



Welcome!

The webinar will begin shortly.



September 21, 2023



The Role of School Meals in Filling Nutrition Gaps and Promoting Food Group Intakes

Today's Speakers



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General Mills

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Agenda



- ❑ Objectives
- ❑ The rulemaking process & role of the Dietary Guidelines for Americans in child nutrition programs
- ❑ Impact of school meals on student's nutrition
- ❑ Culinary demo: Nutritious, regulation-ready menu solutions

Objectives



After this webinar, participants will be able to:

- Describe the rulemaking process and how the Dietary Guidelines for Americans shape the school meal program
- Outline the latest research on the impact of school meals on the health and nutrition of students
- Communicate the research to promote the benefits of school meals
- Apply regulation-ready recipes to school meal menus

School Meals: A Rich Heritage

USDA School Meal Programs

- School Feeding Programs began in 1930's
- 1946 and 1966 - National School Lunch and Breakfast Programs
- Established to address hunger and malnutrition, particularly in military recruits
- Goal of Healthy Hunger Free Kids Act 2010: improve nutrition & reduce childhood obesity

"In the long view, no nation is healthier than its children, or more prosperous than its farmers."

President Harry Truman, on signing the 1946 National School Lunch Act



Rulemaking Process



Child Nutrition Reauthorization: Healthy, Hunger Free Kids Act 2010

USDA writes proposed rule

Because the rule is significant, it is reviewed by the Office of Information and Regulatory Affairs (OIRA)

Proposed rule published in the Federal Register
Comment period (30, 60 or 90)

USDA reviews comments and conducts a comment analysis. May make changes to the rule if minor

OIRA and presidential review

Final Rule published in the federal register

Congressional review must happen before the rule can take effect

Child Nutrition Reauthorization (CNR)



- Process Congress uses to fund and structure child nutrition programs (school meals, summer and afterschool meals, WIC)
- Occurs every 5 years
- If not re-authorized, the program continues without changes.

CNR enables Congress to:

- Improve program access
- Support participation by underserved children
- Ensure nutrition quality
- Simplify program administration and operation

2010 Healthy Hunger Free Kids Act (HHFKA)



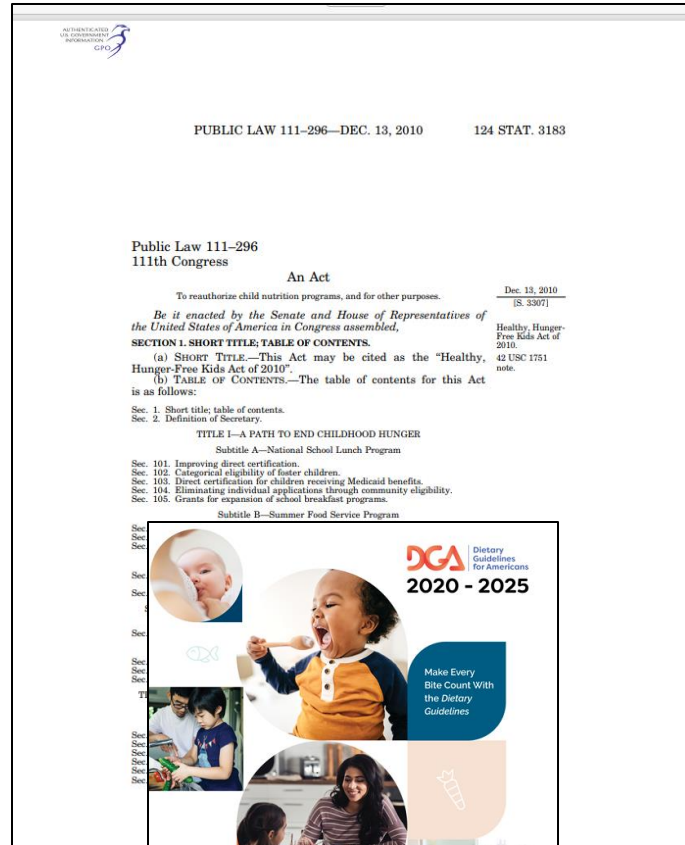
Improve child nutrition and advance nutrition quality of school meals

- USDA oversight of ALL foods & beverages sold/served in schools
- Nutrition standards for ALL foods & beverages sold outside of the Federal child nutrition programs in schools

USDA's objectives:

- Focus on reimbursable meal program as the major source of food & beverages offered at schools
- Encourage consumption of healthy snacks and beverages to students outside the meal program (e.g. competitive foods)

HHFKA Requires Child Nutrition Programs to Follow the Dietary Guidelines for Americans (DGA)



“Not less frequently than once every 10 years, the Secretary shall review and, as appropriate, update requirements for meals served under the program under this section to ensure that the meals—

“(I) are consistent with the goals of the most recent Dietary Guidelines;

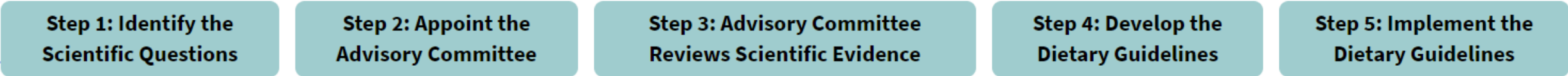
and **“(II) promote the health of the population served by the program....”**



Developing the DGAs: The Process



This is a 5-Step Process



2025 Dietary Guidelines Work is Underway



School Breakfast and Lunch Program



Reference: USDA. Dietary Guidelines for Americans. DietaryGuidelines.gov.

2020 – 2025 DGA: Snapshot



Overarching Guidelines:

1. Follow a healthy dietary pattern at every life stage.
2. Customize and enjoy nutrient dense food and beverage choices to reflect personal preferences, cultural traditions and budget.
3. Focus on meeting food group needs with nutrient dense foods and beverages, and stay within calorie limits.
4. Limit foods & beverages higher in added sugars, saturated fat and sodium.

A healthy diet includes:

- Vegetables and fruits, especially whole fruits
- Grains, at least half of which are Whole Grain
- Fat-free /low-fat dairy
- A variety of protein foods
- Oils (veg oils, nuts, seafood)

A healthy diet limits:

- Sat fat: <10% of calories/day
- Added sugars: <10% of calories/day starting at age 2 (no added sugar before age 2)
- Sodium: <2,300 mg of sodium/day and even less for children younger than age 14

Nutrients of Public Health Concern: Calcium, Vitamin D, Fiber & Potassium

Measuring Diet Quality: Healthy Eating Index

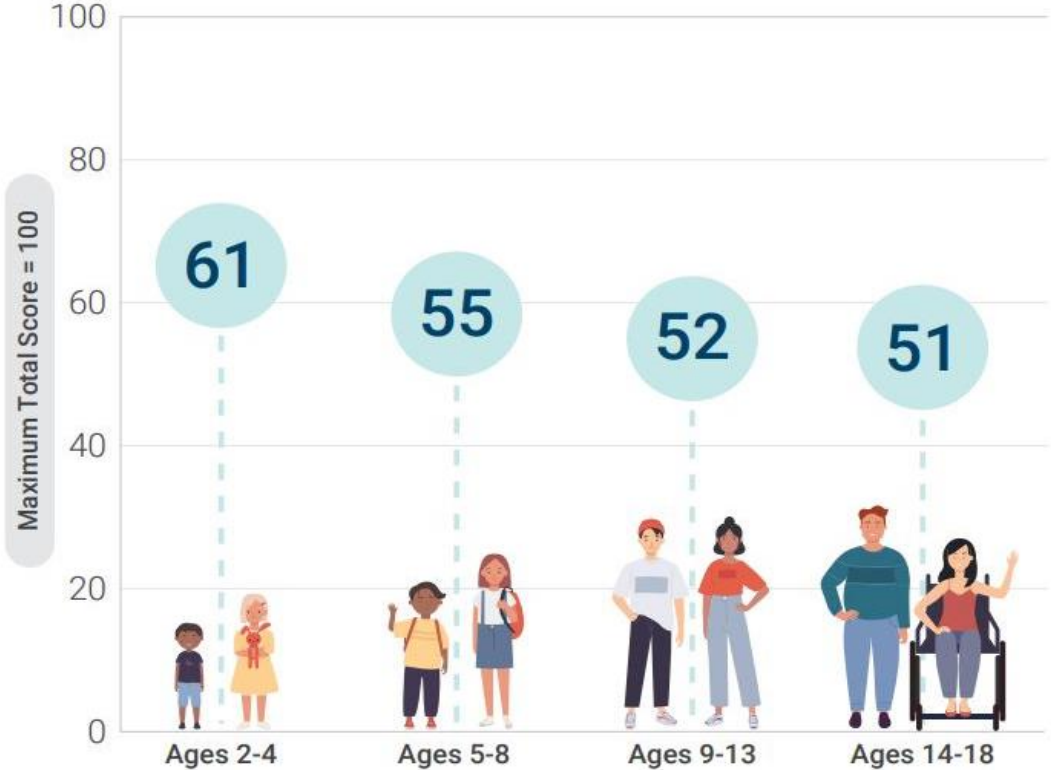


- Measure of nutritional quality used to assess alignment with key recommendations of the *Dietary Guidelines for Americans*
- HEI scoring
 - Maximum total score is 100 points
 - Each HEI component has a maximum score (for example, 5 or 10 points)
 - Scores are expressed as percentage of maximum possible scores
- Higher scores = higher nutritional quality and better alignment with *Dietary Guidelines*

Most Children's Diets Do Not Meet DGA Recommendations



Healthy Eating Index Scores Across Childhood and Adolescence



Data Source: Analysis of What We Eat in America, NHANES 2015-2016, ages 2 through 18, day 1 dietary intake, weighted.

Reference: USDA. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. Available at [DietaryGuidelines.gov](https://www.dietaryguidelines.gov).

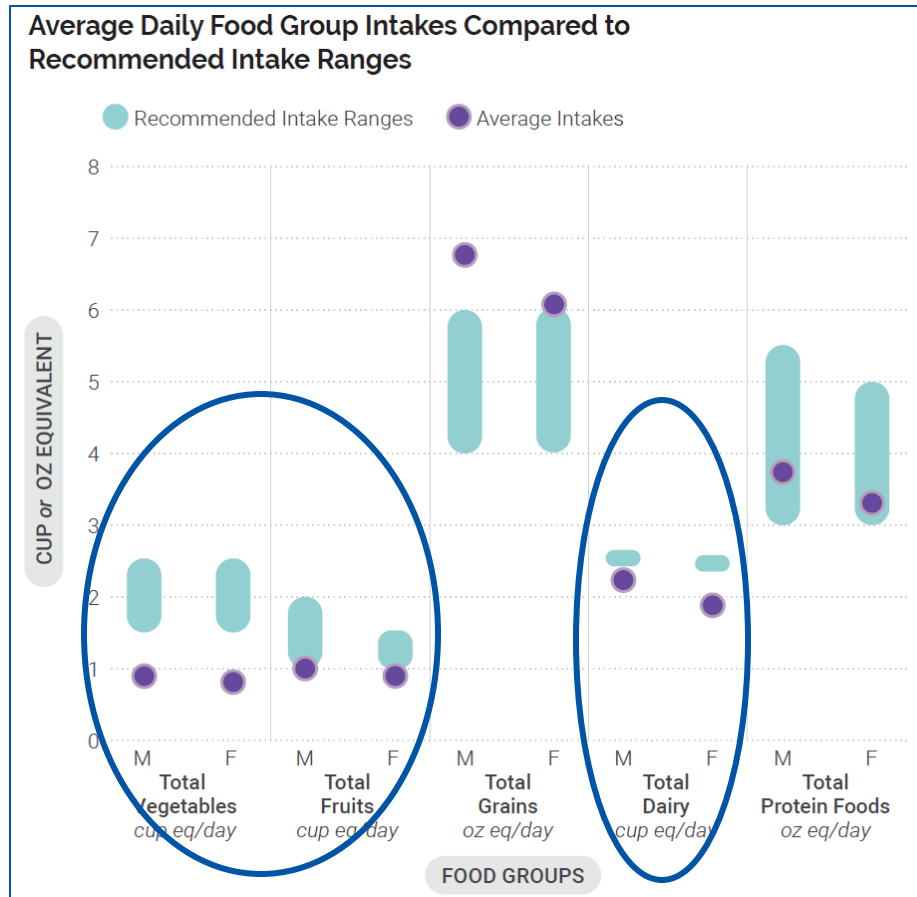
Where are kids falling short?



Ages 5 – 8

Healthy Eating Index Score
(on a scale of 0-100)

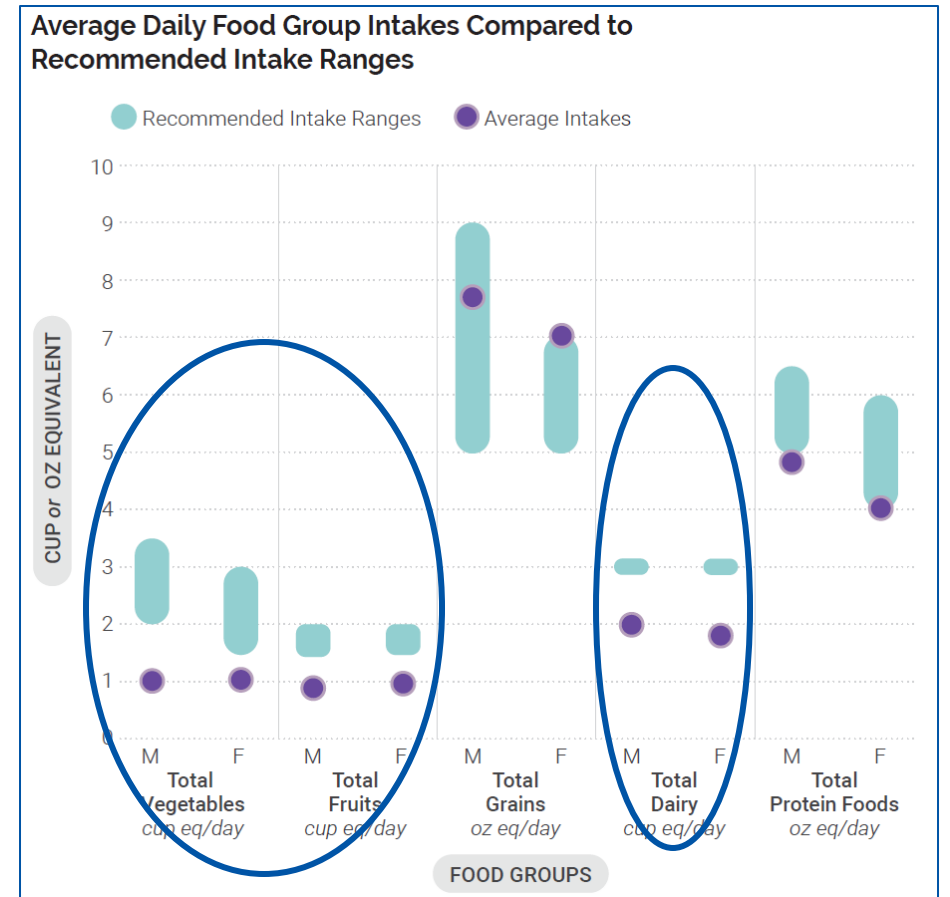
55



Ages 9 -13

Healthy Eating Index Score
(on a scale of 0-100)

52



Where are teens falling short?



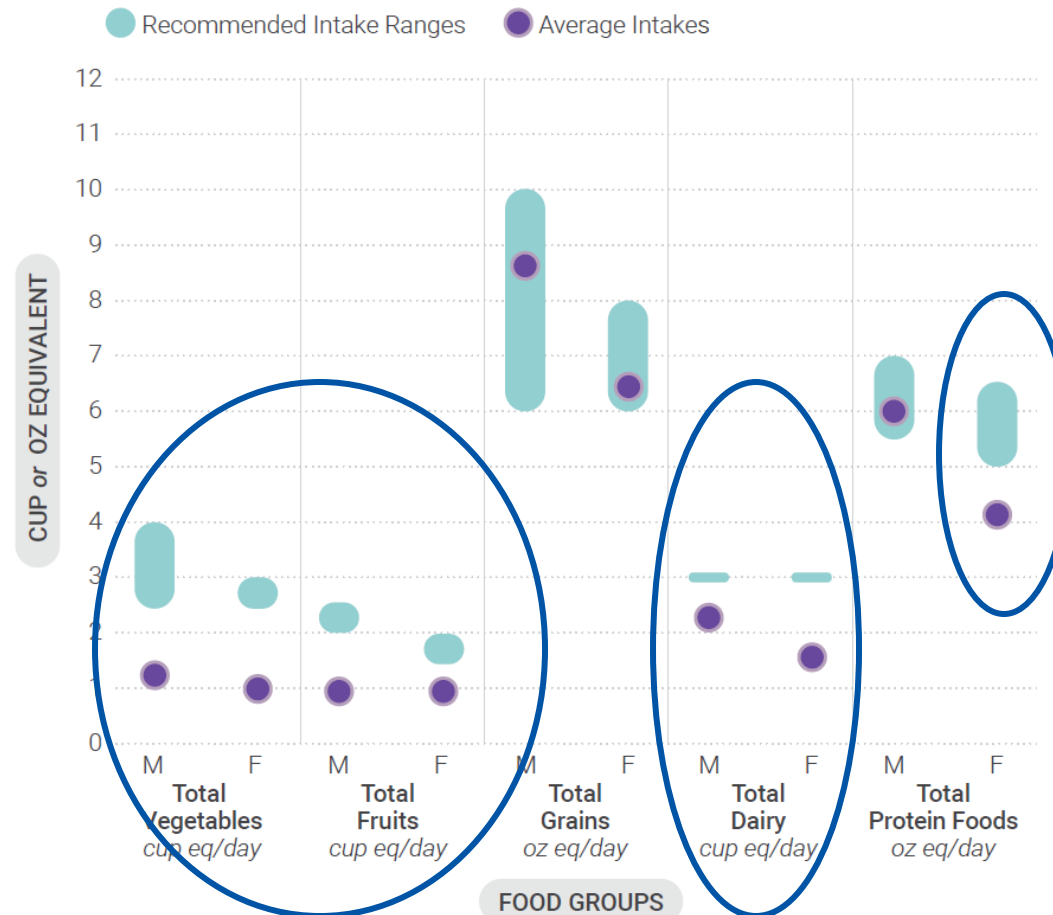
Ages 14 - 18

Healthy Eating Index Score
(on a scale of 0-100)

51



Average Daily Food Group Intakes Compared to Recommended Intake Ranges



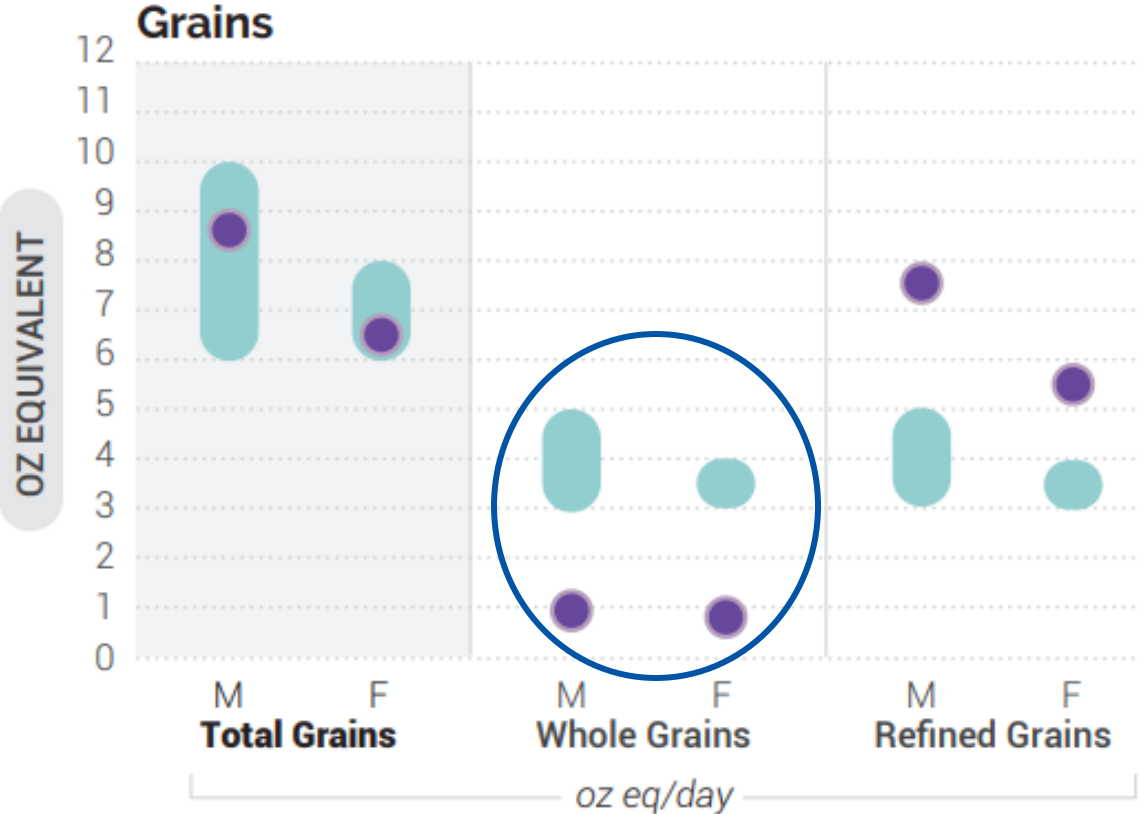
Grains: A Closer Look



Ages 14 - 18

Healthy Eating Index Score
(on a scale of 0-100)

51



Reference: USDA. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. Available at DietaryGuidelines.gov.

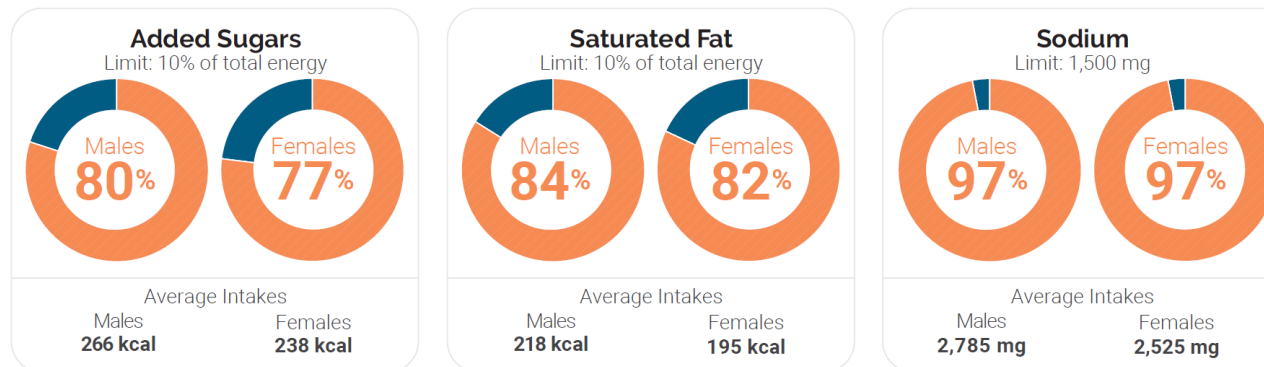
Intakes of Added Sugar, Sat Fat & Sodium: % Exceeding Limits



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit

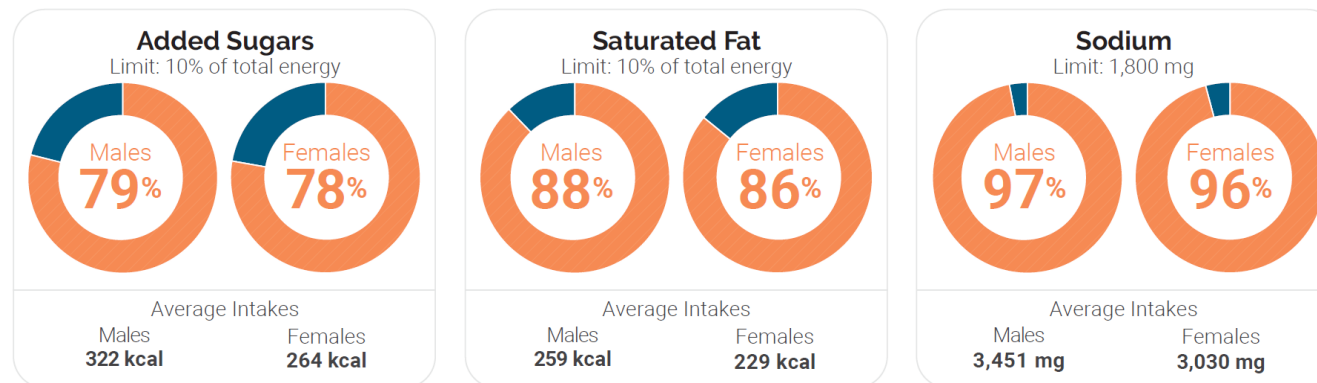
Ages 5 - 8



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit

Ages 9 - 13



Example Reflection of 2020 DGAs in Recent USDA Proposed Rule for Child Nutrition Programs



Added Sugars

Limit using a phased approach:

- **Phase 1:** Limits on specific high-sugar products like yogurt and cereal
- **Phase 2:** Overall weekly limits across all meals



Whole Grains

Offer products that are primarily whole grain with the option for occasional non-whole, enriched grain products.

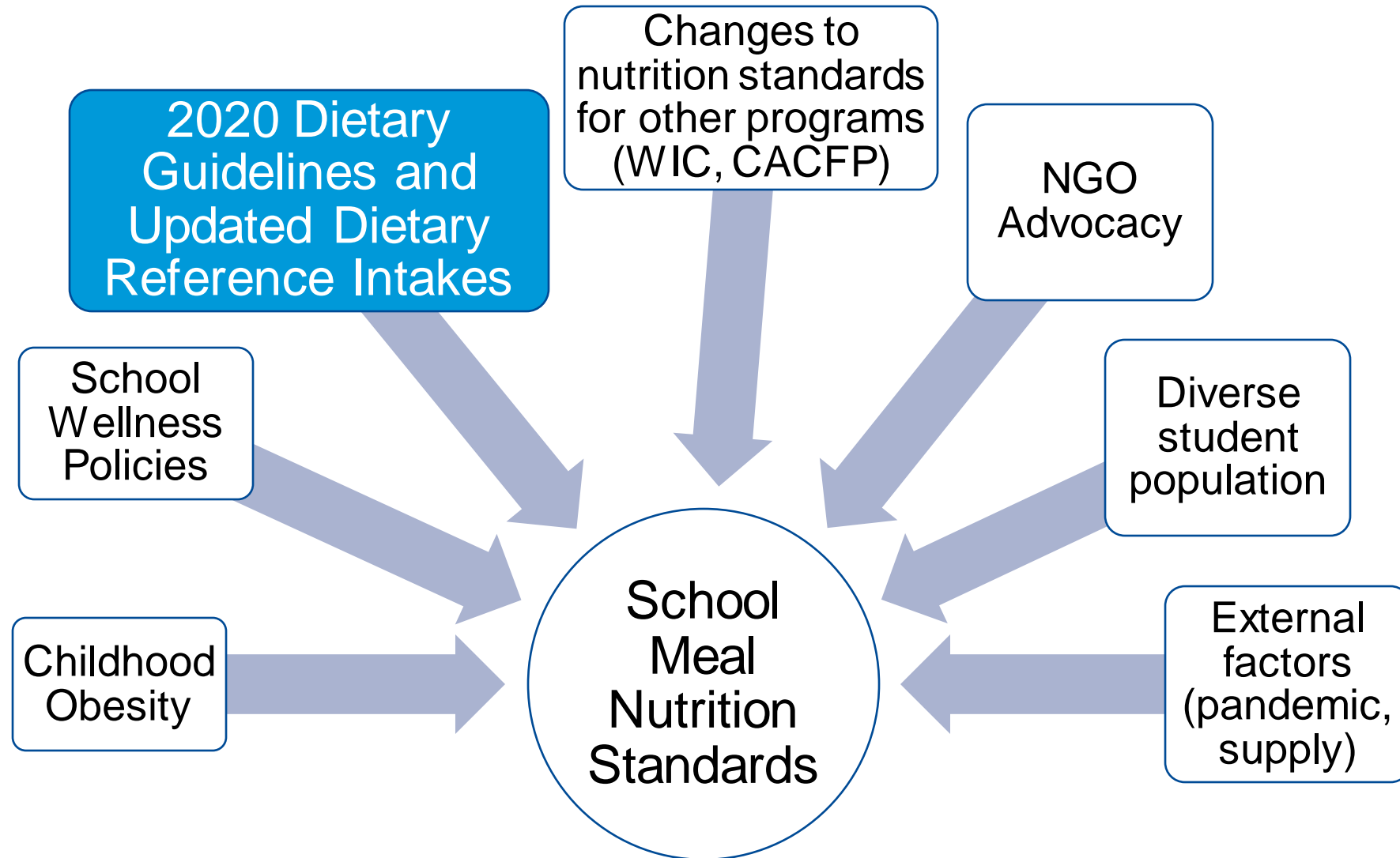


Sodium

Reduce weekly limits gradually and in line with FDA's recommendations for industry.



Multiple Factors Influence School Meal Nutrition Standards





Current Nutrition Standards Positively Impact Student's Nutrition

Starting Healthy Habits Early Can Reduce Risk Over a Lifetime



...School Meals Can Help Drive Healthy Habits

USDA's School Nutrition & Meal Cost Study

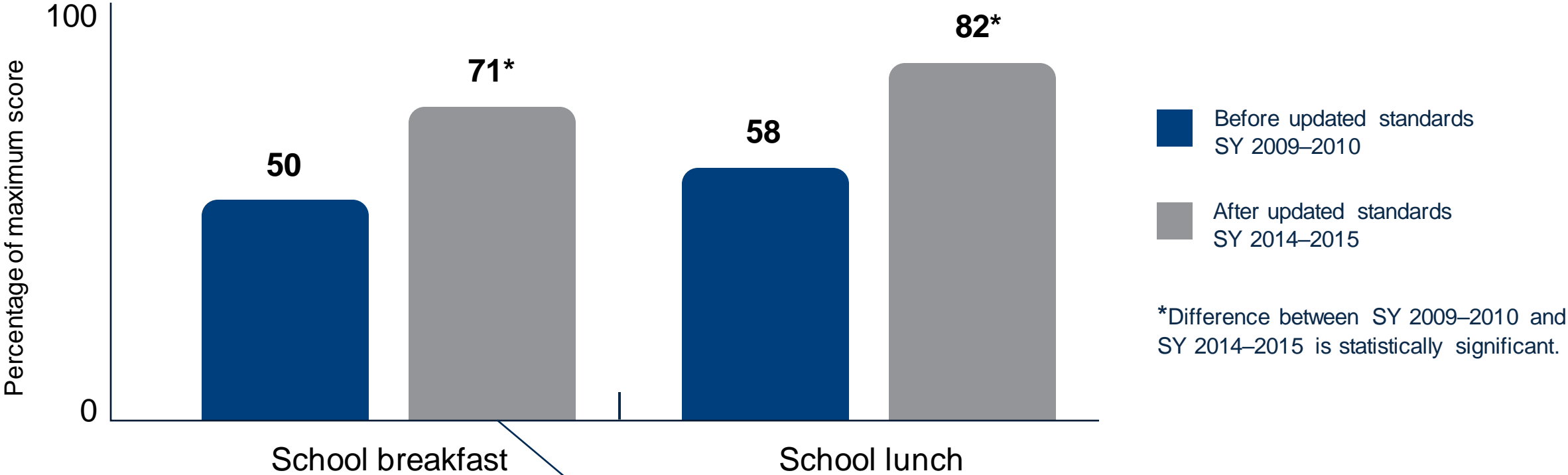


- **Most recent comprehensive, national study on school meal programs**
- **Data collected during 2014–2015 school year (SY)**
 - After nutrition standards were updated
 - All grains required to be whole grain-rich
- **Provides the following information:**
 - Changes in the nutrition quality of school meals after updated nutrition standards
 - Nutritional quality of children's diets based on participation in the programs
 - Plate waste in school meals

School nutrition standards have positively impacted the nutrient density of school foods



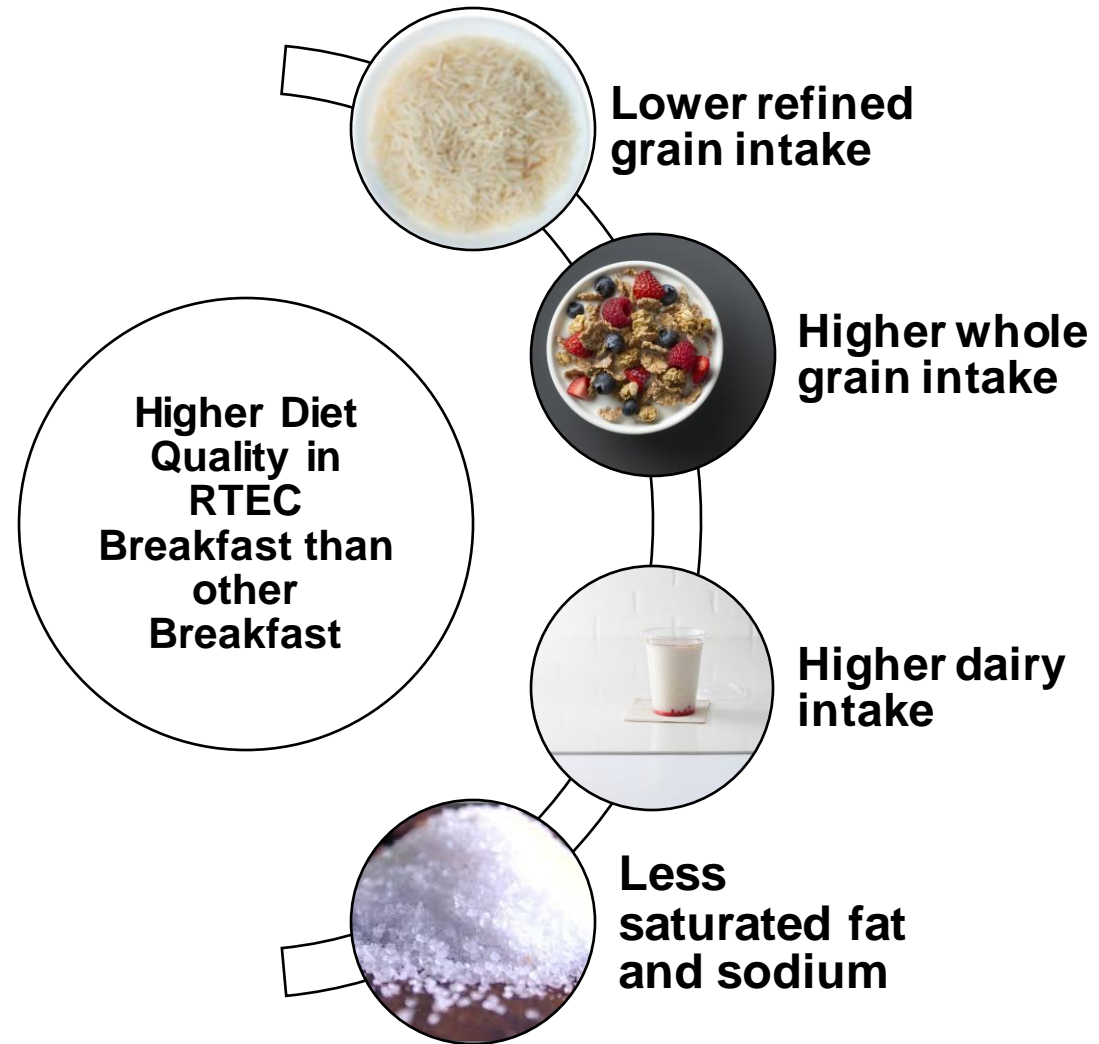
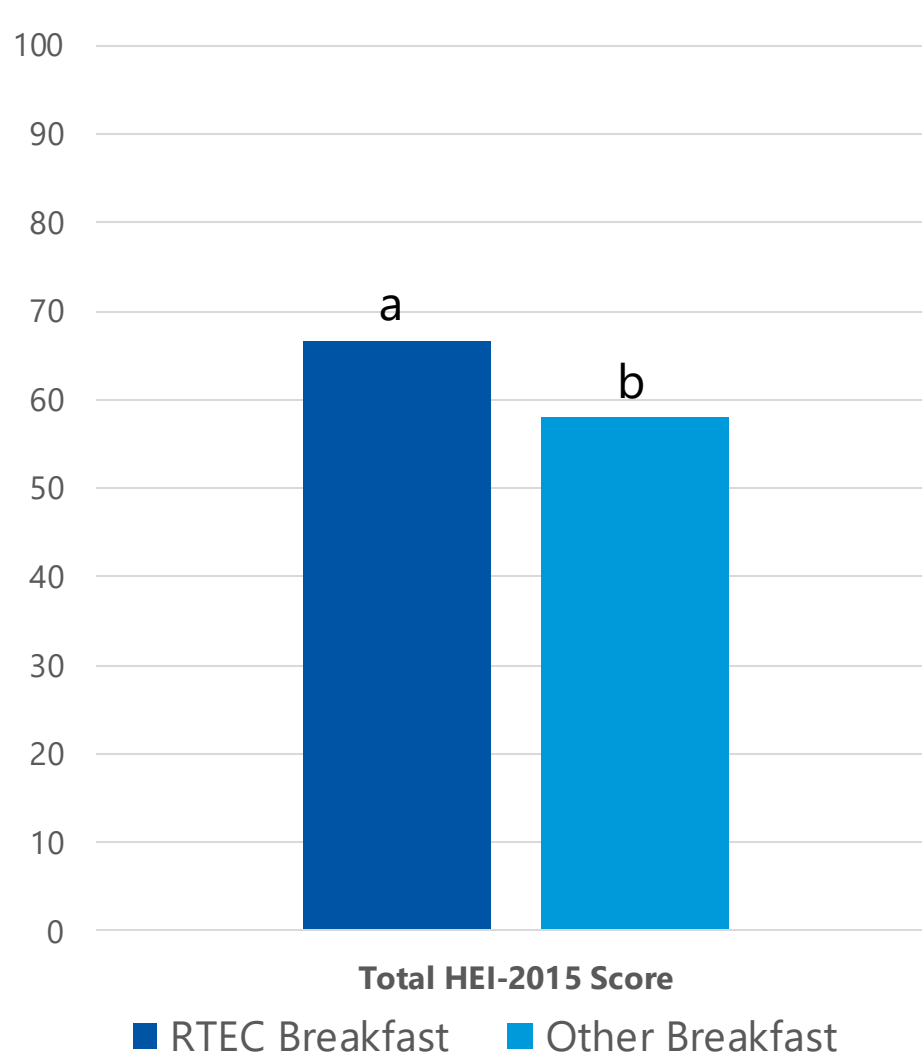
Total HEI scores for school meals



Offering cold cereal on every daily breakfast menu was associated with higher HEI scores

Reference: Gearan et al. 2019

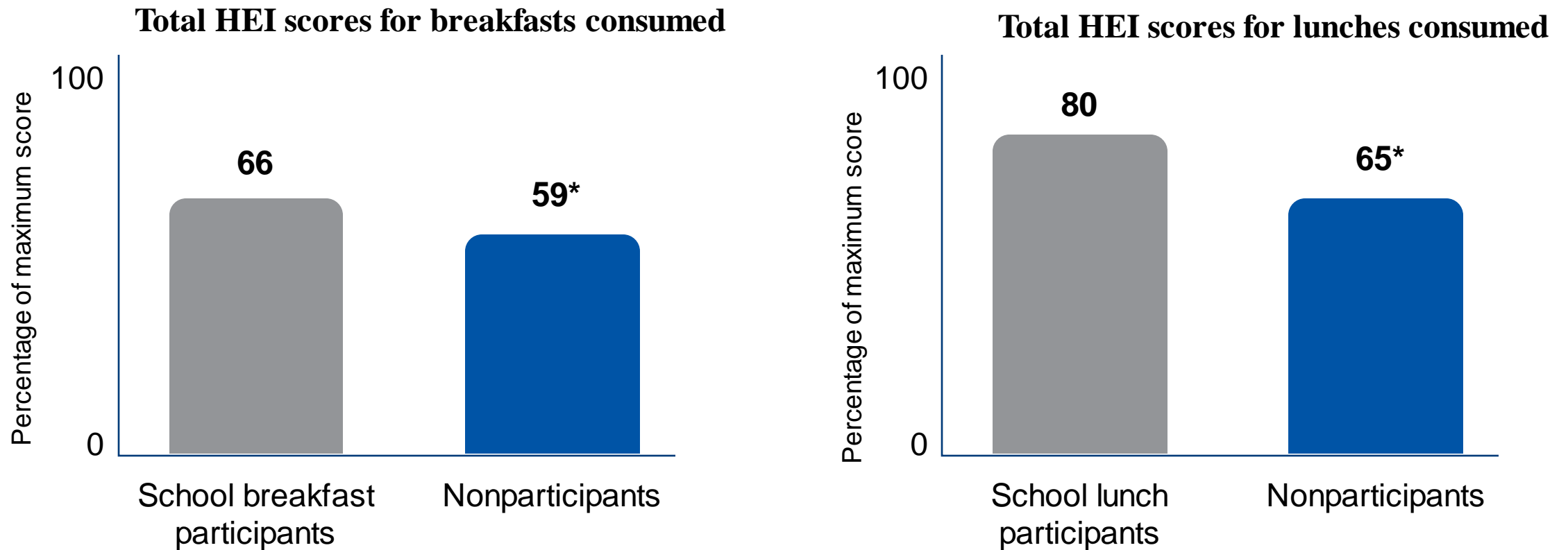
A cereal breakfast has a higher HEI score versus other breakfasts



School Meals Promote Better Diet Quality in Students

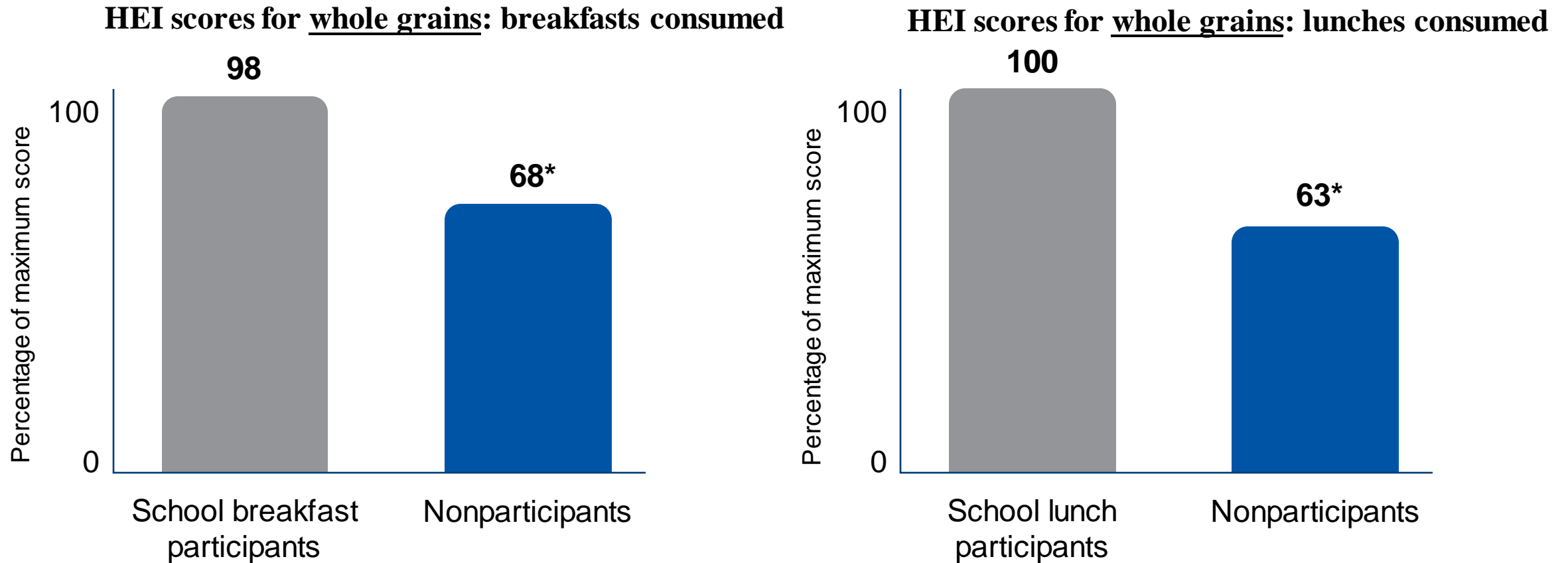


Children that participated in school meal programs consumed healthier breakfasts and lunches



- *Difference between participants and nonparticipants is statistically significant.

Better diet quality in part due to higher whole grain intakes



*Difference between participants and nonparticipants is statistically significant.

Other Attributes Contributing to Better Diet Quality in School Meal Participants



School Breakfast Program Participants

- Higher amounts of dairy
- Lower amounts of refined grains
- Fewer calories from total fat & sat fat



National School Lunch Program Participants

- Higher amounts of vegetables
- Higher amounts of dairy
- Lower amounts of refined grains
- Fewer calories from fat & sat fat



School Meals Make a Significant Contribution to Food Groups



Food Group Contribution of School Meals to Recommended Intakes

	School Breakfast	School Lunch
Fruit	48%+	36%+
Dairy	40%	47%
Whole Grain	30%+	39%+
Protein	6 – 8%*	25%
Vegetables	1% or less*	27%

*Not required as part of the meal pattern

School Meals Contribute More Nutrients Compared to Meals from Other Sources



School Breakfast

Provided significantly more potassium than breakfasts consumed by nonparticipants

School Lunch

Provided significantly more vitamins & minerals compared to lunches consumed by nonparticipants

- Elementary Schools: More Vitamins A, D & B12; riboflavin and potassium
- Middle Schools: More vitamins D & B12, riboflavin, calcium, phosphorus and zinc

More recent research continues to show kids get their healthiest meals at school



- ❑ **Dietary intakes from NHANES 2003-04 to 2017-18 examined**
 - Included over 20,000 children
 - Looked at diet quality over this time period based on food source
 - Food sources: grocery store, restaurant, schools (children) or worksite (adults) and other sources
- ❑ **Proportion of kids consuming food with poor diet quality at school decreased by more than half during this time period (55.6% to 24.4%)**
- ❑ **Large improvements in schools due to higher whole grain and less saturated fat, sodium and sugar-sweetened beverages.**
 - Also saw increased fruits, greens & beans and decreased refined grains and added sugar.

JAMA Network Open

Original Investigation | Public Health
Trends in Food Sources and Diet Quality Among US Children and Adults, 2003-2018

Junku Liu, PhD; Renata Micha, RD, PhD; Yan Li, PhD; Danush Mozaffarian, MD, DrPH

Abstract

IMPORTANCE Time trends and population disparities in nutritional quality of foods from major US sources, including grocery stores, restaurants, schools, worksites, and other sources, are not well established.

OBJECTIVE To investigate patterns and trends in diet quality by food sources among US children and adults overall and in sociodemographic subgroups.

DESIGN, SETTING, AND PARTICIPANTS This serial, cross-sectional survey study included respondents from 8 National Health and Nutrition Examination Survey cycles (2003-2018) with valid dietary recalls. Data were analyzed from April 16, 2020, to July 20, 2020.

Key Points

Question What are the trends in nutritional quality of foods consumed from major US sources?

Findings In this survey study of 20 905 children and 39 757 adults from 2003-2004 to 2017-2018, modest improvements were found in diet quality for foods from grocery stores and small improvements for foods from restaurants, each with disparities. Diet

Children's healthiest meals of the day come from school cafeterias

RESULTS The study included 20 905 children 5 to 19 years of age (mean [SD] age, 12.1 [5.24] years; 51.0% male) and 39 757 adults 20 years or older (mean [SD] age, 47.3 [15.1] years; 51.9% female). Diet quality of foods consumed from grocery stores increased modestly in children (53.2% to 45.3% with poor diet quality; $P = .006$ for trend) and adults (40.1% to 32.9% with poor diet quality; $P = .001$ for trend), with smaller changes for restaurants among children (84.8% to 79.6% with poor diet quality; $P = .003$ for trend). Changes for restaurants among adults were not statistically significant (65.4% to 65.2% with poor diet quality; $P = .07$ with poor diet quality); the same was true of worksites (adults: 55.6% to 50.7% with poor diet quality; $P = .25$ for trend). Food quality from other sources worsened (children: 40.0% to 51.7% with poor diet quality; adults: 33.8% to 43.8% with poor diet quality; $P < .001$ for trend each). The largest improvement in diet quality was in schools, with the percentage with poor diet quality decreasing from 55.6% to 24.4% ($P < .001$ for trend), mostly after 2010, and with equitable improvements across population subgroups. Findings were similar for Healthy Eating Index 2015. Significant disparities in diet quality trends were seen by sex, race/ethnicity, educational level, and household income for food consumed from grocery stores. For example, the proportion of foods consumed from grocery stores that were of poor diet quality decreased among high-income adults (from 36.9% to 26.5%; $P = .001$ for trend) but not among low-income adults (from 45.8% to 41.3%; $P = .09$ for trend).

(continued)

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JAMA Network Open. 2021;4(4):e215262. doi:10.1001/jamanetworkopen.2021.5262

April 12, 2021 1/20

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Increase in the nutrition quality of school meals equitably benefits students



School



Proportion of children consuming food of poor diet quality from schools decreased across all income groups

Grocery Store



Improvement in the nutrition quality of foods from grocery stores only seen in kids from high income

Whole Grain Success Story: School food is the most whole grain dense food source



USDA report (April 2023) found that starting in 2013 school foods consumed by children were more whole-grain dense compared to other sources.

Ounce Equivalents Whole Grain per 1000 Calories				
	2011 - 12	2013 - 14	2015 - 16	2017 - 18
School foods	0.30	0.83	1.15	1.04
Foods at home	0.51	0.55	0.59	0.53
Fast Food	0.11	0.15	0.06	0.10
Restaurant	0.10	0.12	0.09	0.13

School foods are healthier, but does this impact student's health?



Original Investigation

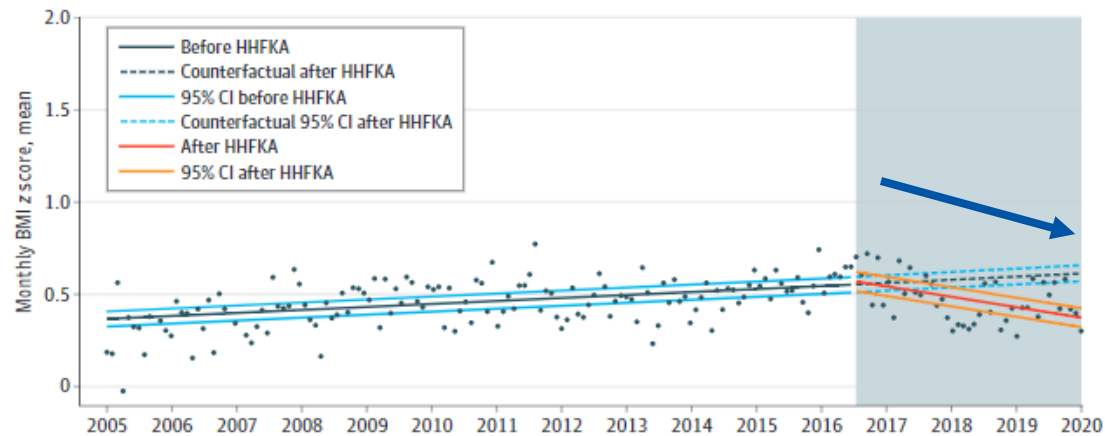
February 13, 2023

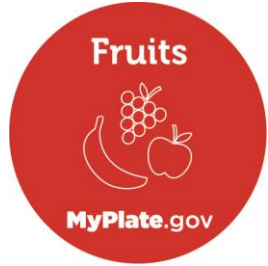
Changes in Body Mass Index Among School-Aged Youths Following Implementation of the Healthy, Hunger-Free Kids Act of 2010

Aruna Chandran, MD, MPH¹; Mohamad Burjak, MS¹; Joshua Petimar, ScD²; et al

- ❑ Study aimed to answer the question: “**Was the Healthy, Hunger-Free Kids Act of 2010 associated with changes in BMI among youths in the US?**”
- ❑ Included over 14,000 kids, aged 5 – 18
- ❑ Findings showed a **significant decrease in BMI z-scores following implementation of HHFKA** compared to prior

Figure. Mean Monthly Body Mass Index (BMI) z Scores Before and After Implementation of the Healthy, Hunger-Free Kids Act of 2010 (HHFKA)





Promoting Intakes of Food Groups: Why it Matters

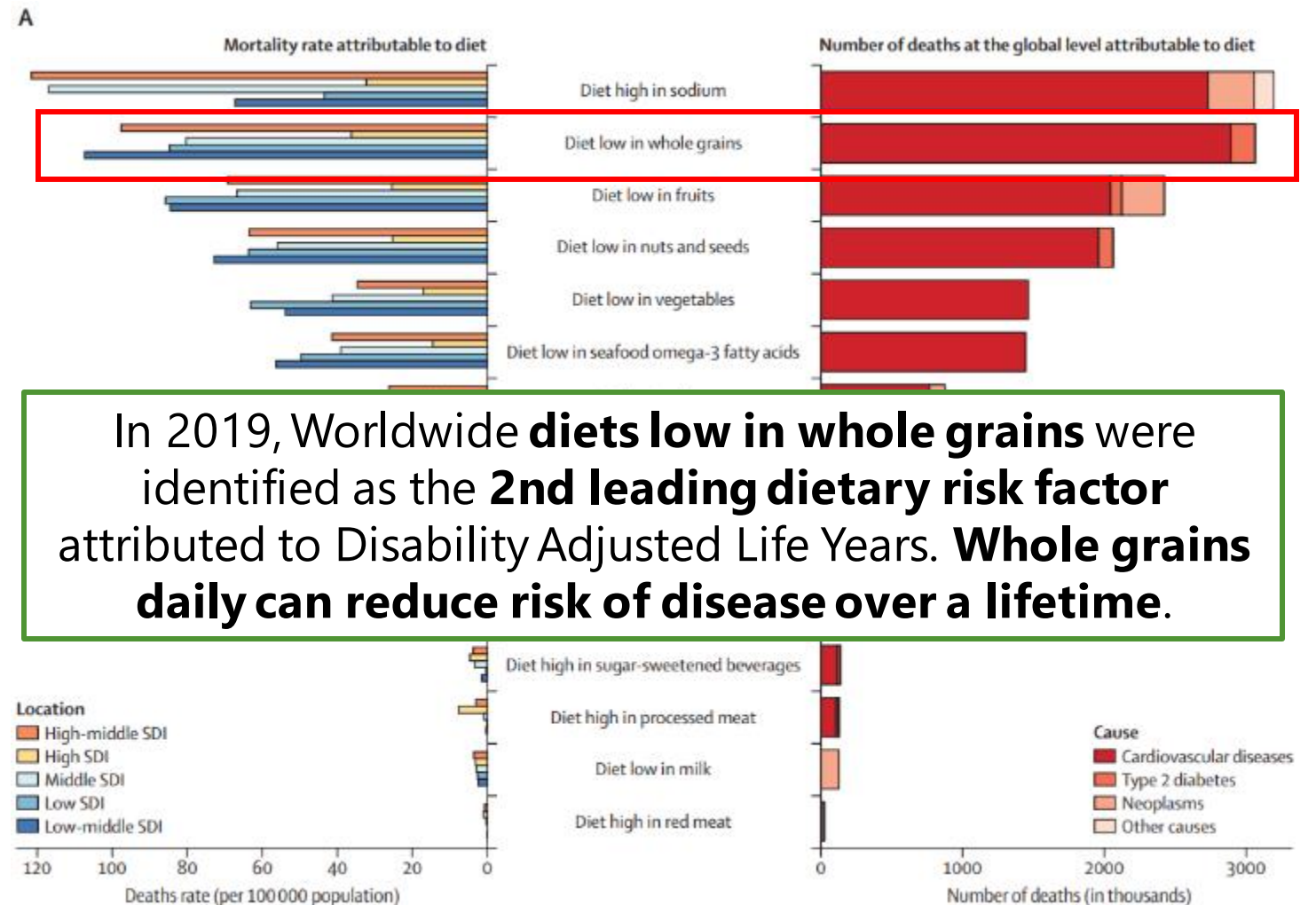
Whole Grain: Why it Matters



Studies consistently show a connection between whole grains and better health.

Higher whole grain intake linked to reduced risk of:

- Cardiovascular disease
- Type-2 Diabetes
- Certain Cancers



Top Sources of Whole Grain in Kids & Teens



1. Breads, Rolls, Tortillas
2. Ready-to-Eat Cereal
3. Sandwiches
4. Savory Snacks
5. Pizza



School meal participants are more likely to consume whole grain-rich grains vs non-participants

Promoting Whole Grain Intakes



- Combination entrées
- Offer a variety of whole grain foods if able
- Get students involved (sampling, menu ideas)
- Whole grain versions of kid favorites



Dairy: Why it matters



- Dairy foods contain nutrients essential for bone growth and development.
- Consuming adequate amounts of dairy foods daily helps ensure children and adolescents achieve peak bone mass, which is associated with reduced risk for osteoporosis later in life.

Dairy is a leading source of calcium, vitamin D, magnesium, phosphorus, potassium, protein for kids

Reference: NHANES 17-18

Leading health organizations recommend eating dairy foods daily to achieve peak bone mass

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™



National Institutes of Health

Turning Discovery Into Health

Top Sources of Dairy in Kids & Teens



1. Milk
2. Cheese
3. Flavored Milk
4. Pizza
5. Mexican Dishes

Opportunity Exists to Promote Dairy Intake in School Meals

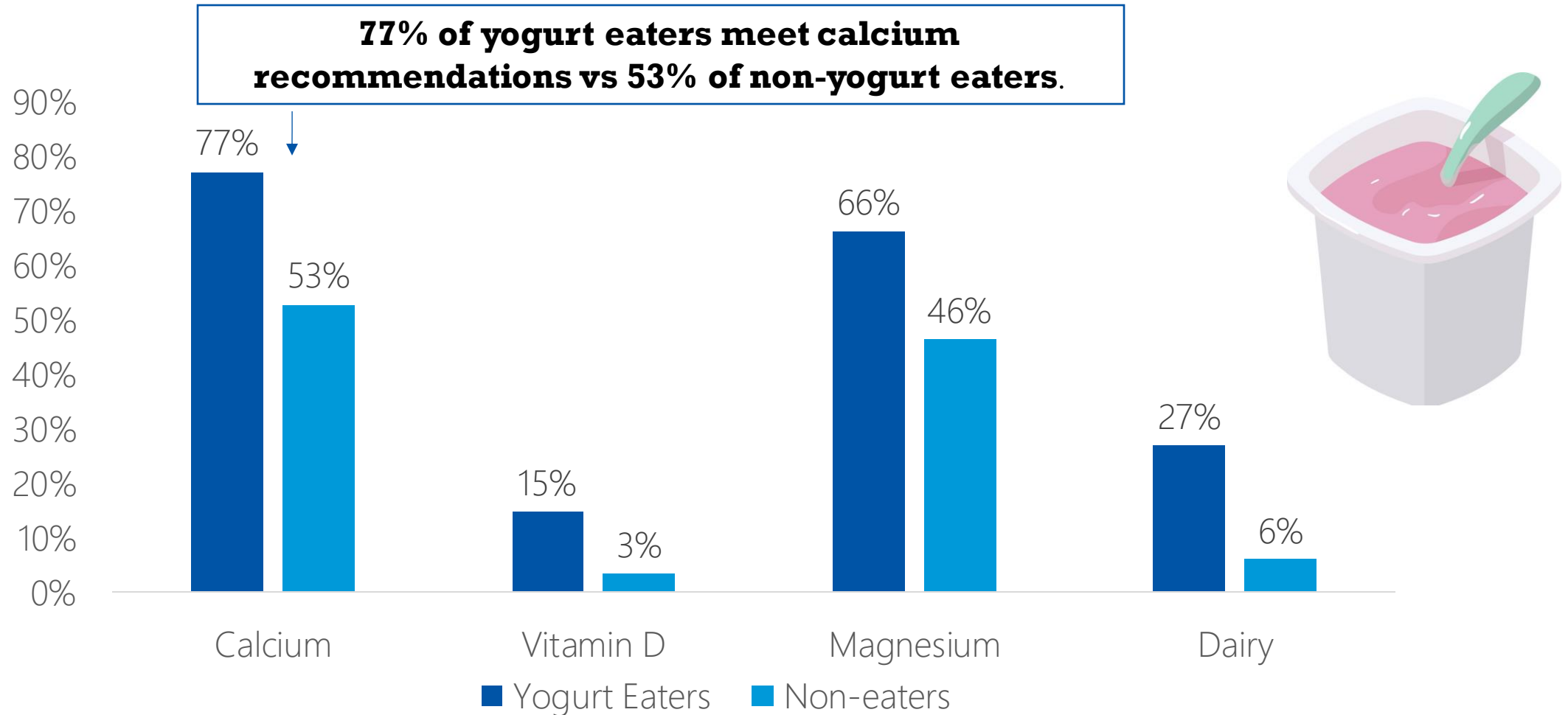
Although milk is a top source of dairy, it is 2nd highest for plate waste at lunch (29%) and 1st at breakfast (41%).



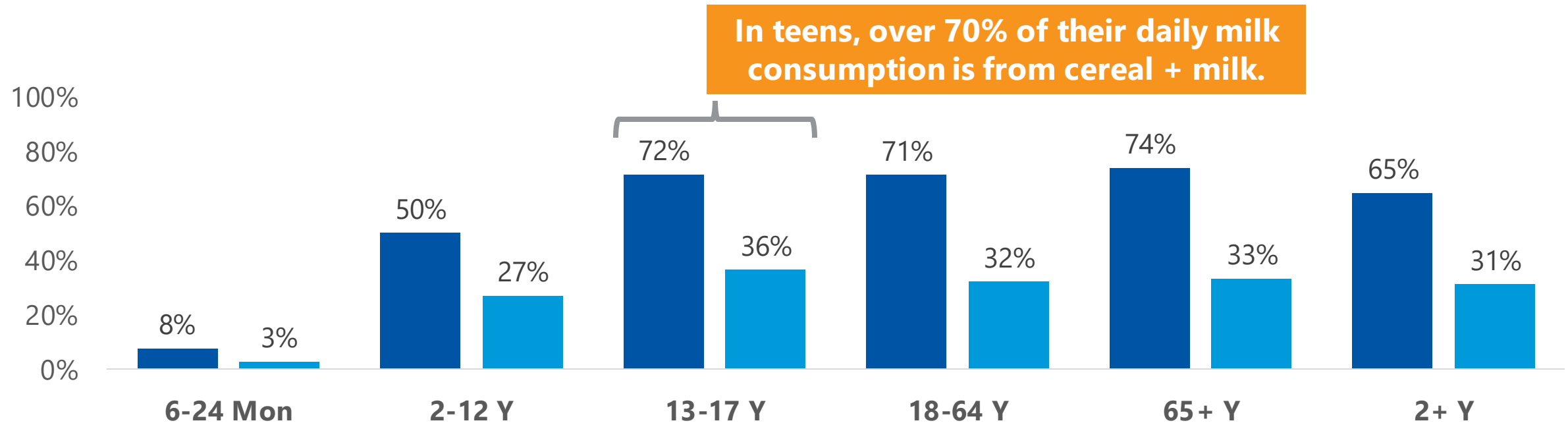
Promoting Dairy Intake: Yogurt







Yogurt eaters are 4x more likely to meet dairy recommendations than non-consumers



Promoting Dairy Intake: Cereal + Milk



Cereal eaters consume more dairy than non-eaters

Children, 2-12 years		Teens, 13-17 years	
RTE Non-Eaters	 1.7 servings/day	 1.4 servings/day	
RTE Eaters	 2.2 servings/day	 2.4 servings/day	

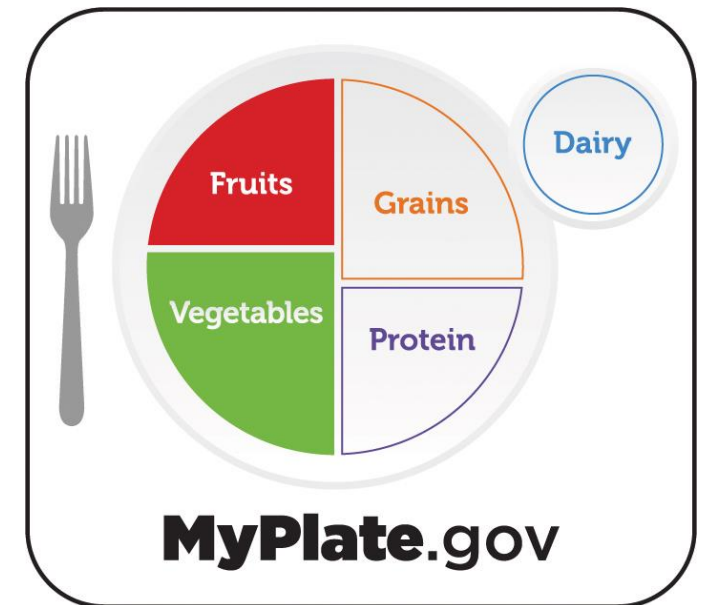
All p<0.05

Reference: NHANES 17-18

Fruits & Vegetables: Why it Matters?



- Research consistently shows diets high in fruits & vegetables are linked to health
- Strongest evidence for heart health
- Certain types of fruits & vegetables show superior health benefits - dark green leafy vegetables, cruciferous vegetables (e.g. broccoli), citrus fruits and dark-colored berries.



Top Consumed Fruits & Vegetables by Kids & Teens



1. Bananas
2. Apples
3. Strawberries
4. Oranges
5. Grapes



1. Lettuce/vegetable salads
2. French Fries
3. Onions
4. Tomatoes
5. Carrots

At breakfast, 27% of fruit was thrown away by students and at lunch, 26%. At lunch, vegetables were the #1 item thrown away.

Fruits & Vegetables: Promoting Intakes



- Serve smoothies to increase fruit consumption.
 - Students consuming at least 1 fruit serving increased from 4% to 45% when smoothies made from vanilla yogurt, milk or juice, and fruit were served



- Serve vegetables in combination entrees.
 - Mixed dishes with vegetables are often more accepted and less likely to be thrown away in school meals



Culinary Demo

Chef Heather Swan



Q&A



Additional Resources



Marketing Tools



Break-FACTS informative toolkit



Rebates



Informative Articles

[The Science Behind Why Breakfast is the Most Important Meal of the Day](#)

[Explore Rebates](#)

Back to School Checklist:



[Keep Kids Fed Toolkit](#)



[Serve up Excitement Toolkit](#)



[K12 Yoplait ParfaitPro Possibilities Hub](#)



[K12 Product and Resource Guide](#)

[Nourishing Students: The Power of Breakfast and How General Mills Foodservice K-12 Products Can Help You Meet Regulations with Ease](#)



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