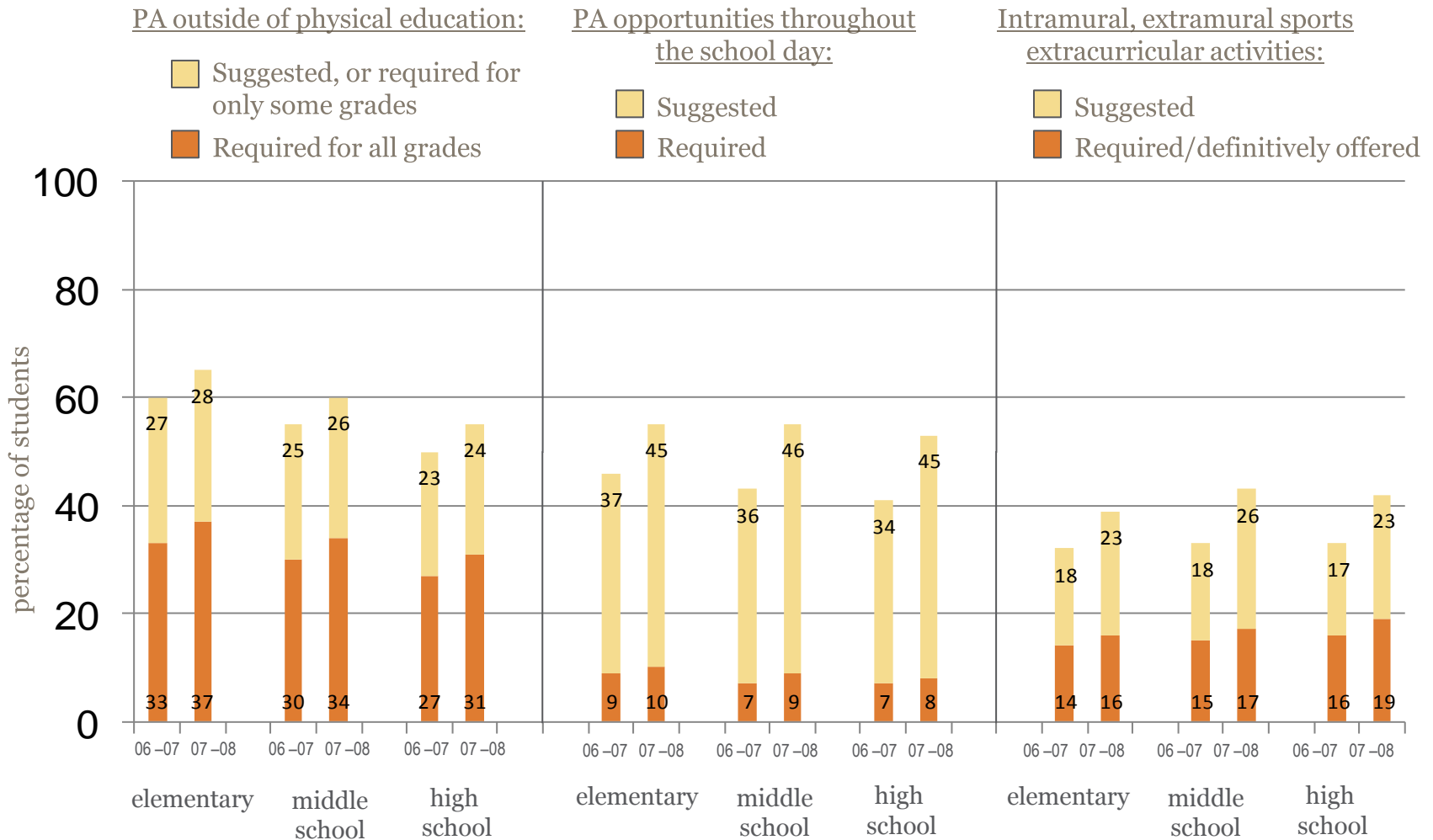
recess by predominant race/ethnicity of students at school



* differs from Black and Latino at $p < .01$

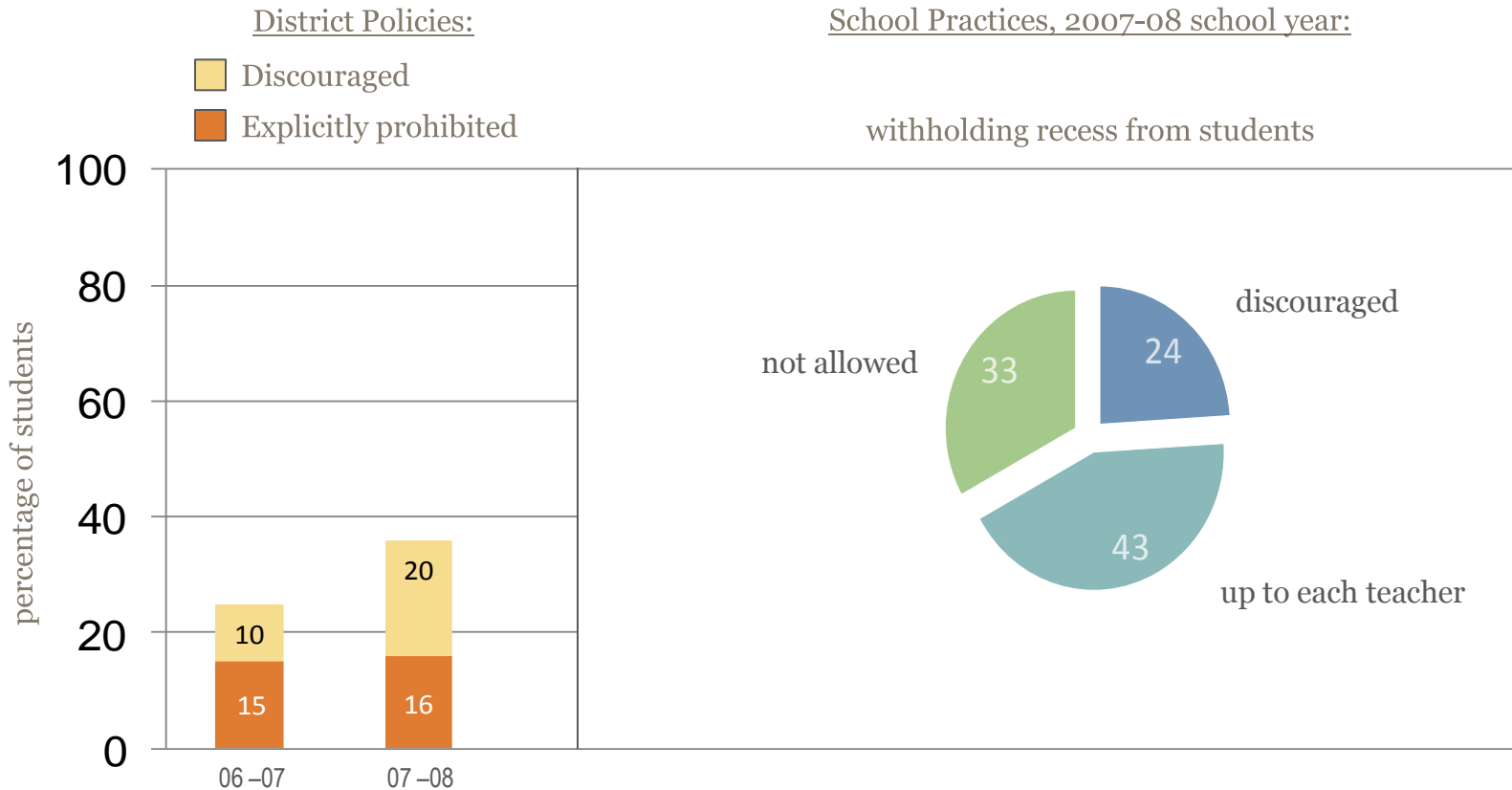
>66% White students at school
>50% Black students at school
>50% Latino students at school

Policies about Physical Activity and Sports



bridging the gap

Elementary Only: Using or Withholding Physical Activity as Punishment



Policy and Environmental Strategies to Promote Healthy Eating

Daily Physical Activity - Actions:

- Promote policies that build physical activity into daily routines
 - Develop worksite policies and practices that build physical activity into routines (e.g. daily exercise breaks, activity breaks during meetings, walking meetings)
 - Create incentives for remote parking and drop-off zones and/or create disincentives for nearby parking and drop off zones at workplaces, schools, shopping malls, public facilities, and other destinations
 - Improve stairway access and appeal
 - Create incentives and use zoning/land use policies to encourage more routine activity

Policy and Environmental Strategies to Promote Healthy Eating

Daily Physical Activity - Actions:

- Increase the time, intensity, and duration of physical activity during the school day and in out-of-school programs
 - Require daily physical education classes
 - Increase the amount of time students spend active in PE classes
 - Provide daily recess
 - Create opportunities for physical activity during class time
 - Do not withhold recess or other activity as a punishment
 - Develop policies mandating minimum play space, physical equipment, and duration of play in preschools, afterschool, and child care programs

Policy and Environmental Strategies to Promote Healthy Eating

Sedentary Behavior:

- 8-18 year olds average almost six hours of screen time daily
 - AAP recommends no more than 2 hours daily
- Reducing screen time lowers likelihood of overweight and obesity

Sedentary Behavior - Actions:

- Promote policies that reduce sedentary screen time
 - Adopt regulatory policies limiting screen time in preschool and after-school programs, and in licensed child care facilities

Policy and Environmental Strategies to Promote Healthy Eating

Information:

- Lack of information about health and economic consequences of physical inactivity and benefits of increased activity
- Evidence that mass-media social marketing campaigns can improve awareness, promote activity, and reduce obesity
 - Further supported by experiences with mass media anti-smoking campaigns in reducing tobacco use

Policy and Environmental Strategies to Promote Healthy Eating

Information - actions:

- Promote media and social marketing campaigns that emphasize the multiple benefits for children and families of sustained physical activity
 - Use multiple channels (print, radio, television, Internet, social networking and others)
 - Develop campaign that establishes physical activity as a health equity issue and that reframes obesity as a consequence of environmental inequities and not just poor individual choices
 - Develop counter-advertising campaigns against sedentary activity
 - Could be funded by earmarking revenues from SSB, junk food, and/or fast food taxes

Other Obesity Reduction Activities

CDC Recommended Policy and Environmental Change Strategies

Sources: Kettel-Kahn, et al., (2009)

Policy and Environmental Strategies to Promote Healthy Eating

Organizing for Change - Actions:

- **Communities should participate in community coalitions or partnerships to address obesity**
 - **Multiple partners including: community organizations and leaders; health care professionals; state/local public health, planning, park/recreation and other government agencies; private sector (restaurateurs, food store owners, building and construction firms, entertainment industry, etc.); media; school districts, schools, and other educational institutions; nonprofits and foundations; employers; and many others**
 - **Positive experiences with work of tobacco control coalitions in developing and implementing tobacco control policies and programs that reduced tobacco use**

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Bridging the Gap

<http://www.bridgingthegapresearch.org>