

What's for Lunch?
The Past, Present, and Future of School Nutrition



April 27, 2023 12:00 - 1:00 PM (CST)

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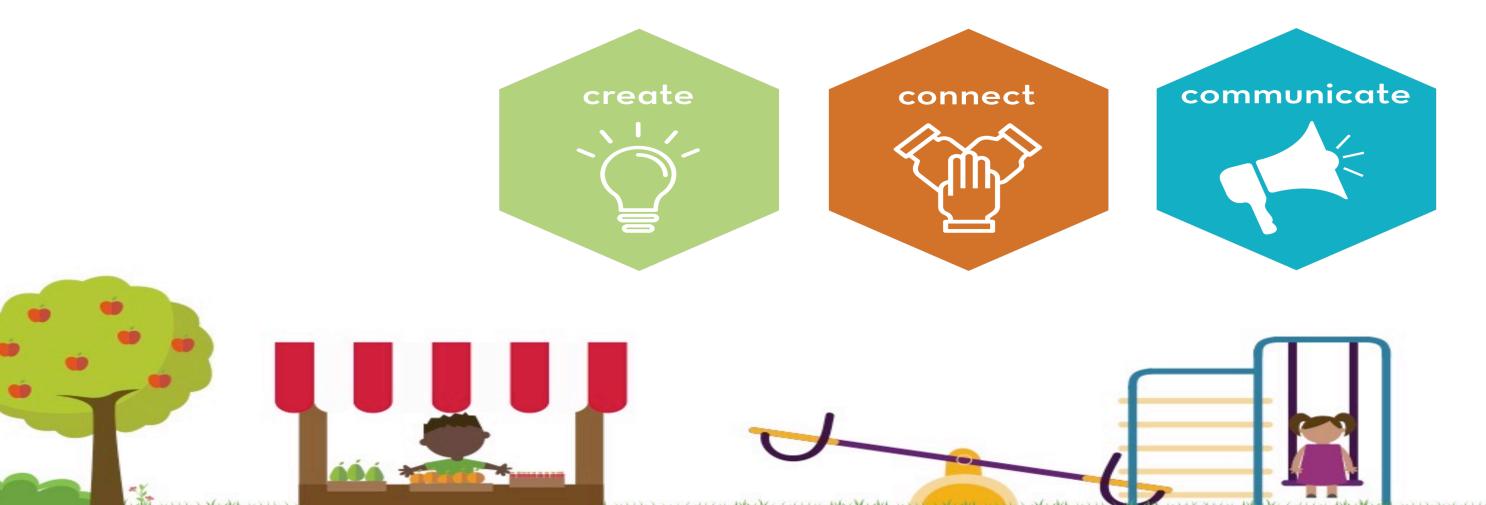




#### Healthy children in a healthy world.

We advance health and healthy living for children and families through cutting-edge research, innovative community-based programs, and dissemination of evidence-based practices.

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#### What's for Lunch?

The Past, Present, and Future of School Nutrition

Marlene B. Schwartz, Ph.D.

April 27, 2023



#### How did I get from

#### here....



#### ...to here?



#### Mission

The Rudd Center for
Food Policy and Health
promotes solutions to
food insecurity, poor diet quality,
and weight bias through research
and policy.



### Where is there food at school?

#### **Cafeteria**

- Lunch
- Breakfast
- A la carte



#### Hallways/public spaces

- Vending
- School stores
- Fundraising

#### **Classrooms**

- Parties
- Fundraising
- Rewards

#### Outside on school grounds

- Fundraising
- "Booster" concessions

## Administrative Structure: National School Lunch Program

- Federal government provides money to states to administer the program
- Three tiers of pricing based on student's household income
- Federal government reimbursement
  - ■Paid \$0.77
  - Reduced \$3.93
  - •Free \$4.33
- Severe need districts (>60% F/R) \$.02 higher rates
- Some states provide additional money

## Historically, the problem was undernutrition

#### 1946

- 1 cup whole milk
- 2 ounces protein (meat, fish, beans, eggs, peanut butter)
- 6 ounces fruit or vegetables
- 1 serving of bread
- 2 tsp butter/margarine
- Calorie minimums, no maximums
- No limits on sugar or fat

### Competitive foods



- A political battle over whether USDA can regulate competitive foods
- 1980 Lawsuit from National Soft Drink Association
- 1984 Court decision that USDA cannot regulate outside of the lunch period

#### Starting in 1984

- A la carte items sold within cafeteria during lunch could not be "Foods of Minimal Nutritional Value"
- School stores, vending machines, and fundraisers are allowed to sell anything before or after lunch
- Led to "pouring rights contracts"

## Lunch over time

- Minimum protein, grain, fruit/vegetable, milk continued to be served
- No sugar limits
- No calorie limits
- Transition to processed foods to save on costs, staff time, need for equipment
- More "kid" foods (pizza, chicken nuggets, hamburgers, fries, flavored milk)
- School lunches mimicked restaurant kids meals

#### Research emerged

- Elementary school lunches had 115% of the maximum amount of Sodium, Fat, Added Sugars (SoFAS) that children should have in a whole day (USDA SNDA-IV Study, 2012)
- Leading contributors were:
  - Flavored milk
  - Cookies, cakes, brownies
  - Pizza
  - One food predicted higher caloric intake and higher weight among students – any guesses?

(Briefel et al., 2009; Fox et al., 2009)



# Connecticut State Department of Education

- Oversight of NSLP
- Keen interest in improving nutrition
- Identified key concerns:
  - "We will lose money"
  - "If you take away soda and chips, students will binge on these foods at home"
  - "Students will develop eating disorders"

# CT Healthy Food pilot study

- Pilot schools removed all snacks and beverages in 2004-2005 that did not meet state nutrition guidelines
- Comparison schools remained the same
- Food service directors were given lists of "approved" beverages and snacks

# Results: Diet and body image

- Middle school students in pilot schools
  - Consumed more healthy snacks and beverages
  - Consumed fewer unhealthy snacks and beverages
- No evidence of compensatory increases in junk food at home
- No effect for condition on body image concerns or unhealthy dieting behavior

Schwartz, Novak & Fiore (2009). The impact of removing snacks of low nutritional value from middle schools. *Health Education and Behavior.* 

#### Results: Finances

- On average, the pilot schools did not lose money when they made the changes
- A la carte sales did go down
- But lunch sales went up

Wharton, Long & Schwartz (2009). Changing nutrition standards in schools: The emerging impact on school revenue. *Journal of School Health.* 

# When personal and professional worlds collide

- Oldest child begins elementary school
- Sell "snack" each day ice cream, chips, cookies
- In December, flyer for a PTO sponsored Cookie Eating Contest
- I decide to get involved

## Parent survey in my town

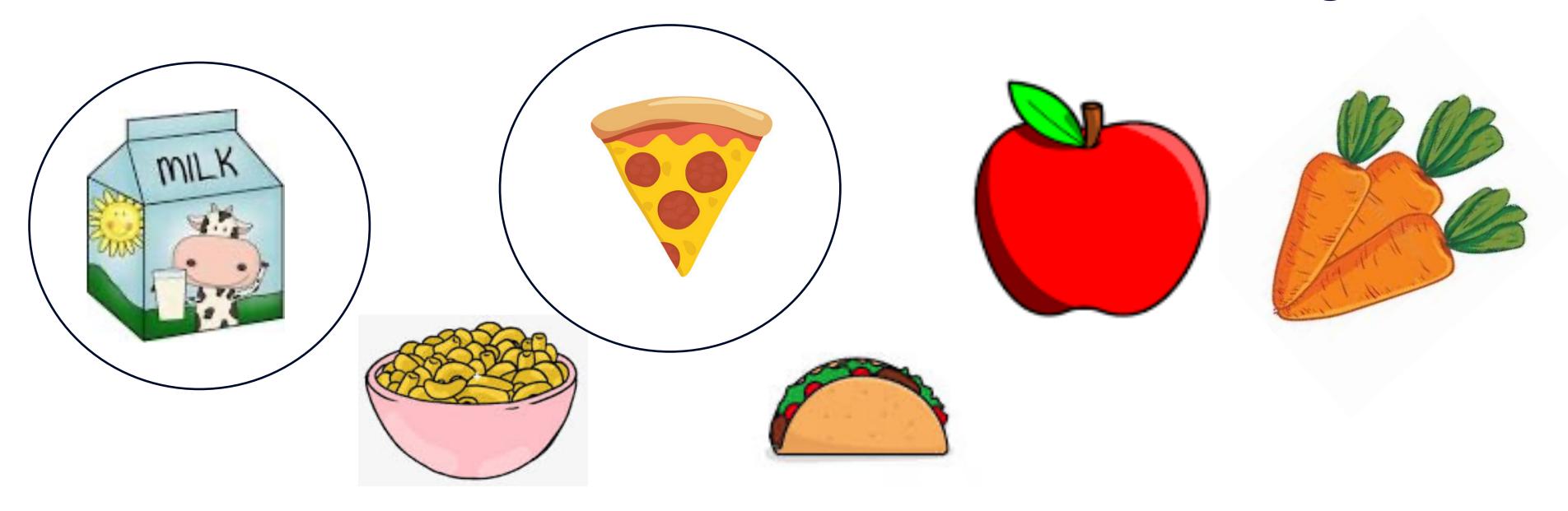
- I prefer to see only healthy foods offered in public schools.... The kids are exposed to lots of junk food and empty calories."
- "Please take the junk out of the schools. This is the most important thing you can do for our children."
- Our child is overweight. We are trying so hard to make changes at home. The food at school is making things harder for us."

### In our school district

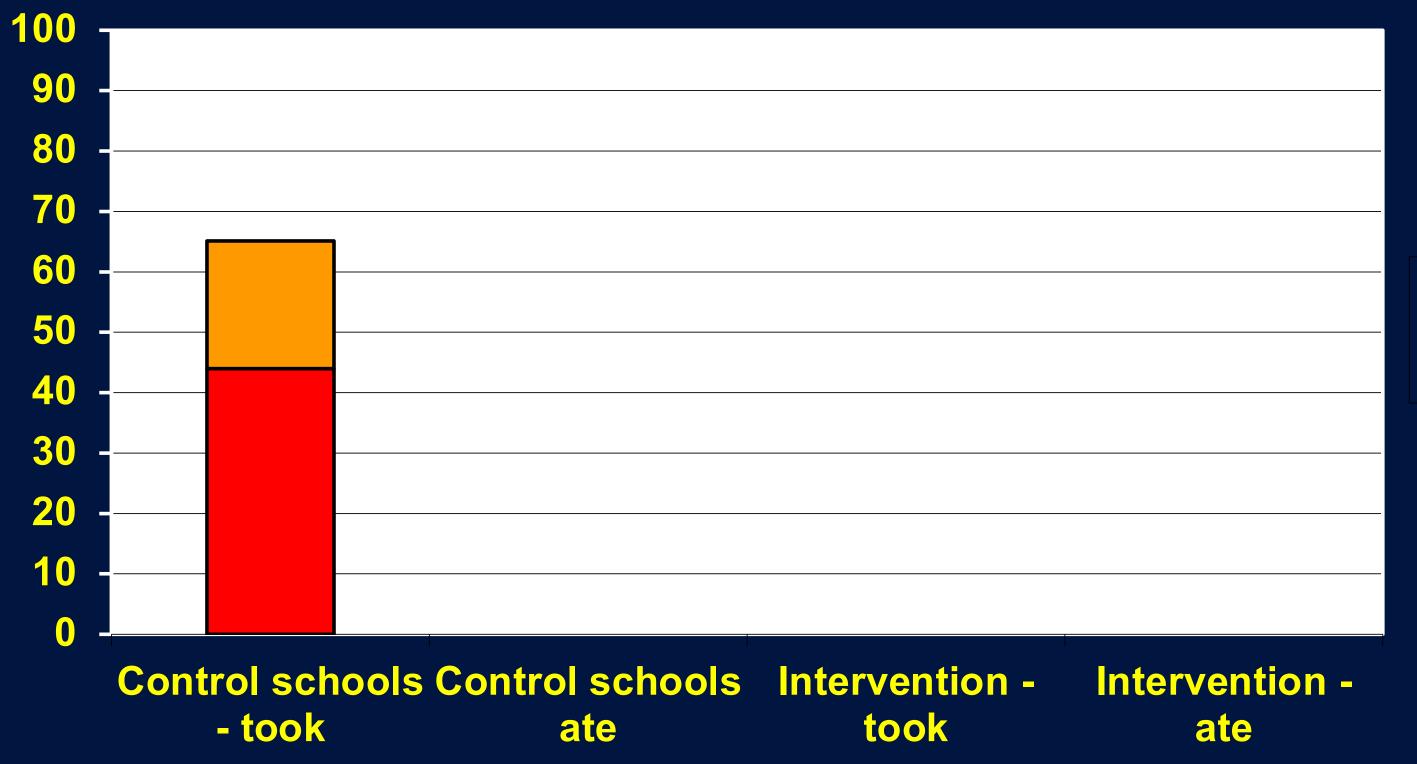
- Created a policy to remove competitive foods from elementary schools, prohibit food as a reward in the classroom and classroom parties
- Birthdays are celebrated by going outside, playing games, books, making "birthday book"

### Offer versus Serve: Take 3 of 5 components

1. Milk 2. Grain 3. Meat/Alternate 4. Fruit 5. Vegetable



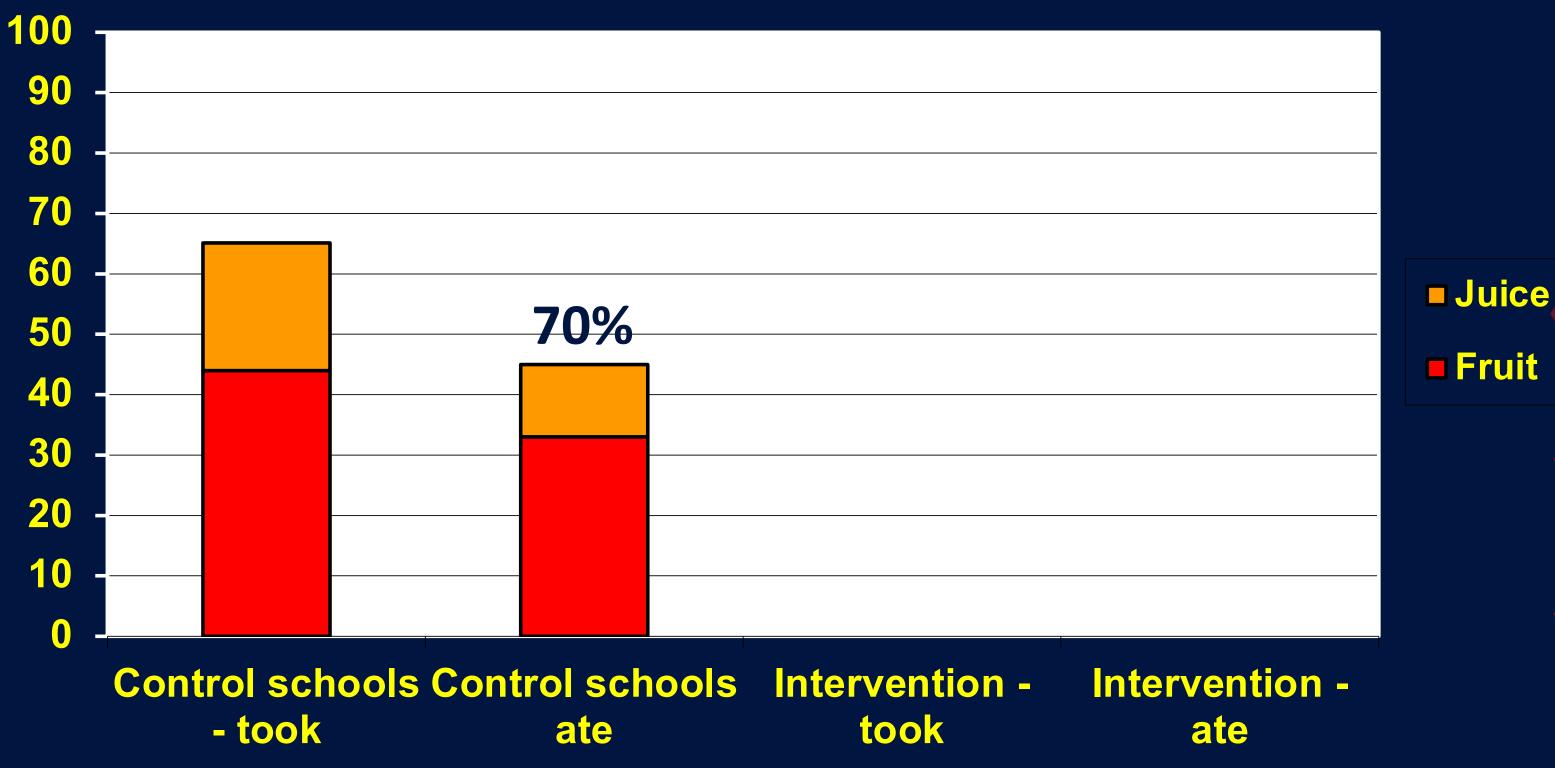
#### **Control School**



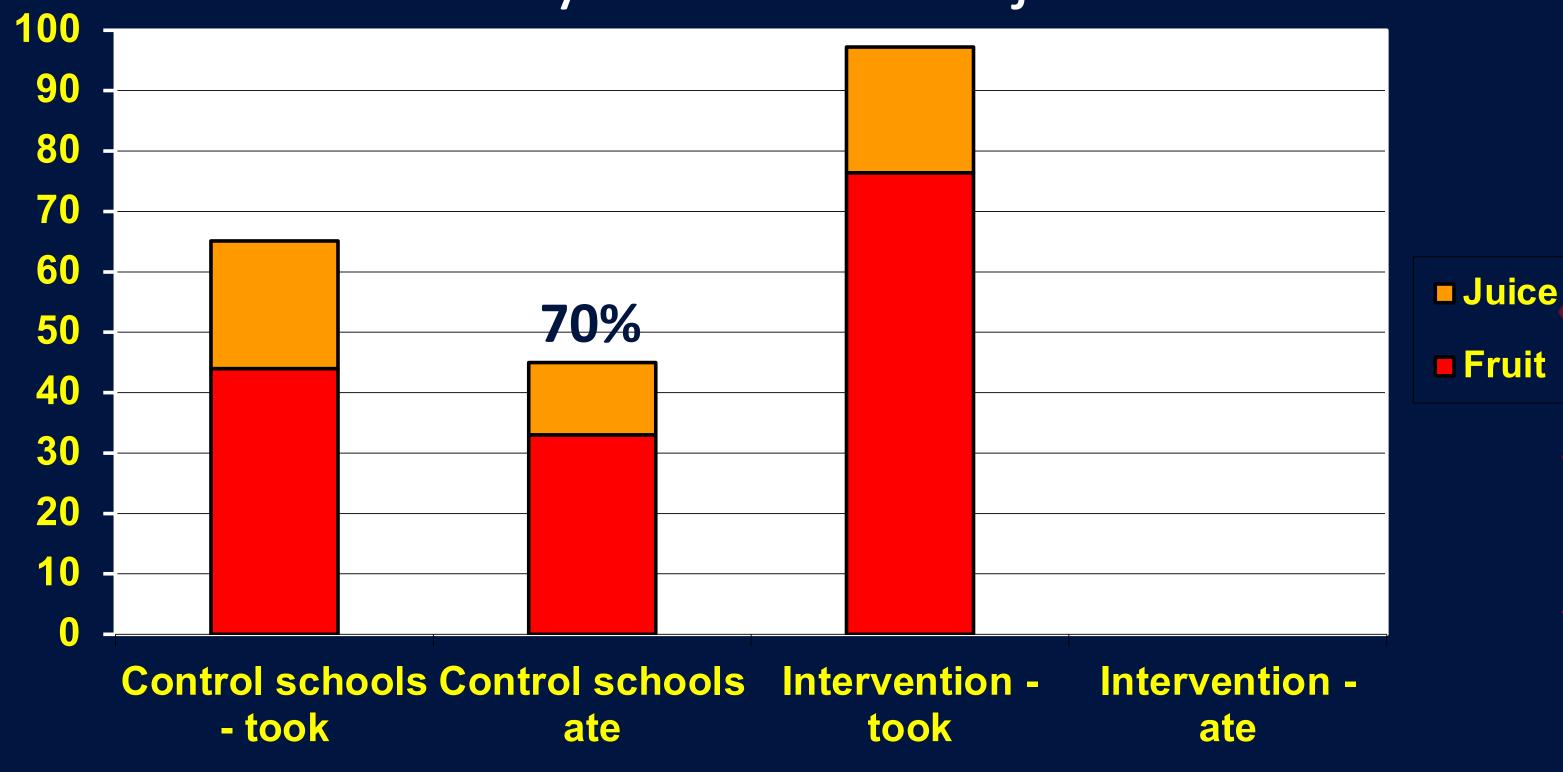
Juice

**■** Fruit

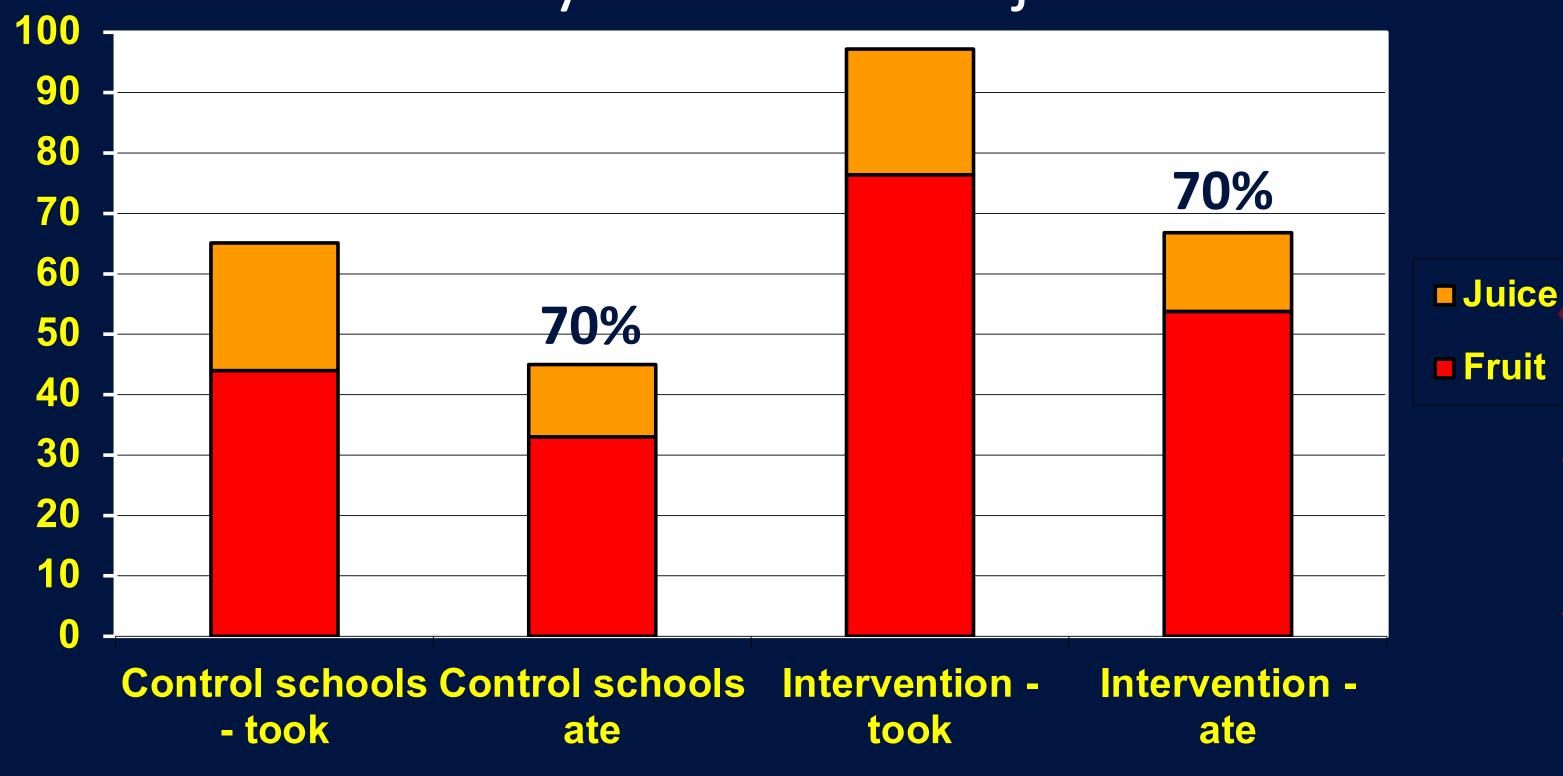
#### **Control School**



#### "Would you like fruit or juice?"



#### "Would you like fruit or juice?"



- Surprisingly, children who "chose" a fruit serving were just as likely to eat it as children who were prompted to take it
- As a result of this policy change, the percent of children eating fruit went from 33% to 55%

Schwartz (2007) The influence of a verbal prompt on school lunch fruit consumption: a pilot study. *International Journal of Behavioral Nutrition and Physical Activity.* 

## National WIC Reauthorization 2004

- Effort to include federal oversight of competitive foods
- Political compromise was "District Wellness Policies" to ensure local control (and local attention) to school environment relevant to childhood obesity

## Federal School Wellness Policies

- School Wellness Policies required by School Year 2006-2007
- Polices must be created by a representative committee and must address
  - Goals for nutrition education
  - Nutrition standards for all foods in school
  - Goals for physical activity
  - A plan for measuring implementation

### Research questions

- How much will policies improve the school food and beverage environment?
- Will local school wellness policies improve all school districts similarly
- Or will this increase disparities across districts?

#### Connecticut School Wellness Policy Study

- 2005-2006 (baseline)
  - Food Service Director survey
  - Principal survey
- 2006-2007 (1st year of SWP)
  - Food Service Director survey
  - Principal survey
- Collect all 151 policies

#### www.wellsat.org



#### Welcome to the WellSAT 3.0

The WellSAT is a quantitative assessment tool to help you score and improve your local School Wellness Policy. Since 2010, this measure has been used by thousands of people across the country, representing school districts from every state.

All WellSAT items reflect best practices. The purpose of scoring your district policy is to identify where it is strong and where it could be improved.

Click here for a pdf of the questions and here for a blank scorecard.

Support for this project was provided by grants from the Robert Wood Johnson Foundation Healthy Eating Research program. This is the third update to the WellSAT and we would like to thank all of the people who have contributed to each version of the WellSAT.

SIGN IN FOR YOUR WELL VISIT	
Email Address:	
Password:	
Forgot password?	
Don't have an account?  Register	GO

Schwartz, Lund, Grow, McDonnell, Probart, Samuelson, Lytle (2009) A Comprehensive Coding System to Measure the Quality of School Wellness Policies. *Journal of the American Dietetic Association*.

Schwartz, Piekarz, Read, Chriqui (2020). Wellness School Assessment Tool Version 3.0: An updated quantitative measure of written school wellness policies. *Preventing Chronic Disease.* 

# School district/town macro-level variables

- Population size
- Proportion of children who qualify for free/reduced lunch

"...there are so many rules and life seems like less fun now-a-days for kids. Even in the bible they celebrate with food."

".... this is America where we continue to fight and die for the basic rights of freedom - if parents and students choose to drink whole milk and eat ice cream ... they retain the right to do so."

# School district/town macro-level variables

- Population size
- Proportion of children who qualify for free/reduced lunch
- Political landscape

Macro-level variables predict policy strength

...in the opposite direction

- Population density
- Proportion of children who qualify for free/reduced lunch

Macro-level variables predict policy strength

...in the predicted direction

Political landscape

# Policy strength matters

- Principal reports of nutrition education, classroom parties, fundraising, physical activity practices
- We found a statistically significant relationship between the strength of policy and practice implementation
- Needed to also assess the effect of wellness policy strength on the food and beverages in school

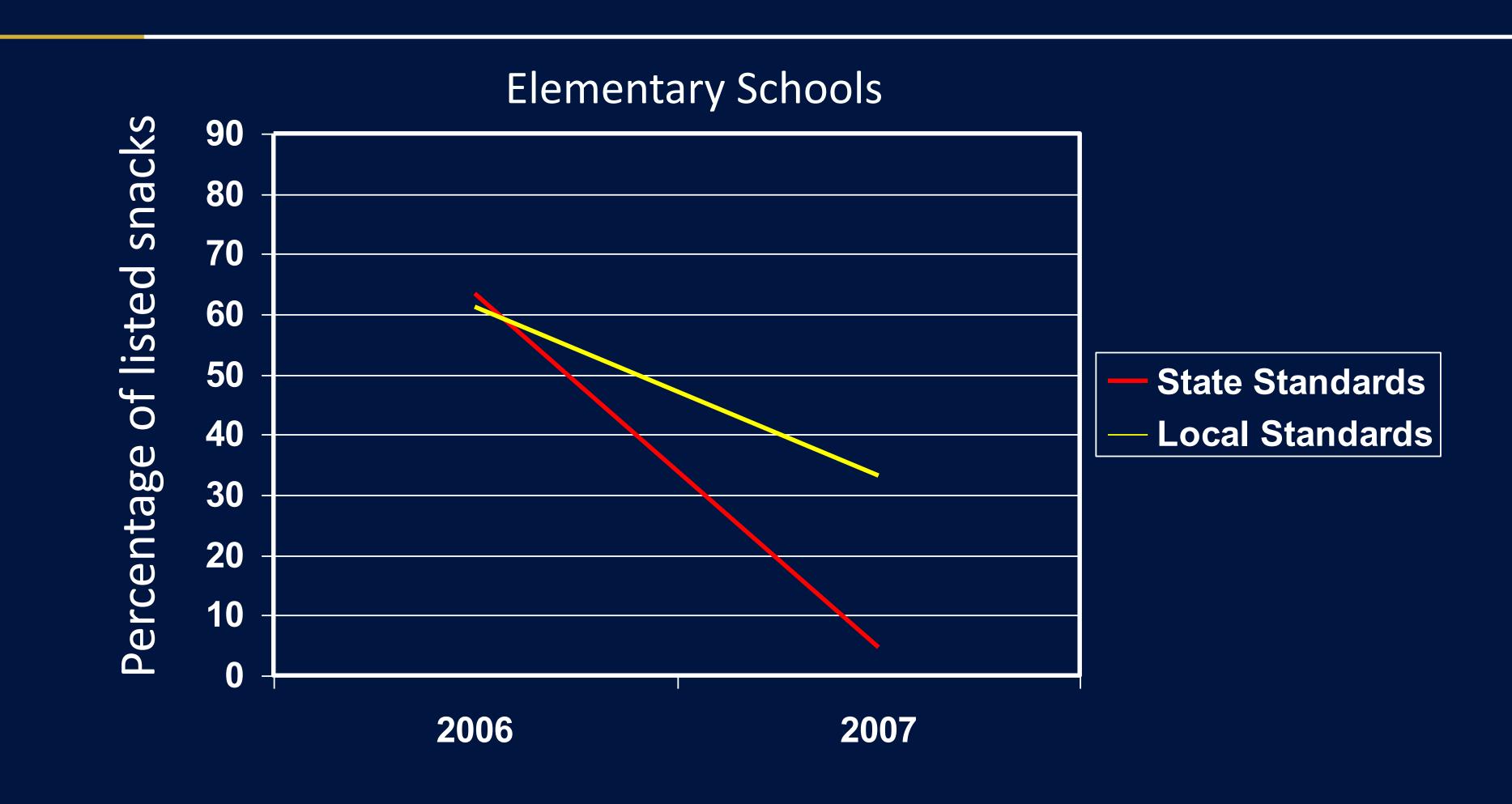
Schwartz, Henderson, Falbe, Novak, Wharton, Long, O'Connell, Fiore (2012). Strength and comprehensiveness of district school wellness policies predict policy implementation at the school level. *Journal of School Health*.

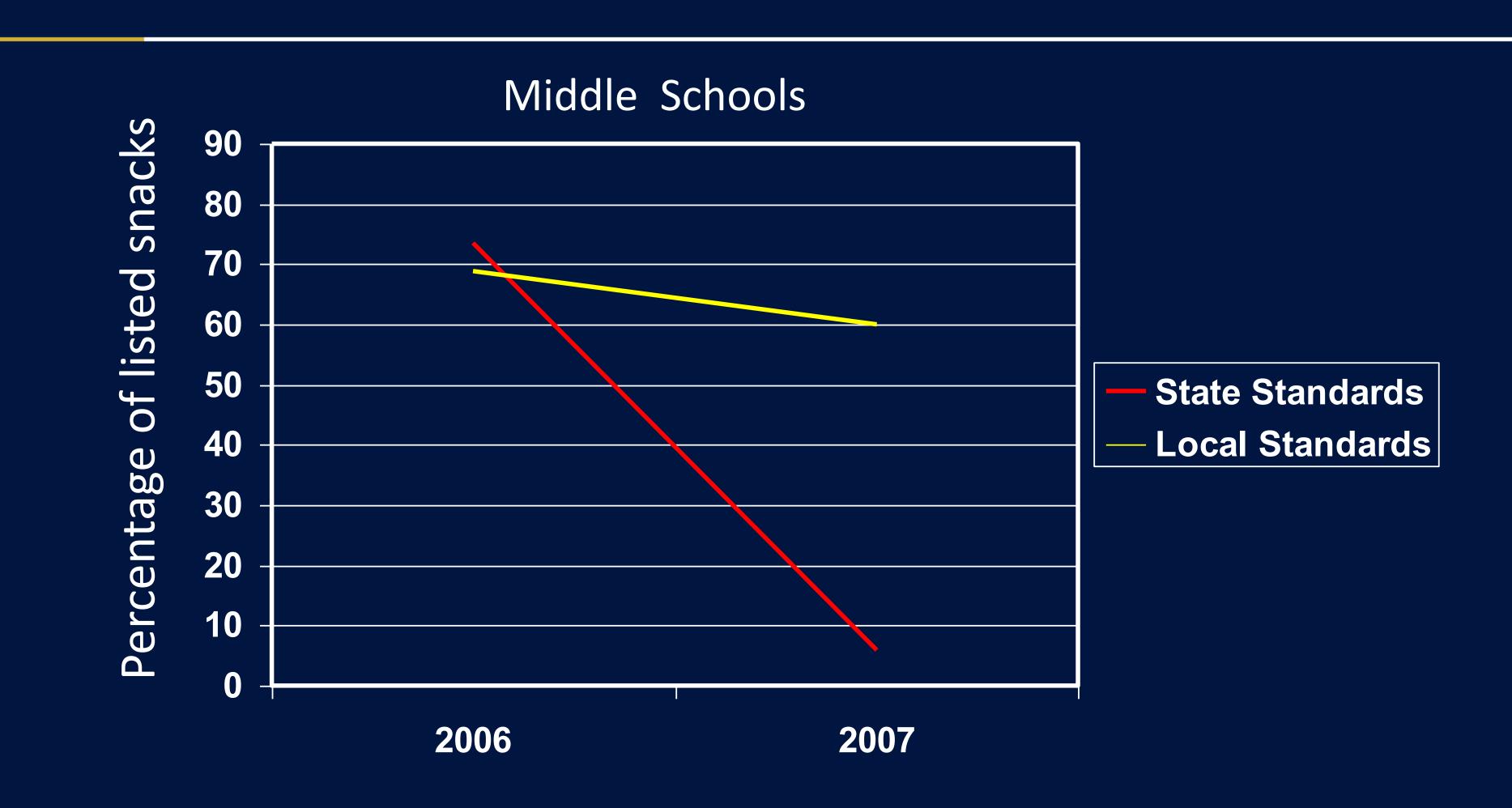
# 2006 CT Legislative Session

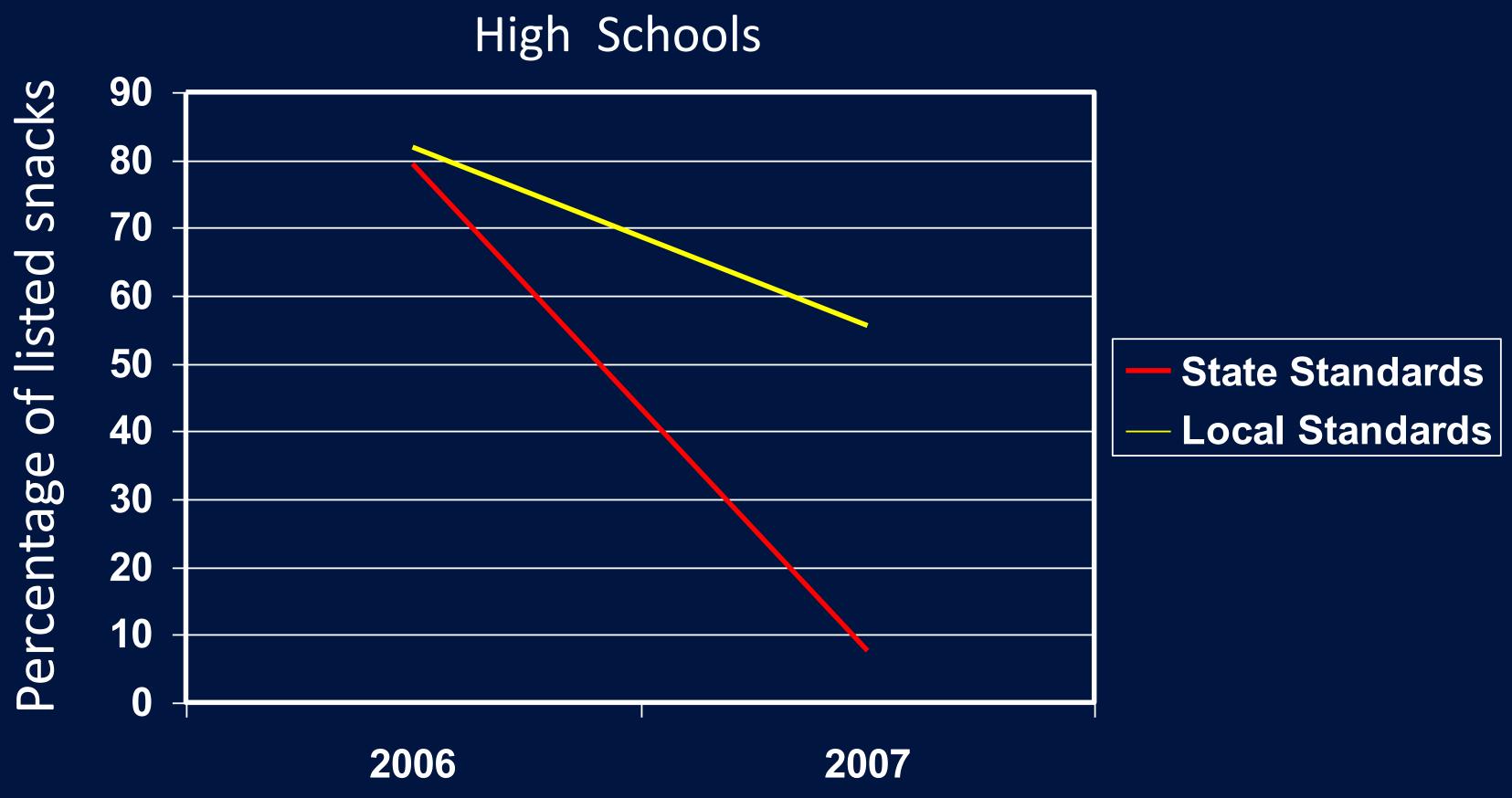
- Senate President Don Williams
  - Strong beverage standards (milk, water, 100% juice)
- Great news for CT
- Bad news for my study

# Healthy Food Certification

- Nutrition standards like the ones we studied
- Extra 10 cents per lunch if you sign up
- •50% of districts signed up in year one
- No significant differences between groups on any demographic variables

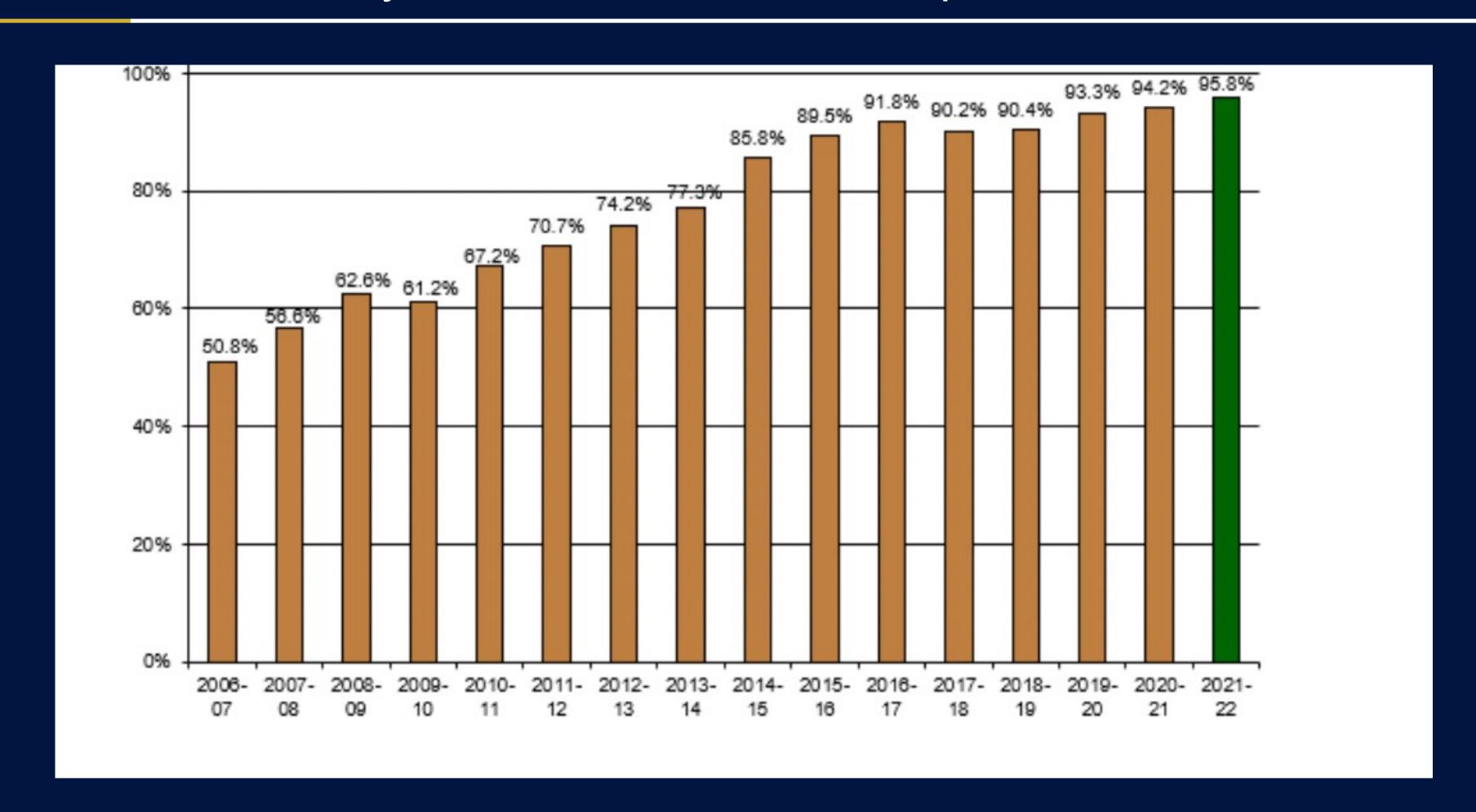






Long, Henderson, Schwartz (2010). Evaluating the impact of a Connecticut program to reduce availability of unhealthy competitive food in schools. *J School Health*.

#### Healthy Food Certification Participation Rates



# Financial Impact

- Lunch participation in districts over 5 years
- HFC districts saw significant increases in middle and high school lunch participation
- Translates to an average of \$30,000 of new revenue for each district
- Evidence that limiting unhealthy competitive foods improves school food finances

Long, Luedicke, Dorsey, Fiore, Henderson. (2013) Impact of Connecticut legislation incentivizing elimination of unhealthy competitive foods on NSLP participation. *American Journal of Public Health*.

# National Shifts

- Multiple states had passed legislation to improve school meals and competitive foods in schools
- There is now evidence from USDA's national data that stronger state nutrition policies are associated with fewer unhealthy competitive foods and lower student BMI scores<sup>1</sup>
- CT, MA, and RI all had laws and they were each slightly different
- Food industry was getting frustrated trying to keep up and was willing to compromise in order to have consistent rules nationwide

<sup>&</sup>lt;sup>1</sup> Schwartz MB, Leider J, Cohen JFW, Turner L, Chriqui JF. Association between Nutrition Policies and Student Body Mass Index. *Nutrients*. 2021; 13(1):13. https://doi.org/10.3390/nu13010013



- Required USDA to establish
  - New nutrition standards for competitive foods
  - Revise school meal standards
  - Strengthen school wellness policies

### 2010 Healthy Hunger Free Kids Act

#### Original 1946

- 1 cup whole milk
- 2 ounces protein (meat, fish, beans, eggs, peanut butter)
- 6 ounces fruit or vegetables
- 1 serving of bread
- 2 tsp butter/margarine

#### 2012-2013 Meal Pattern

- 1 cup skim or 1% milk
- 2 ounces protein
- ½ cup fruit
- <sup>3</sup>/<sub>4</sub> cup of vegetable
- 1-2 ounces bread
- Requirements for variety vegetables, whole grains, low fat dairy, calorie range
- Must take a fruit or vegetable as one of the three components

#### 2014 – Competitive Foods

- Implementation of the USDA's Smart Snacks regulations that apply to all food sold on school property during the school day
- Removed regular soda, sports drinks, not diet
- Food industry quickly adapted and made special "school versions"



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# Look-alike Smart Snacks Regular versions sold in schools sold in stores

### Targeted political attacks

The Washington Post

Wonkblog

School kids are blaming Michelle Obama for their 'gross' school lunches

By Roberto A. Ferdman November 24, 2014



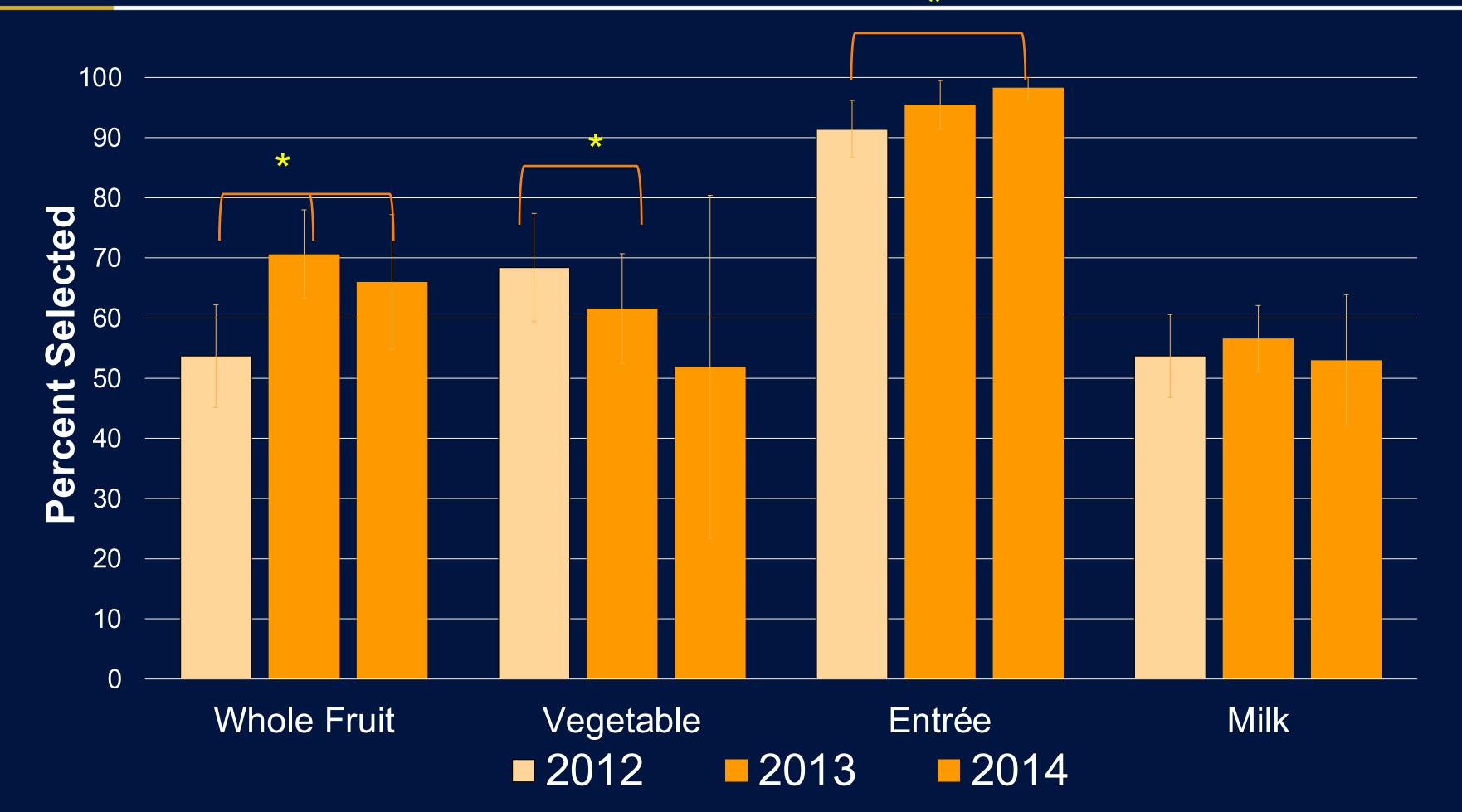


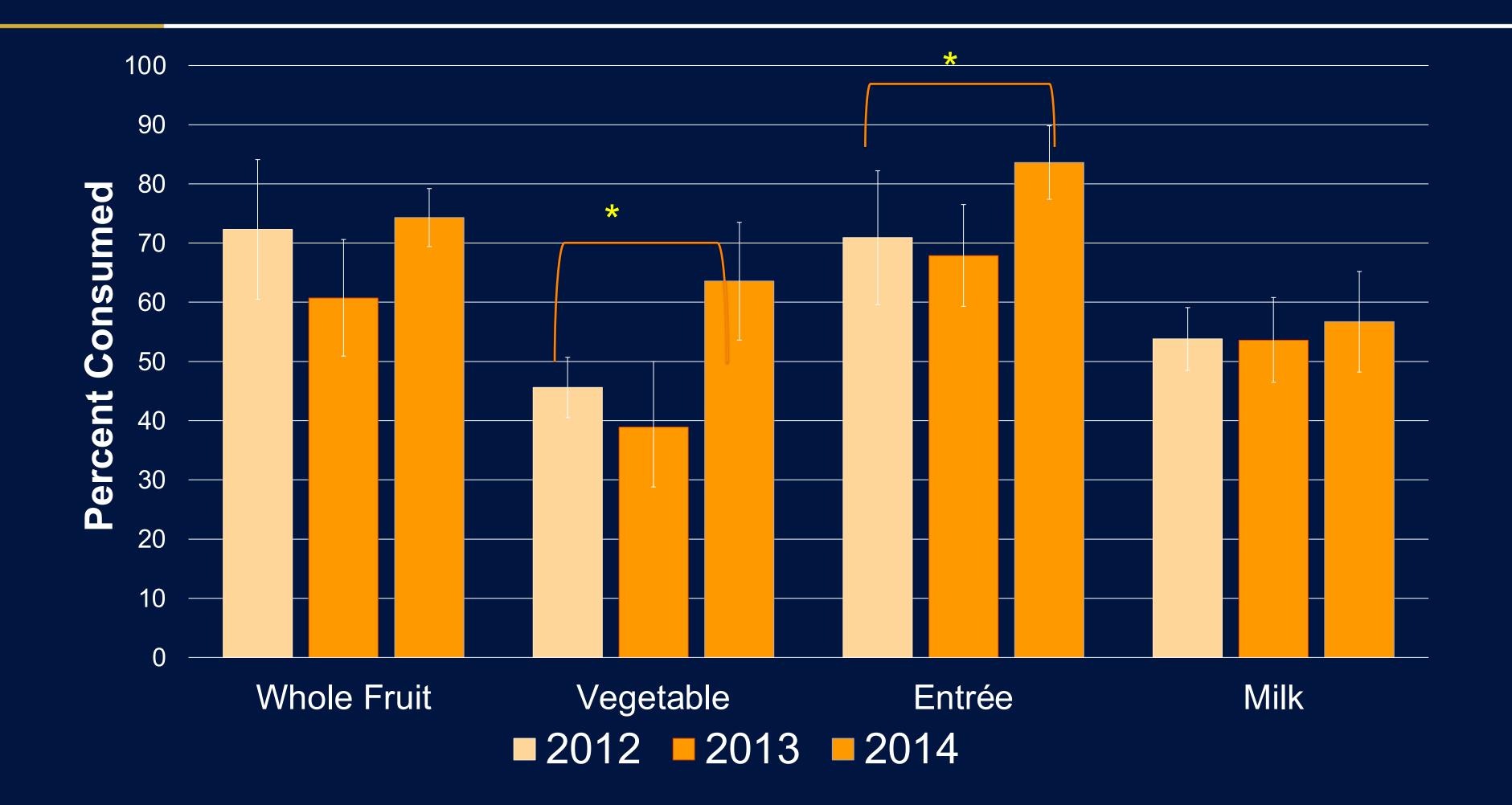
Forcing a smile? A Harlan County school student poses with his lunch. Many parents in the Kentucky County say their children wont' eat skim milk and wheat bread--food items they're not accustomed to

# Natural experiment opportunity

- Federal law changed in the middle of our study due to HHFKA
- Allowed us to test plate waste pre (2012) and post (2013, 2014) the required fruit/vegetable serving
- First, we measured the proportion of children who selected each food group
- Then, we measured the proportion of children who consumed each food group







CHILDHOOD OBESITY
June 2015 | Volume 11, Number 3
Mary Ann Liebert, Inc.
DOI: 10.1089/chi.2015.0019

**ORIGINAL ARTICLES** 

#### New School Meal Regulations Increase Fruit Consumption and Do Not Increase Total Plate Waste

Marlene B. Schwartz, PhD, Kathryn E. Henderson, PhD, Margaret Read, MA, Nicole Danna, BA, and Jeannette R. Ickovics, PhD<sup>4</sup>



## The New York Times

More Children Eat Fruit in School, Study Shows

By BOW NEKOW . HARRING A JUNE



The study, by the Rudd Center for Food Policy and Obesity at the University of Connecticut, found that from the time the changes went into effect in 2012 through last year, the percentage of students choosing fruit on a cafeteria line increased to 66 percent from 54 percent.



#### STRATEGIES TO IMPROVE SCHOOL MEAL CONSUMPTION



School meals can play an integral role in improving children's diets and addressing health disparities. Initiatives and policies to increase consumption have the potential to ensure students benefit from the healthy school foods available. Research evidence supports the following strategies to increase school meal consumption. These findings are based on a paper supported by Healthy Eating Research, a national program of the Robert Wood Johnson Foundation.



2017 2019 2020

#### Rollbacks to school meal nutrition threatening health: Public health regulations under fire

Julia Haskins

The Nation's Health September 2017, 47 (7) 1-19;

#### The New York Times

#### Trump Administration Sued Over Rollback of School Lunch Standards



New York, five other states and the District of Columbia have sued the Agriculture Department over nutrition standards. Laura Seitz/The Deseret News, via Associated Press

By Erica L. Green and Sean Piccoli

### Federal court strikes down Trump administration school nutrition rollbacks



Published in final edited form as:

J Acad Nutr Diet. 2020 March; 120(3): 359–362. doi:10.1016/j.jand.2019.10.021.

#### Documented Success and Future Potential of the Healthy, Hunger-Free Kids Act

Juliana Cohen, ScM ScD [assistant professor] [adjunct assistant professor],

Department of Public Health and Nutrition, School of Health Sciences, Merrimack College, North Andover, MA, Department of Nutrition, Harvard T.H.Chan School of Public Health, Boston, MA

#### Marlene B. Schwartz, PhD [professor]

Rudd Center for Food Policy and Obesity, Department of Human Development and Family Sciences, University of Connecticut, Hartford, CT.

# What else have we learned?

- Nutritional quality of school meals is significantly higher than before HHFKA<sup>1</sup>
- The dietary quality among those who eat school lunch has improved<sup>2</sup>
- Nationally, school meals provide the healthiest food most American children consume all day<sup>3</sup>
- Evidence that improvements from HHFKA are associated with a significant decrease in the risk of obesity among children from families with lowincomes<sup>4</sup>
- 1. Gearan & Fox (2020). Updated nutrition standards have significantly improved the nutritional quality of school lunches and breakfasts. J Acad Nutr Diet.
- 2. Smith J. (2020). Association of the Healthy, Hunger-Free Kids Act With dietary quality among children in the US national school lunch program. JAMA.
- 3. Liu, Micha, Li, Mozaffarian (2021). Trends in food sources and diet quality among US children and adults, 2003-2018. JAMA Netw Open.
- 4. Kenney, Barrett, Bleich, Ward, Cradock, Gortmaker (2020). Impact of the Healthy, Hunger-Free Kids Act on obesity trends. Health Affairs.

### COVID-19









# THANK YOU! SCHOOL LUNCH HEROS





Connolly, K., Babbin, M., McKee, S., McGinn, K., Cohen, J., Chafouleas, S., & Schwartz, M. (2021). Dedication, innovation, and collaboration: A mixed-methods analysis of school meals in Connecticut during COVID-19. *Journal of Agriculture, Food Systems, and Community Development*, *10*(2), 11–27. https://doi.org/10.5304/jafscd.2021.102.020

## Healthy School Meals for All

- Clear evidence that school meal participation increases
- Majority of studies found that diet quality improves
- Nearly half of the studies found improvements in academic performance and attendance
- Some evidence of improvements in household food security
- No evidence of adverse BMI effects
- Solves problem of unpaid balances, reduces stigma, increases access

Cohen JFW, Hecht AA, McLoughlin GM, Turner L, Schwartz MB. Universal School Meals and Associations with Student Participation, Attendance, Academic Performance, Diet Quality, Food Security, and Body Mass Index: A Systematic Review. *Nutrients*. 2021; 13(3):911. https://doi.org/10.3390/nu13030911

# 2020 and beyond

- Waivers to USDA regulations allowed universal free school meals in spring 2020 through June 2022
- Fall 2022, many schools went back to the threetiered system
- Three states have passed state laws Maine, California, Colorado permanently providing free meals. Four through one or two school years: Massachusetts, Vermont, Connecticut, Nevada
- 20 other states have bills introduced
- A national team is studying the effect of this policy shift

### Conclusions

- Schools were one of the first battlegrounds in the policy effort to improve the food environment
- Great progress has been made, but political agendas pose risks to progress
- Our role is to listen to the concerns and answer questions with research

## Thank you!

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### Questions?

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