


# From Policy to Plate: The Role of Child Nutrition Programs in Filling Nutrition Gaps and Promoting Whole Grain Intake

April 14, 2022

# Housekeeping

- Attendees will receive an email within ONE WEEK with **CPEU certificate, slides, and recording**
- Visit **[oldwayspt.org/CPEU](https://oldwayspt.org/CPEU)** to register for upcoming webinars or view recordings of previous webinars
- Please submit any questions using the CHAT function in Zoom
- Thank you to the General Mills Bell Institute for Health and Nutrition for sponsoring this session!

Next Webinar: 5/24 at 1PM ET



Webinar

**Food for a Healthier Planet:  
Expert Panel on  
Sustainability and Nutrition**

with Walter Willett, MD, DRPH,  
Sharon Palmer, RDN, MS and Kelly LeBlanc, MLA, RD, LDN

May 24 • 1:00 PM E.T.

**OLDWAYS**

# About Oldways

- **Our Vision**  
A healthier, happier life through cultural food traditions.
- **Our Mission**  
We inspire people to embrace the healthy, sustainable joys of the old ways of eating.
- **Best Known for**  
Creating the Mediterranean Diet Pyramid and other Heritage Diet Pyramids, Creating the Whole Grain Stamp, Culinary Travel



# About the Oldways Whole Grains Council

## Our three-part mission:

- To help consumers find whole grain foods and understand their health benefits
- To help manufacturers and restaurants create delicious whole grain foods
- To help the media write accurate and compelling stories about whole grains





# Understanding “Whole Grain Rich”

50% (or more) of grain must be whole, remaining grains (if any) must be enriched

**Therefore, 100% whole grain rich does NOT mean 100% whole grain**



# Understanding Whole Grains in WIC

- **Exact whole grain products approved for WIC food packages vary by state**
- Half of cereals on agency's food list must be whole grain
- Whole grain bread, brown rice, bulgur, whole grain pasta, oatmeal, whole grain barley, whole grain tortillas are also allowable options



*Photo via Unsplash*

# Child Nutrition Legislative Updates

- **NSLP & SBP:**

- **SY 2022-2023 & 2023-2024:**

- “Transitional Standards” announced mandating that 80% of grains must be “whole grain-rich”

- **SY 2024-2025 & beyond**

- USDA drafting school nutrition guidelines that align with DGAs

- **CACFP**

- Transitional standards don’t impact whole grain requirement for CACFP; possible changes for SY 2024-2025 & beyond as requirements move closer to DGAs

- **WIC:**

- Currently a push to encourage WIC to impose stronger whole grain guidelines in line with NAESM recommendations



# Today's Speakers



**Liz Gearan MS, RD**

Principal Researcher and Deputy Director of  
Nutrition Research at Mathematica



**Joanne Slavin, PhD, RD**

Professor of Food Science and Nutrition at the  
University of Minnesota





# Role of the NSLP, SBP, CACFP, and WIC in Children's Diets

*Liz Gearan, MS, RD*  
*Principal Researcher*  
*Mathematica*



# Outline

---

## / **Children's diets relative to recommendations**

## / **Federal nutrition programs for children**

- National School Lunch Program (NSLP) and School Breakfast Program (SBP)
- Child and Adult Care Food Program (CACFP)
- Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

## / **Nutrition standards for the programs**

## / **Research on how these programs can positively influence children's diets and their intake of whole grains**



# Healthy Eating Index (HEI)

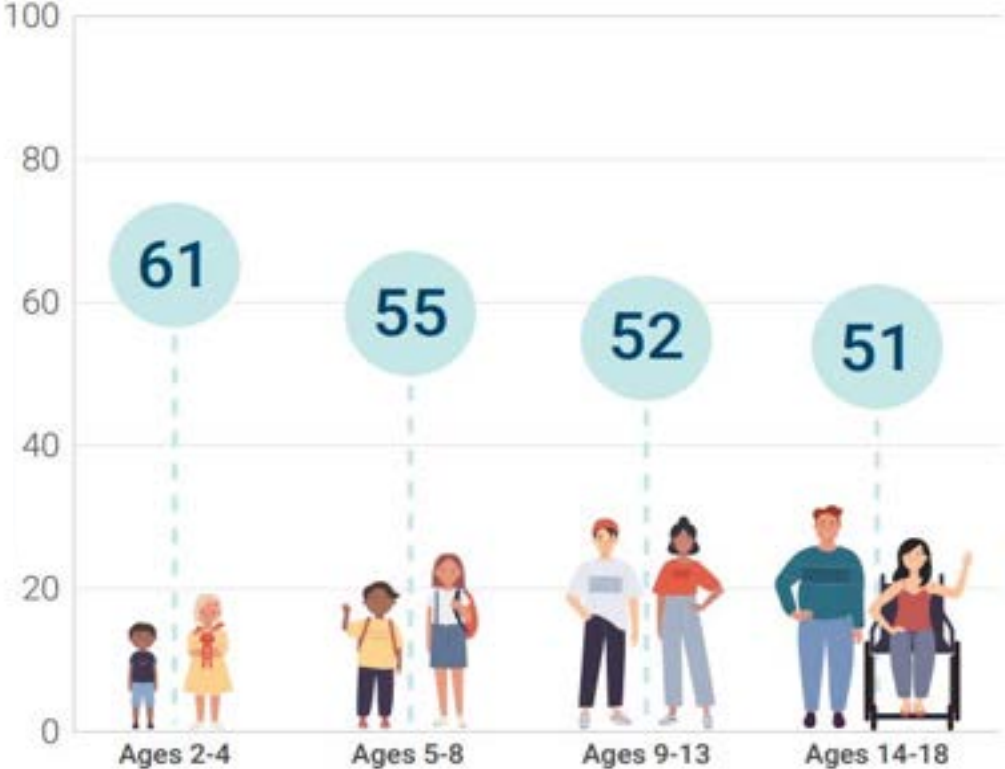
---

- / **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, including one for whole grains, 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***



# Children's diets do not meet recommendations

Healthy Eating Index Scores Across Childhood and Adolescence



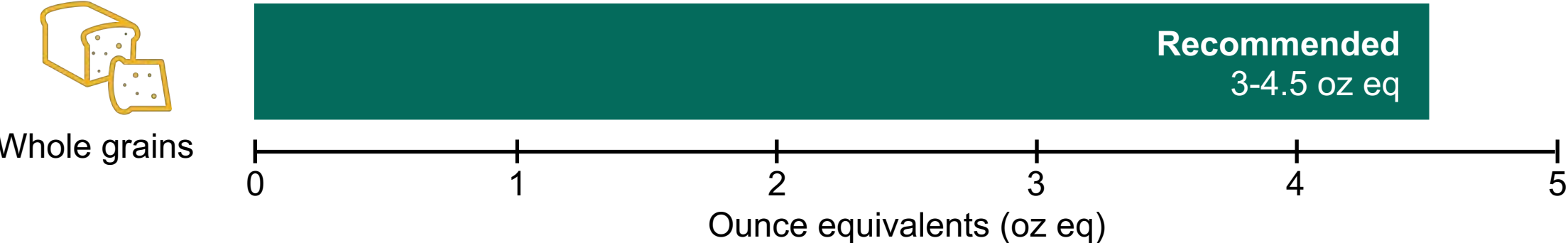
Data Source: Analysis of What We Eat in America, NHANES 2015-2016, ages 2 through 18, day 1 dietary intake, weighted.





# Children's daily intakes of whole grains are below recommended levels

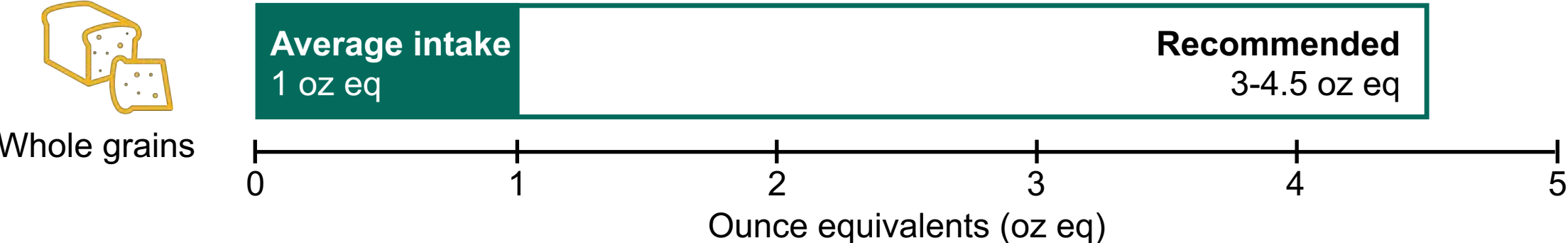
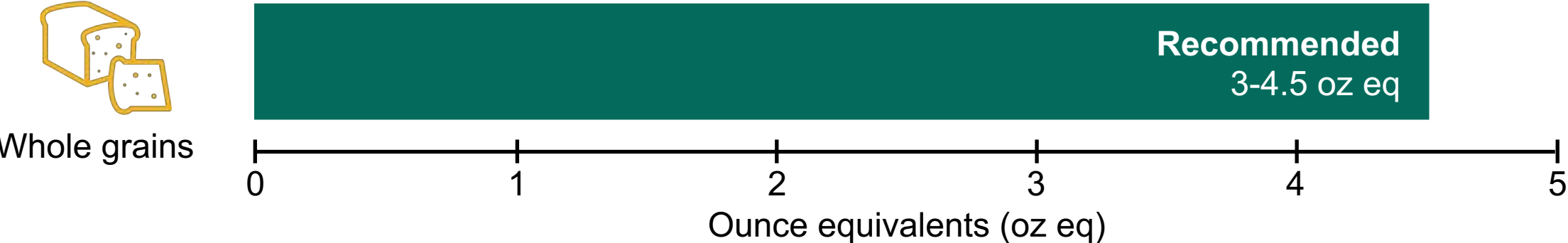
For example, for males ages 9 to 13:





# Children's daily intakes of whole grains are below recommended levels

For example, for males ages 9 to 13:



Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services 2020



# USDA's nutrition assistance programs for children

**Aim to increase food security and reduce hunger by giving children access to food and a healthy diet**

**Child Nutrition Programs**

Help ensure children receive nutritious meals that promote health and educational readiness

**NSLP and SBP**

- Provide free or low-cost breakfasts and lunches to children during the school year

**CACFP**

- Provides free or low-cost meals to children in child care centers, day care homes, and afterschool programs

**WIC**

- Serves to safeguard health of children up to age 5 who are at nutritional risk
- Provides nutritious foods to supplement diets

Note: These programs serve other populations, and USDA administers additional nutrition assistance programs for children.



# School meal programs: NSLP and SBP







# Nutrition standards for school meals

---

- / **USDA provides reimbursement for meals that meet the nutrition standards**
- / **Specify the types and amounts of foods to be included in meals and set standards for specific nutrients**
- / **Updated standards implemented in 2012**
  - Updated to align with the 2010 *Dietary Guidelines*
  - Required more fruits, vegetables, and whole grains, and limited calories, sodium, and trans fat





# Nutrition standards for school meals (con't)

## Minimum amounts of foods

Daily and weekly amounts:  
Milk, fruits, vegetables,\*  
grains, and meat/meat  
alternates\*

Weekly amounts of 5  
vegetable subgroups\*

## Restrictions on the types or amounts of foods offered

Milk: Fat content and flavor

Grains: Whole-grain rich

Juice and grain-based  
desserts: Limits on weekly  
amounts

## Dietary specifications

Minimum and maximum  
calorie levels

Limits on saturated fat,  
trans fat, and sodium  
content

\*Requirement is for lunch only.

Note: Nutrition standards have changed slightly since the initial updates took effect in 2012, and several requirements were waived during the pandemic.

Source: U.S. Department of Agriculture, Food and Nutrition Service, 2012



# Role of the NSLP and SBP in children's diets



# USDA's School Nutrition and Meal Cost Study

---

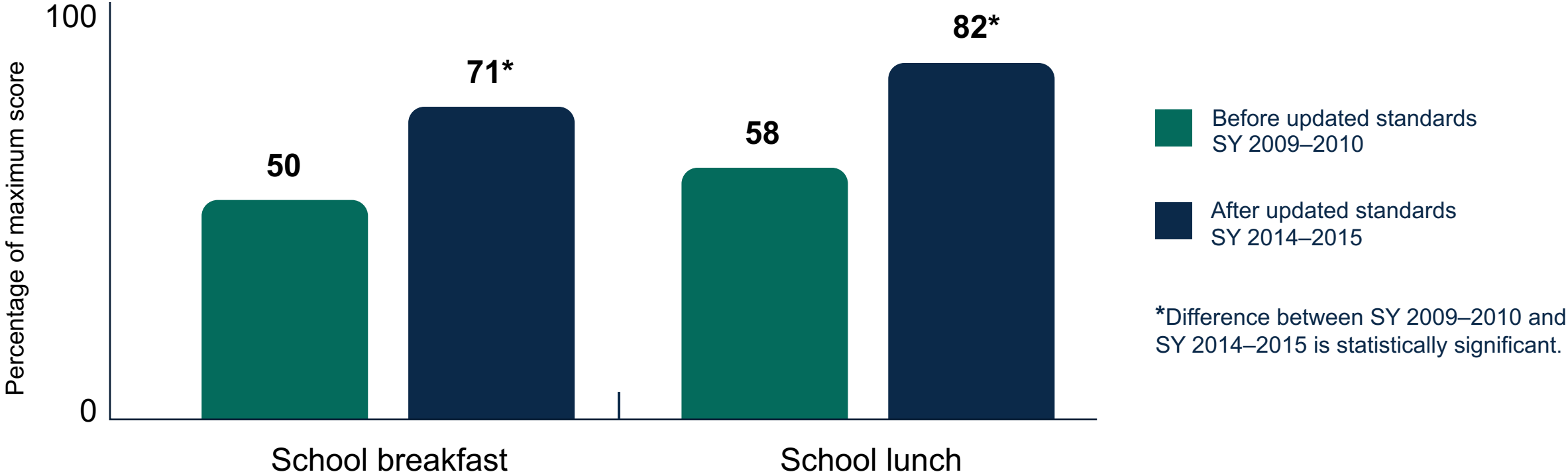
- / Most recent comprehensive, national study on school meal programs**
- / Data collected during 2014–2015 school year (SY)**
  - After nutrition standards were updated
  - All grains required to be whole grain-rich
- / Provides the following information:**
  - Changes in the nutritional quality of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





# Nutritional quality of school meals improved significantly after updates to nutrition standards

Total HEI scores for school meals

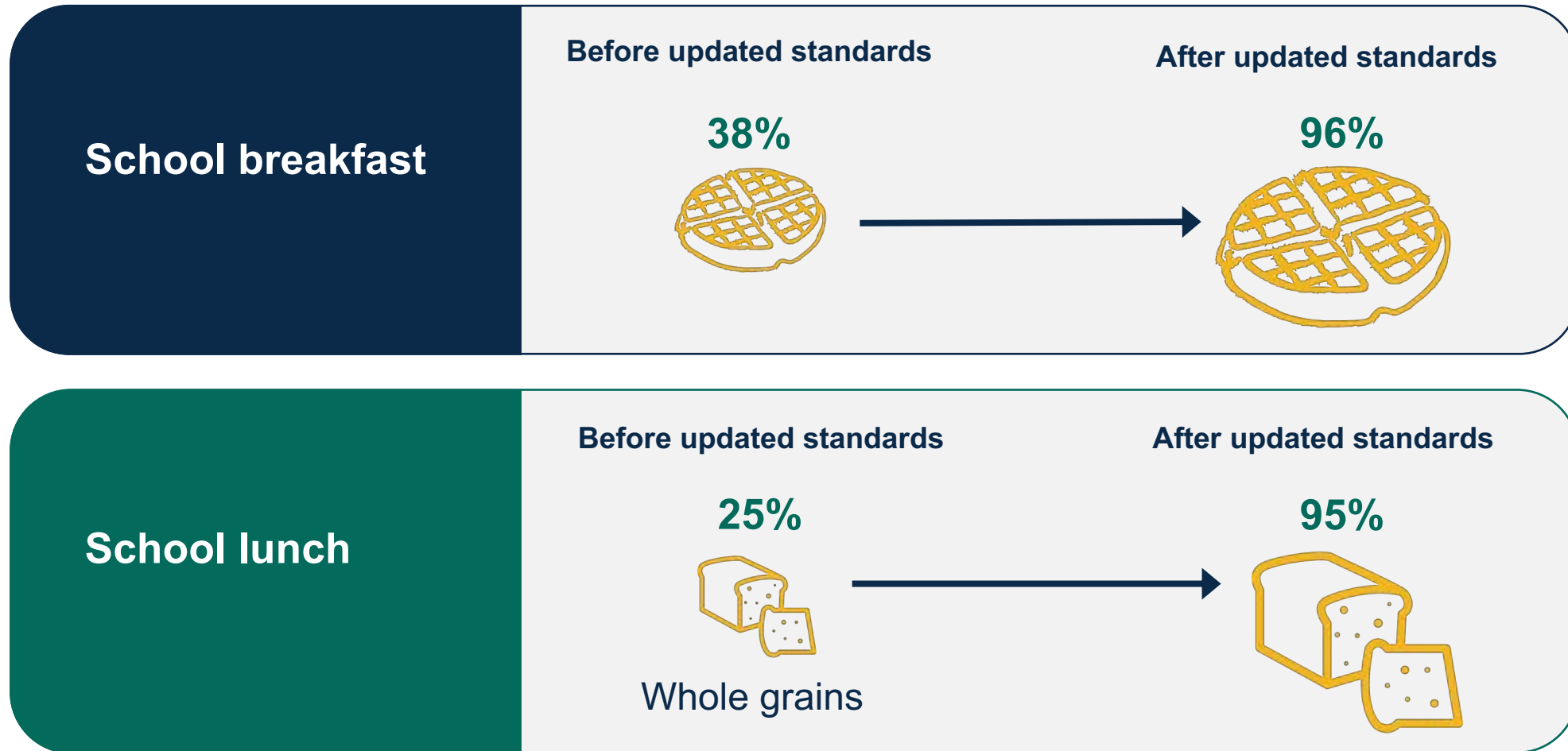


Source: Gearan et al. 2019



# Whole grains in school meals also increased significantly

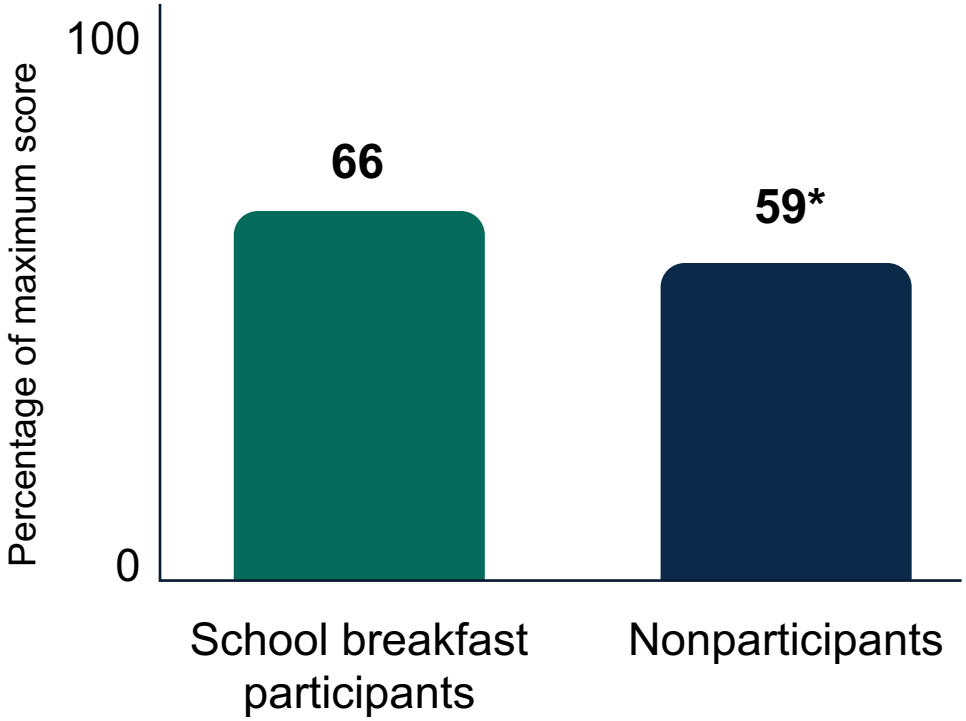
## HEI scores for whole grains in school meals (% of maximum score)



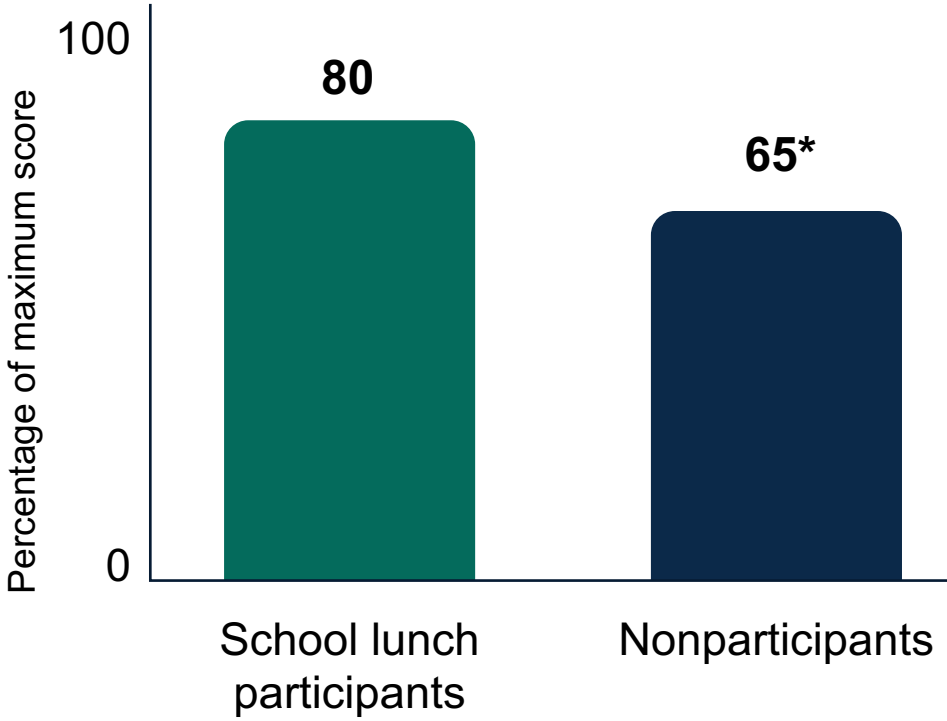


# Children that participated in school meal programs consumed healthier breakfasts and lunches

**Total HEI scores for breakfasts consumed**



**Total HEI scores for lunches consumed**



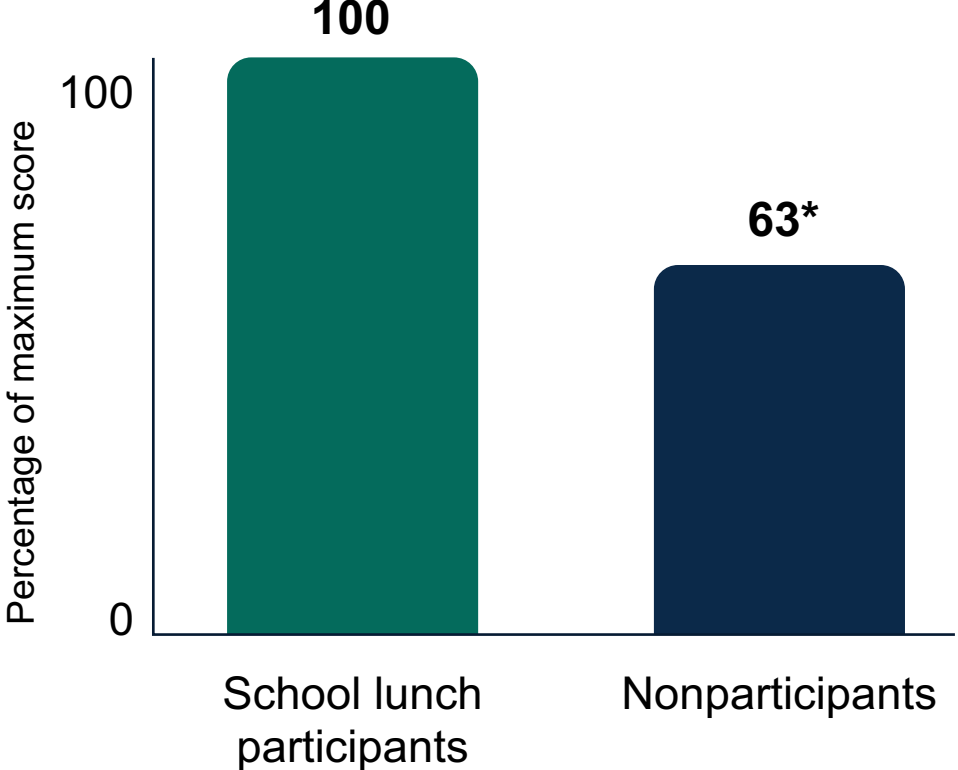
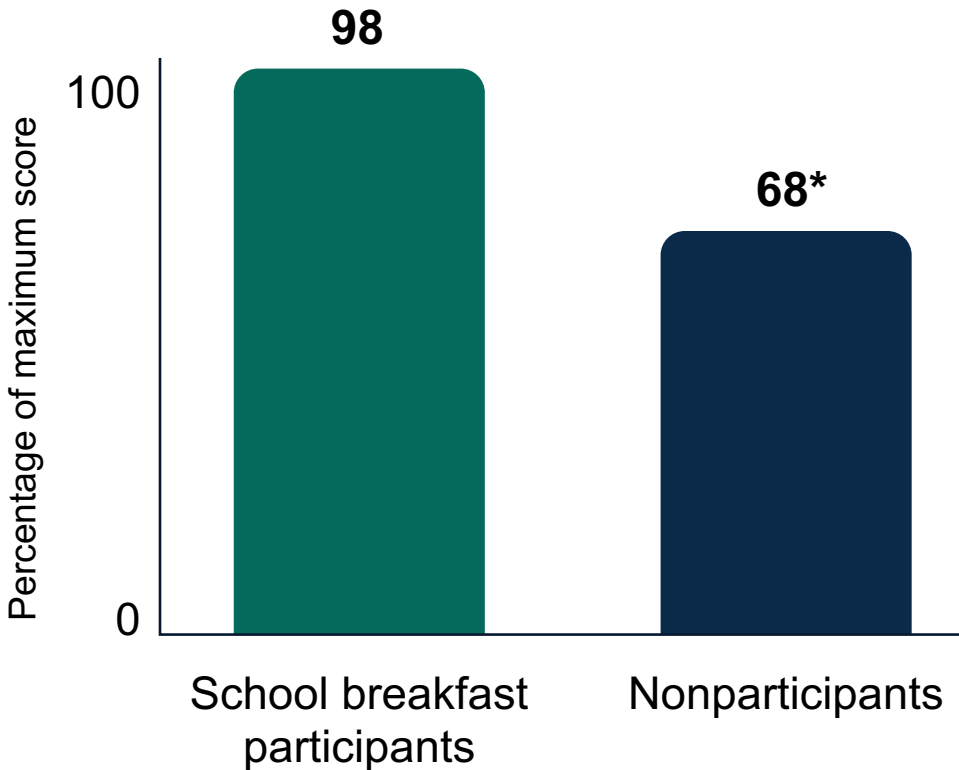
\*Difference between participants and nonparticipants is statistically significant.



# School meal participants also consumed more whole grains at breakfast and lunch

**HEI scores for whole grains: breakfasts consumed**

**HEI scores for whole grains: lunches consumed**



\*Difference between participants and nonparticipants is statistically significant.

Source: Fox et al. 2019



# Over 24 hours, school meal participants had higher intakes of whole grains

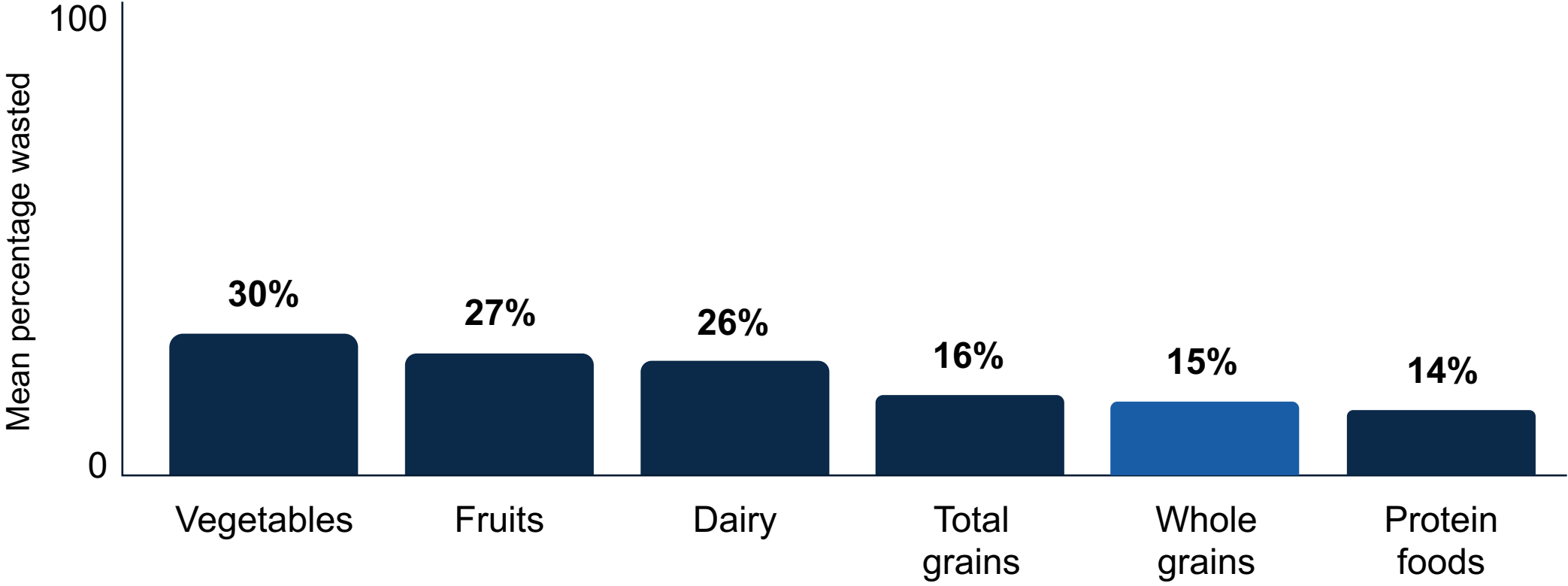
---

- / School meal participants' 24-hour diets continued to receive a higher HEI score for whole grains, compared with nonparticipants.**
- / School meal participants were more likely than nonparticipants to meet daily recommendations for whole grains.**
- / School lunch participants consumed more than 50 percent of their daily intake of whole grains at lunch.**



# Plate waste in school lunches

Percentage of food groups wasted on school lunch trays



Note: Estimates are based on ounce and cup equivalents of USDA Food Pattern food groups.

Source: Fox et al. 2019





# Child and Adult Care Food Program (CACFP)





# Nutrition standards for CACFP meals and snacks for children

---

- / **USDA provides reimbursement for meals and snacks that meet the nutrition standards**
  - Up to 2 meals and 1 snacks per day, or 2 snacks and 1 meal per day
- / **Specify the types and amounts of foods to be included**
  - Breakfasts, lunches, suppers, and snacks
- / **Updated standards implemented in 2017**
  - Updated to align with the 2015-2020 *Dietary Guidelines*
  - Required a greater variety of fruits and vegetables, more whole grains, and less added sugar and saturated fat



# CACFP meal patterns for children

## LUNCH & SUPPER MEAL PATTERNS Serve all 5 components

COMPONENT	AGES 1-2	AGES 3-5	AGES 6-18
Milk	1/2 cup	3/4 cup	1 cup
Meat & Meat Alternates	1 oz	1 1/2 oz	2 oz
Vegetables	1/8 cup	1/4 cup	1/2 cup
Fruit	1/8 cup	1/4 cup	1/4 cup
Grains	1/2 oz eq	1/2 oz eq	1 oz eq

- / **Breakfasts: Milk, fruits/vegetables, and grains**
- / **Snacks, serve two of the following: Milk, fruits, vegetables, grains, and meat/meat alternates**

Note: Some requirements were waived during the pandemic.

Source: U.S. Department of Agriculture, Food and Nutrition Service, 2016



# Restrictions on types of foods in CACFP meals and snacks for children

---

- / Milk: Fat content and flavor depending on age group**
- / Whole grains: At least one serving per day must be whole grain-rich**
- / Juice: Limited to once per day**
- / Breakfast cereals and yogurt: Limits on sugar content**

Note: Some requirements were waived during the pandemic.

Source: U.S. Department of Agriculture, Food and Nutrition Service, 2016



# Role of the CACFP in children's diets





# USDA's Study of Nutrition and Activity in Childcare Settings

---

## / **Most recent comprehensive, national study on the CACFP**

- Early child care programs: Child care centers, Head Start programs, family day care homes (infants to age 5)
- Before and afterschool programs (ages 6 to 12)

## / **Collected data in program year 2016–2017**

- Before nutrition standards were updated (no whole-grain rich requirement)

## / **Provides the following information:**

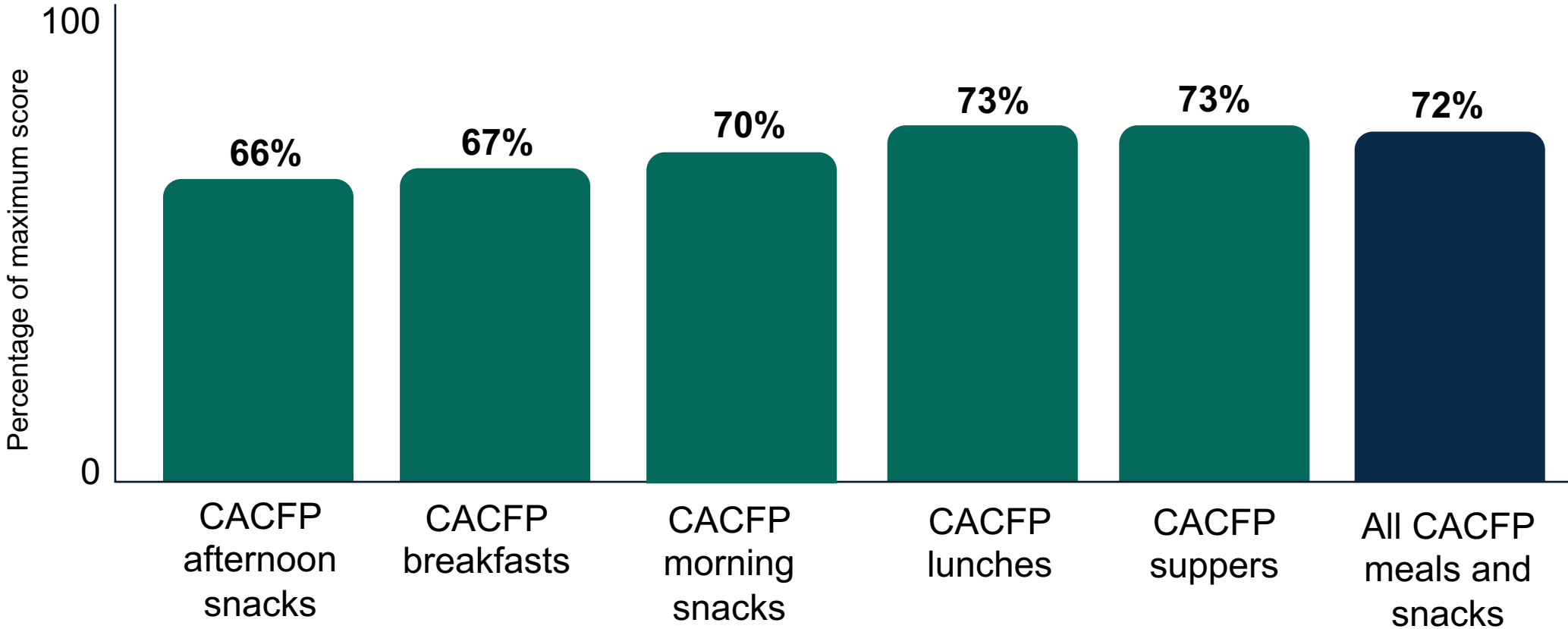
- Nutritional quality of CACFP meals and snacks
- Nutritional quality of children's diets on child care days versus non-child care days





# Nutritional quality of CACFP meals and snacks served to 3- to 5-year-olds

**Total HEI scores for CACFP meals and snacks**



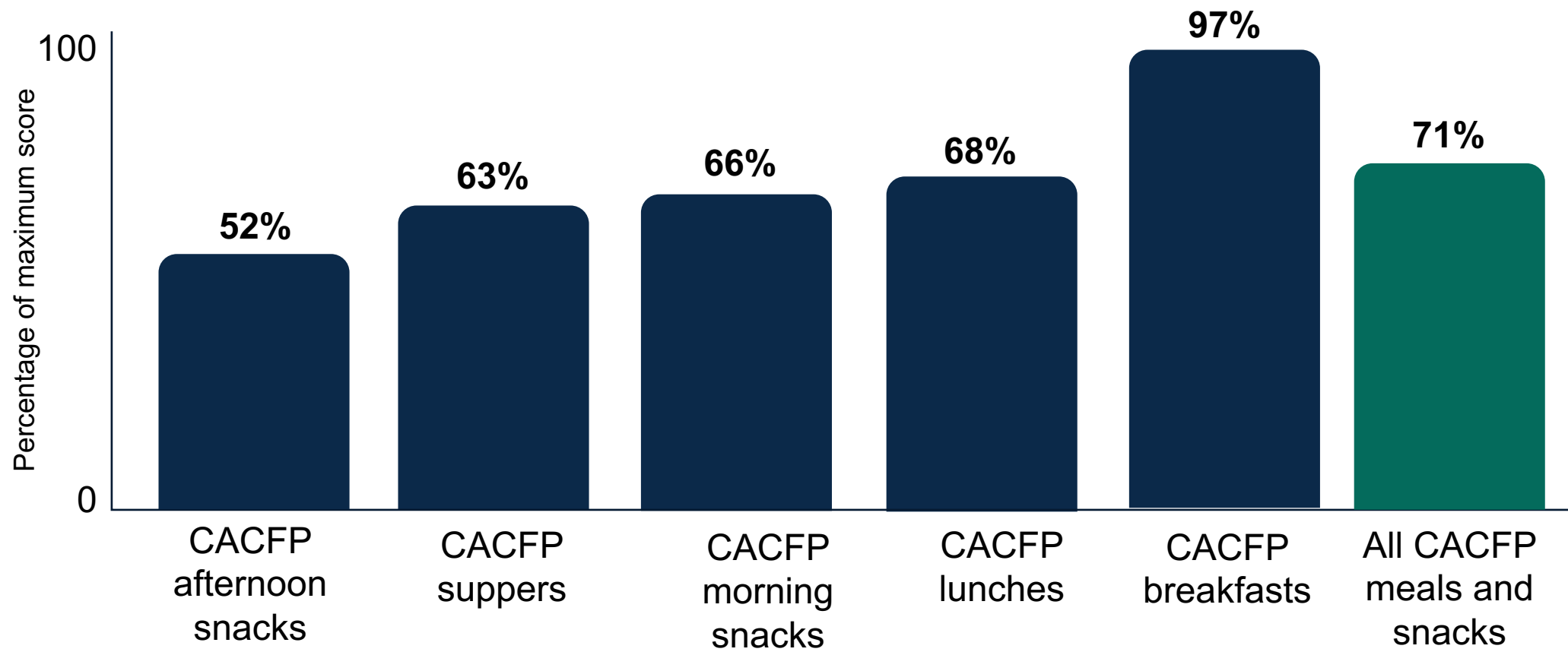
Note: Data were collected before nutrition standards were updated.

Source: Logan et al. 2021



# Whole grains in CACFP meals and snacks served to 3- to 5-year-olds

HEI scores for whole grains in CACFP meals and snacks



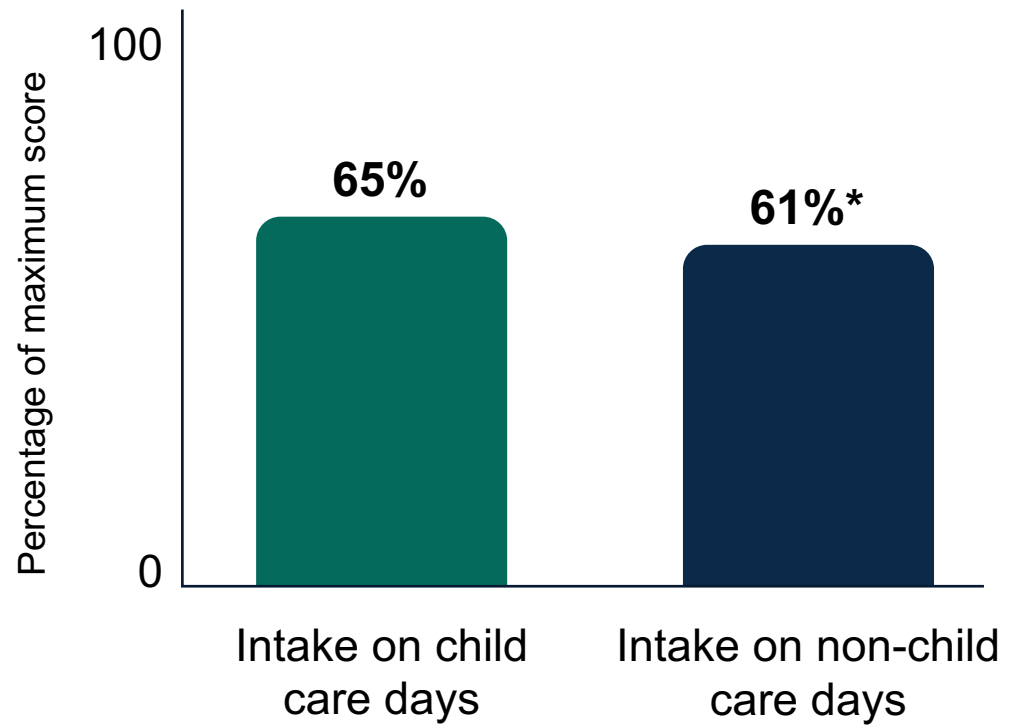
Note: Data were collected before nutrition standards were updated.

Source: Logan et al. 2021



# Children's diets on child care days had higher nutritional quality

**Total HEI scores for children's diets: Child care days vs. non-child care days**



\*Difference between intakes on child care days and non-child care days is statistically significant.

Note: Data were collected before nutrition standards were updated.

Source: Logan et al. 2021



# Children (ages 3 to 5) were more likely to consume whole grains on child care days

---

- / HEI score for whole grains was significantly higher for intake on child care days (40 percent) vs. non-child care days (28 percent)**
- / Children were significantly more likely to consume whole grains on child care days (81 percent) vs. non-child care days (61 percent)**
- / On child care days, CACFP meals/snacks provided 67 percent of children's 24-hour intakes of whole grains**

Note: Data were collected before nutrition standards were updated.

Source: Logan et al. 2021



# Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)





# WIC food package for children

---

## / **Monthly food package for children up to age 5**

- Eligibility requirements based on income and nutritional risk
- Specific types of foods that can be purchased
- Intended to supplement diets
- Revised food packages implemented in 2009; revised to align with the *Dietary Guidelines*

## / **Foods included in revised food package for children**

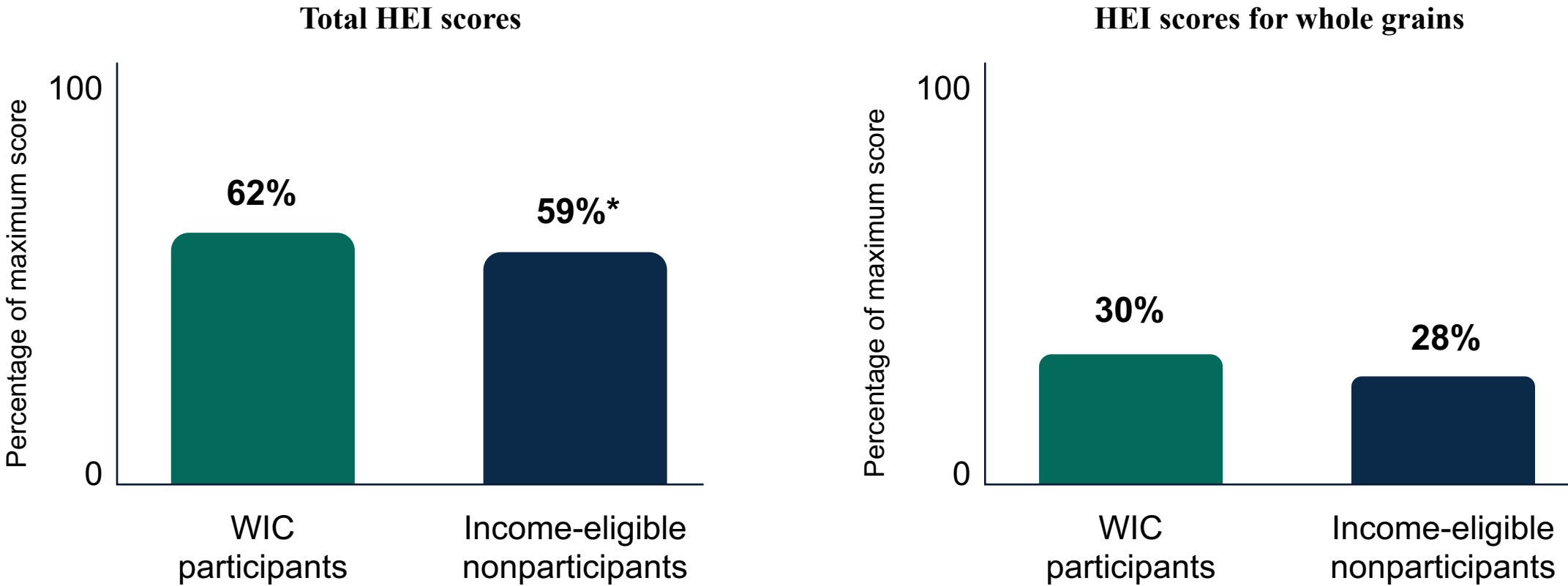
- Fruits, juice, vegetables, milk, eggs, legumes/peanut butter, breakfast cereal, and whole-grain bread or other whole-grain options
  - At least half of cereals on State food lists must be whole grain
  - Whole-grain bread or brown rice, bulgur, oatmeal, whole-grain barley, whole-wheat macaroni, corn/whole-wheat tortillas





# Children that participated in WIC had higher quality diets, but intakes of whole grains were similar

## 24-hour intakes for children ages 2 to 4



\*Difference between WIC participants and income-eligible non-participants is statistically significant.



# Revised WIC food package was associated with higher quality diets and more whole grains

---

- / **Revised food package for children was associated with an additional 4 points for total HEI score** (Tester et al. 2016)
  
- / **Children were more likely to consume whole grains after revised WIC food packages** (Chiasson et al. 2013; Whaley et al. 2012; Ishdorj et al. 2013)
  - HEI scores for whole grains increased by 64 percent (Tester et al. 2016)

# Spotlight on Whole Grain: Why Whole Grains Matter in Child Nutrition Programs and WIC

Joanne Slavin, PhD, RDN, Professor  
Department of Food Science and Nutrition  
University of Minnesota – Twin Cities

# Disclosures

- Dr. Slavin serves on the Scientific Advisory Board for the Quality Carbohydrates Coalition and Simply Good Foods.
- In the past 5 years Dr. Slavin has received research funding from the United States Department of Agriculture, NIH, Taiyo, and Barilla.
- Dr. Slavin owns a 1/3 share of Slavin Sisters Farm LLC, a 119 acre farm in Walworth, WI
- Dr. Slavin speaks and consults widely on plant foods including whole grains and their relationships to health outcomes.

# Outline

- Describe historical recommendations for grains and whole grains in dietary guidance
- Review nutrition science on the health benefits of whole grains including new research on health economics of whole grain consumption
- Detail the challenges of increasing whole grain consumption for children
- Activate health professionals to become advocates for whole grains in their programs

# Development of Nutrition Recommendations

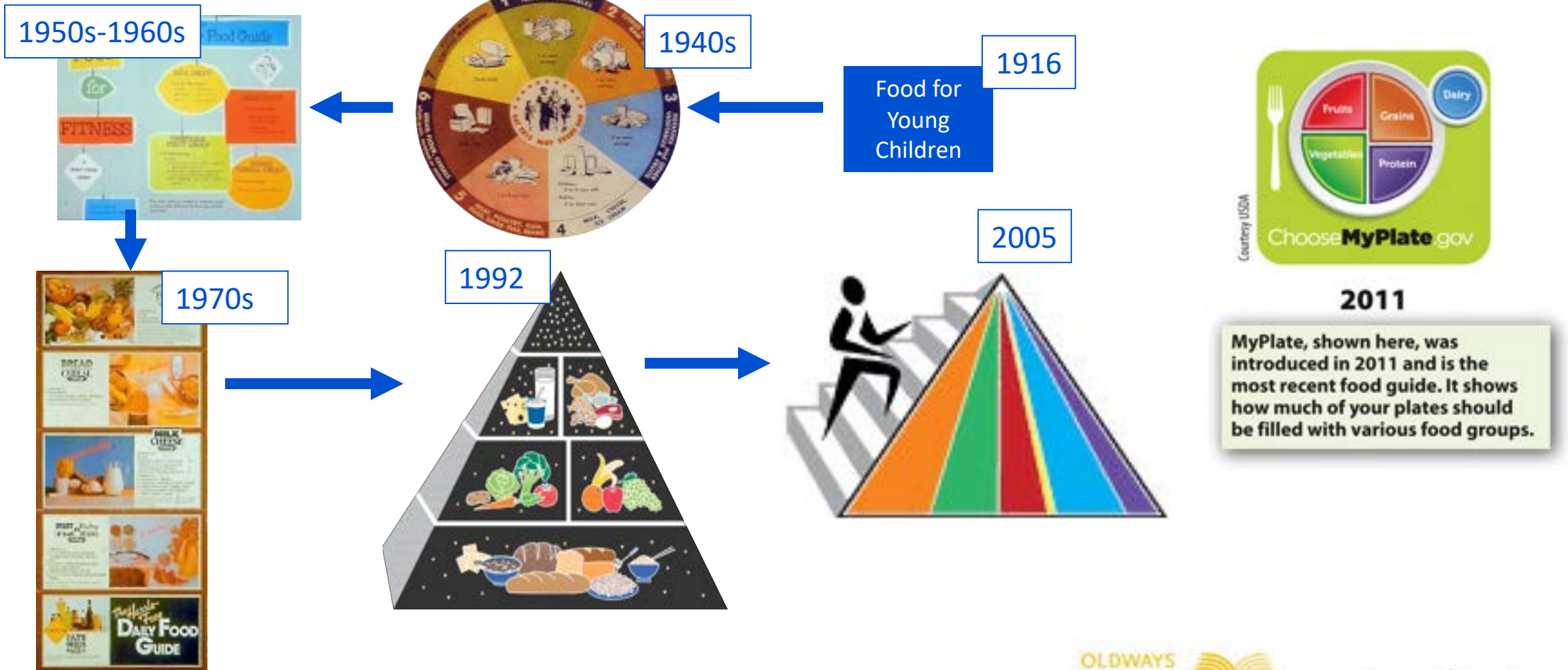
- People need to eat to survive by choosing diets that optimize health
- Nutrition guidelines tell us what types of nutrients and the amounts needed to maximize health – Dietary Reference Intakes
- Dietary Guidelines for Americans (DGAs) recommend food patterns associated with positive health outcomes and lowered disease risk
- Food guides ([myplate.gov](http://myplate.gov)) translate these recommendations into food servings which affect government food policies



# From the Science to Me – A Long Journey



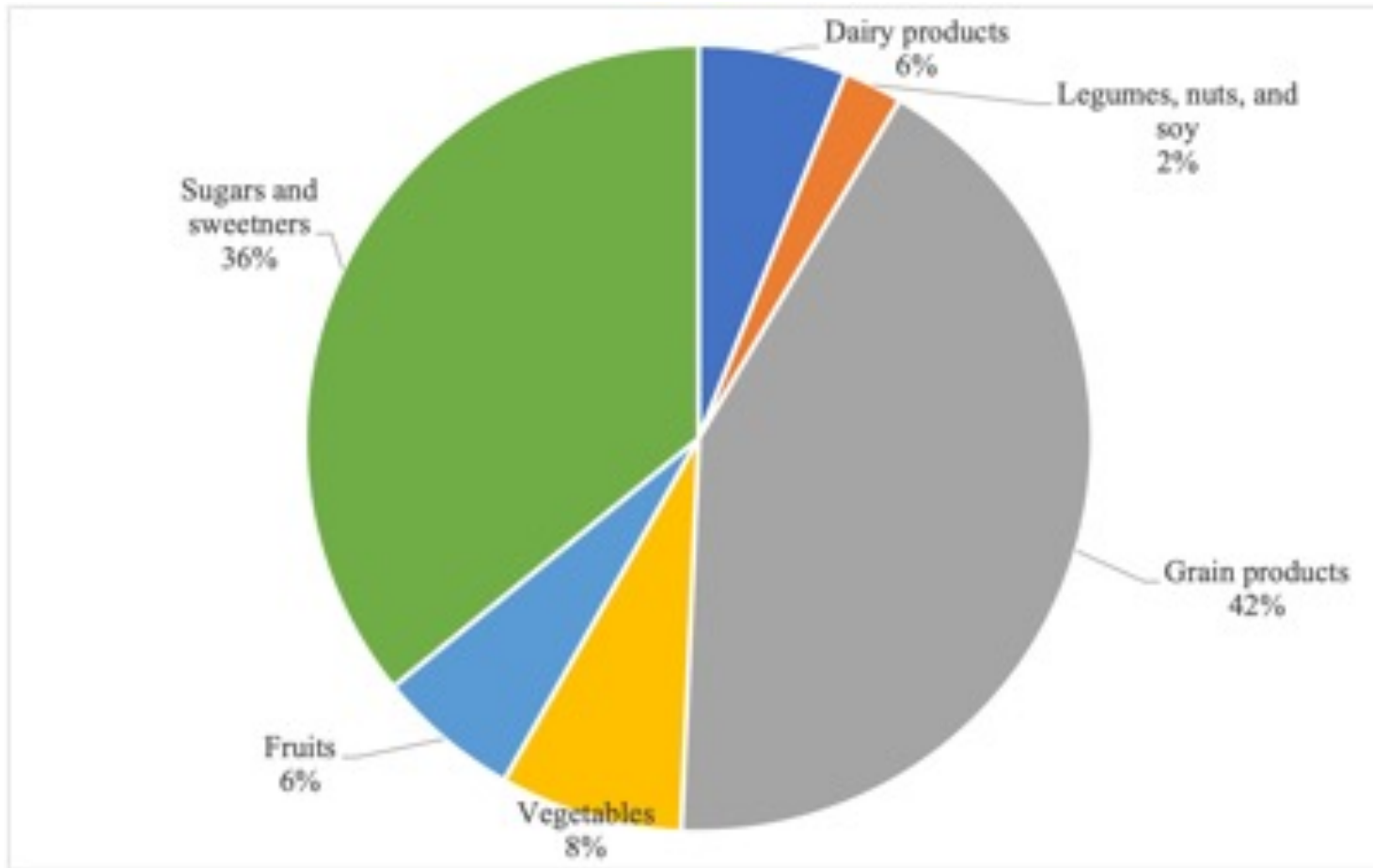
# Food advice: Evolution of USDA's Food Guidance – Moderation and Variety



**2011**  
MyPlate, shown here, was introduced in 2011 and is the most recent food guide. It shows how much of your plates should be filled with various food groups.



# Carbohydrate contributed across food group per capita per day



Schulz, Slavin 2021



# USDA grain guidance

- 1916 – Cereals and starchy foods – 20% of kcal
- 1940s – Basic 7 – Bread, flour, and cereal – every day
- 1950s – Basic 4 – bread, cereal – 4 or more servings
- 1984 – Food Guide Pyramid – 6 – 11 servings – whole grain, enriched
- **2005 - Dietary Guidelines for Americans (DGAs) – make half of your grains whole**



# Dietary Guidance for Grains Translates to USDA Feeding Program Requirements

- 1977** Senate Select Committee on Nutrition issues first set of federal nutritional guidelines for Americans, calling for more F&V and whole grains
- 1999** FDA “health claim for whole grain foods” established using 51% whole grain ingredients by weight
- 2005** New Dietary Guidelines recommend to eat at least three servings of whole grain per day
- 2009** Final WIC Food Package rule requires half of cereals approved by a state to be 51% whole grain and added other whole grains like whole grain breads and brown rice
- 2010** Dietary Guidelines continue to elevate whole grain as science emerges and Americans continue to fall short; IOM outlines “Whole Grain-Rich” criteria for school meals
- 2012** “Whole Grain-Rich” used in National School Lunch Program and the School Breakfast Program rules
- 2016** “Whole Grain-Rich” used in CACFP
- 2017** National Academies recommends that “All Breakfast Cereals Meet “Whole Grain-Rich” Criteria” for WIC



# Definition, regulations, and new frontiers for whole grains

- Definitions for whole grains and whole grain foods are not broadly standardized
  - Whole grain-rich is the standard used for school meals and CACFP
- DGAs recommend that half of grains be whole, but usual intakes are less than 1 serving/day, rather than the recommended 3 servings/day
- Scientific support for whole grain recommendations is based on the same prospective cohort studies and links to CVD protection used to inform dietary fiber guidance
- Thus, dietary fiber is a recommended nutrient and whole grains are a recommended dietary pattern in dietary guidance in North American and around the world.
  - (Korczak & Slavin, 2020)

# Comparison of debated quality carbohydrate indices with currently accepted quality carbohydrate indices that inform foods that are accepted as quality carbohydrate-containing food sources

## Defined Carbohydrate Quality Indices

- Percentage/ratio of fiber
- Fiber type
- Starch type & properties
- Resistant starch content
- Rate of starch digestion
- Sugar content
- Carbohydrate digestibility fractions
- Nutrient density
- Micronutrients/phytonutrient content
- Other factors that affect rate of absorption
- Protein content
- Protein quality
- **Whole grain composition**
- Environmental sustainability
- Prebiotic composition
- Glycemic index & load

## Currently Accepted & Utilized Indices

- **Whole grain content**
- Fiber content
- Percentage added sugar
- Glycemic Index

## “Quality” Carbohydrate Containing Foods Based on Currently Accepted Indices

- **Whole grains (i.e. rice, oats, wheat, barley, corn, rye)**
- Non-starchy vegetables
- Nuts and Legumes
- Pulses

Schulz & Slavin, 2021





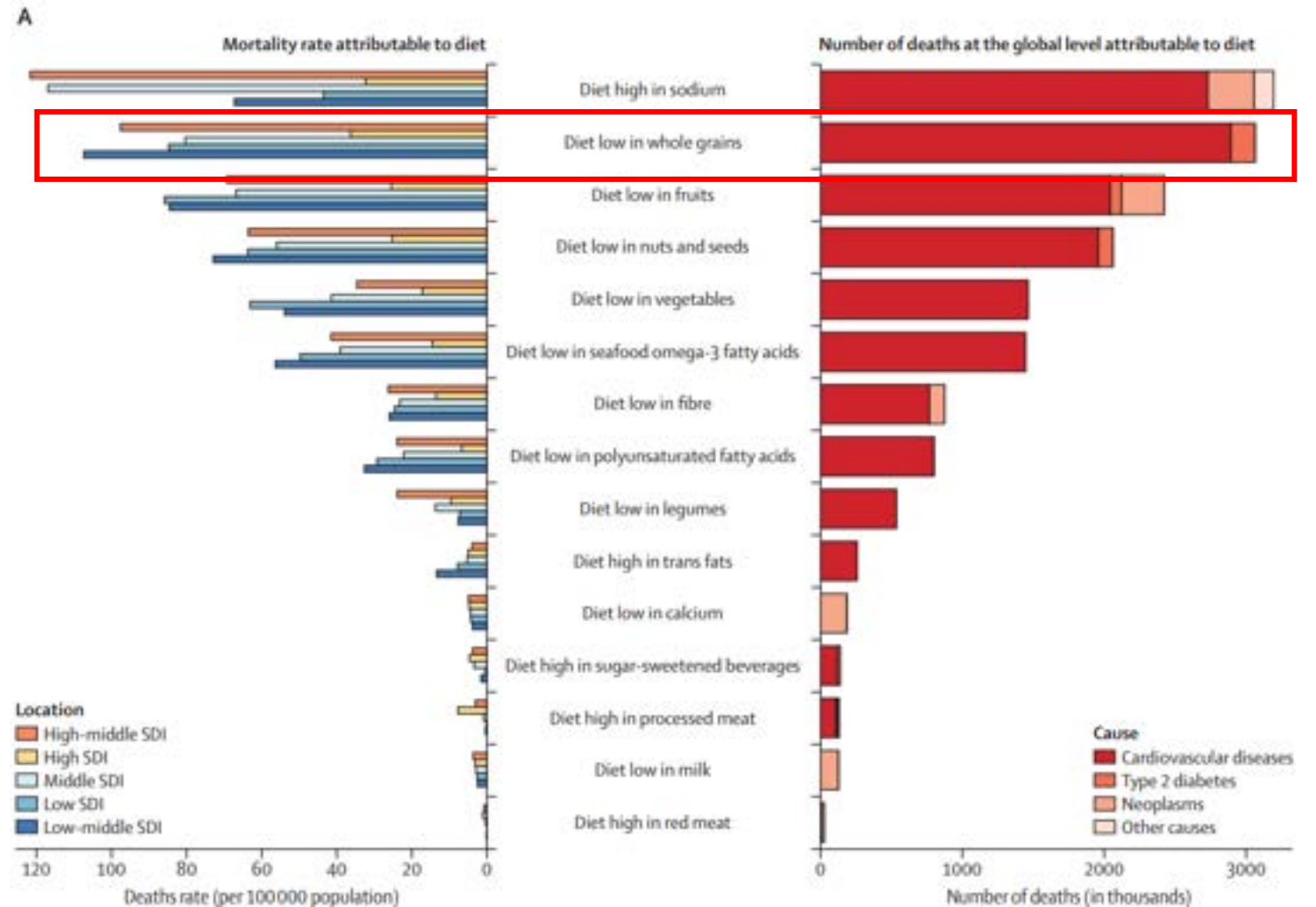
# Whole grains consistently associated with health outcomes

Studies show a connection between whole grains and better health

- Higher WG reduced risk of:
- Cardiovascular disease
- Type-2 Diabetes
- Constipation
- Maybe Colorectal Cancer

<https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/whole-grains/>

Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017  
Lancet 2019; 393: 1958–72

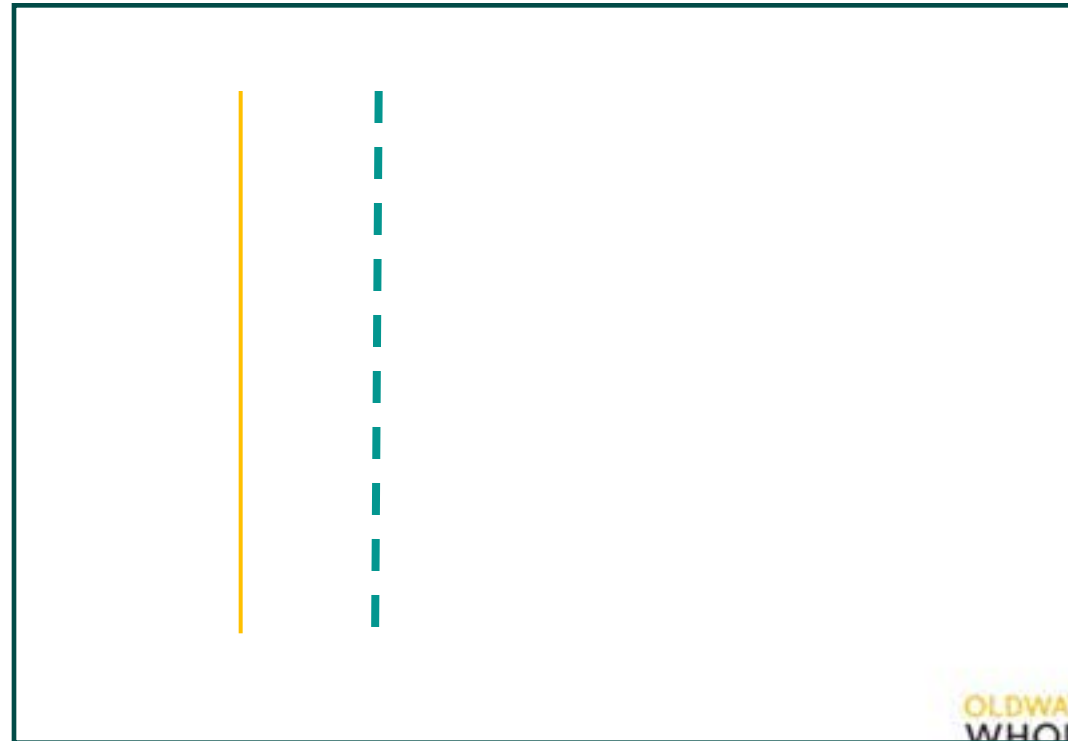


# Effect of whole-grain (WG) consumption on changes in fecal microbiota: a review of human intervention trials

- A review of WG human intervention studies that measured fecal microbiota was conducted
- WG, whether a mixed WG food or diet or specific WG intervention WG wheat, barley, rye, or rice, corn, or oats generally modified microbiota composition, but did so inconsistently across measurements of microbial diversity and taxa
- The amount of WG consumed was difficult to capture due to variable reporting of WG
  - Koecher, et al. 2019.

# The Health Benefits of Whole Grain Begin Even at Low Intake Levels and Continue with Increased Intake

- Just one serving of whole grain results in a reduction in mortality risk
- Although recommendations call for 3 servings of whole grain per day (48g), intake levels beyond this amount continue to reduce mortality risk



! " # \$ % & ' ( & # ) \* + , - . & / 0 1 2

! " # \$ % ! \$ & ' ( ) \* \$ 23 # \$ % 4 , - ) 5 \$  
# + , - . \$ / \* + 0 - . # 1 6 \* 7 ( 8 8 \* . 9 \* 9 \$  
: 8 ( ; . < 1



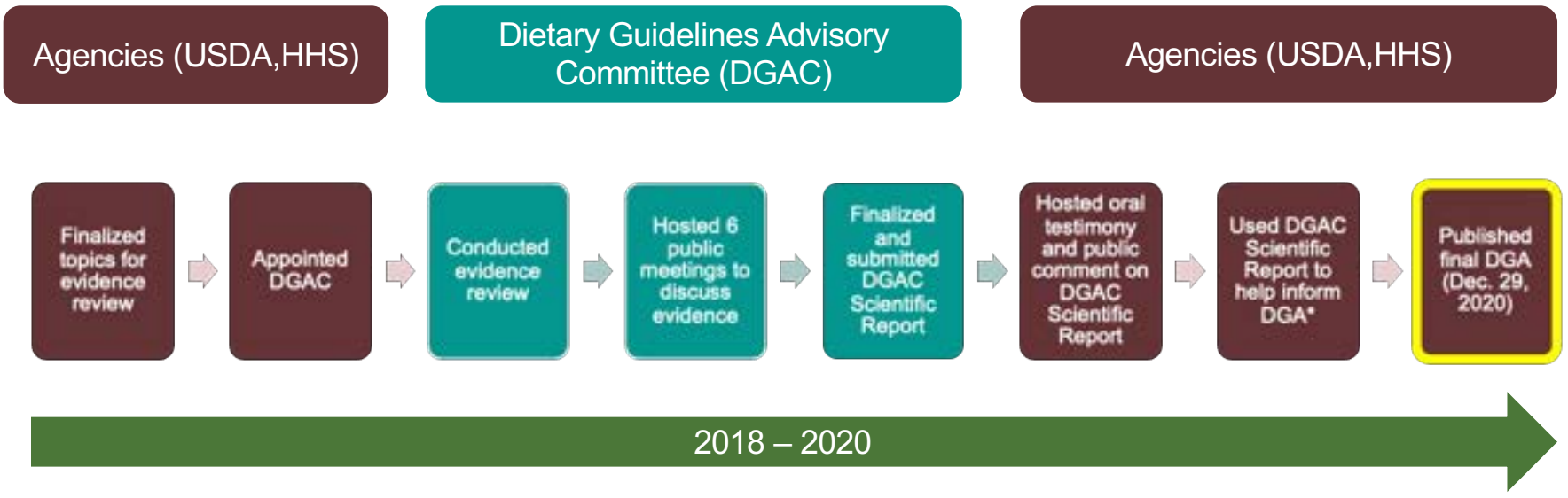
# Recent Research Shows an Economic Benefit to Higher Whole Grain Intakes

- Recent research shows a positive economic impact on healthcare costs by simply substituting a portion of refined grains with more whole grains
- Increasing whole grain intake by one serving per day across American adults could save significant medical costs - \$22 billion annually from reduced risk of cardiovascular disease and another \$14 billion in coronary heart disease reduction

- Murphy MM, Schmier JK. Cardiovascular Healthcare Cost Savings Associated with Increased Whole Grains Consumption among Adults in the United States. *Nutrients*. 2020 Aug 3;12(8):2323.
- .Abdullah MMH, et al. Healthcare Cost Savings Associated with Increased Whole Grain Consumption among Australian Adults. *Nutrients*. 2021 May 29;13(6):1855
- Abdullah MMH, et al. Whole Grain Intakes Are Associated with Healthcare Cost Savings Following Reductions in Risk of Colorectal Cancer and Total Cancer Mortality in Australia: A Cost-of-Illness Model. *Nutrients* 2021, 13(9), 2982..
- Martikainen J et al. Type-2 Diabetes-Related Health Economic Impacts Associated With Increased Whole Grains Consumption Among Adults in Finland. *Nutrients* 2021, 13, 3583. <https://doi.org/10.3390/nu13103583>



# Key Milestones to Develop the DGA



\*In addition to input from the public and other Federal Agencies



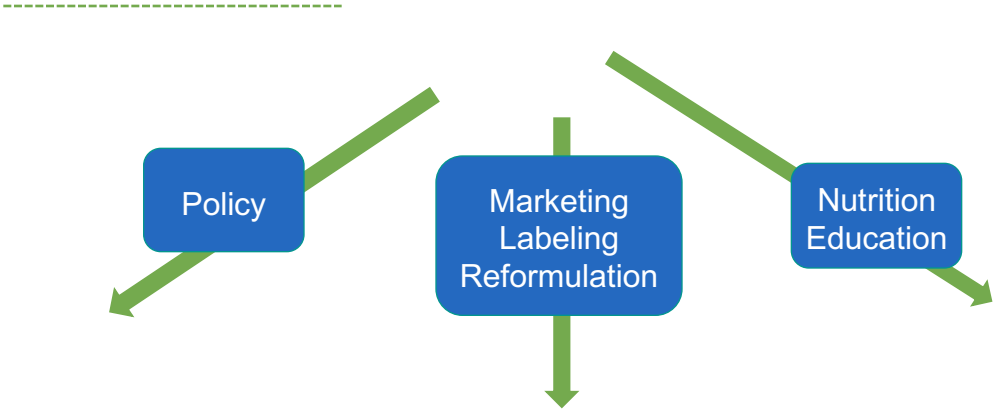


# 2020-2025 DGA

- Reflects official guidance on nutrition and health **across the lifespan**
- Provides healthcare professionals with evidence-based nutrition communications tools
- Informs U.S. federal food and nutrition policies and nutrition assistance programs



# DGA Impacts Nutrition Policy and the Health and Wellness Marketplace



National School Lunch Program  
School Breakfast Program





# 2020-2025 DGA Guidelines: A Customizable Framework

- DGA emphasizes four “Guidelines” to help **make every bite count**



# 2020-2025 DGA Highlights



Adopted a **life stage and dietary patterns approach**, like the 2015-2020 DGA



Provides recommendations for **pregnancy, lactation and birth to 23 months populations** for the first time in DGA history



Maintains current recommendations for **added sugar and saturated fat** (both at less than 10% of total daily energy)



Maintains current recommendations for **alcohol** ( $\leq 1$ /day for women,  $\leq 2$ /day for men)



Supports tailoring dietary choices due to external factors, such as:

- **Personal preference**
- **Cultural foodways**
- **Budget**

# Most Americans Do Not Meet DGA Recommendations

Adherence of the U.S. Population to the *Dietary Guidelines* Across Life Stages, as Measured by Average Total Healthy Eating Index-2015 Scores



- Americans across the lifespan are not following healthy dietary patterns or meeting nutrient needs
- To address this public health issue, it will be essential to:
  - Promote the 2020-2025 DGA's recommendations
  - Provide nutrition education on healthy dietary patterns

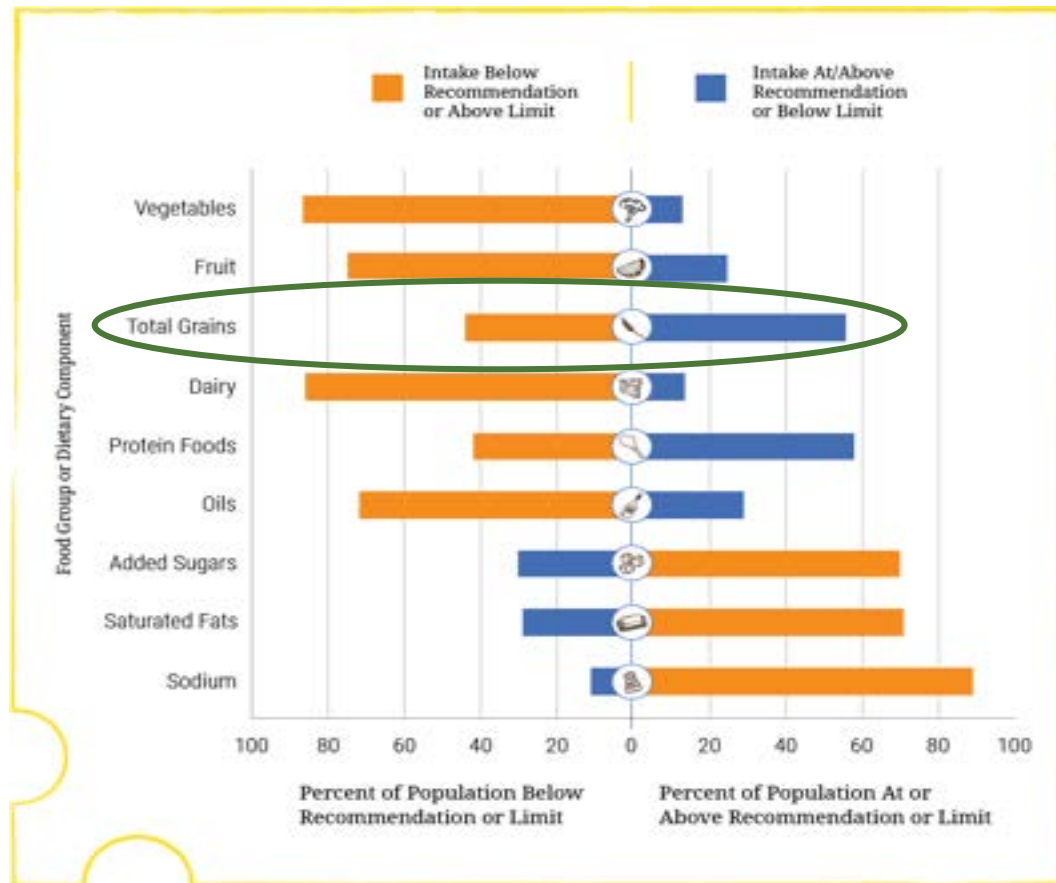
# Healthy Dietary Patterns Include Whole Grains & Limit Refined Grains



- At least half of total grains should be whole grains
- Individuals who eat refined grains should choose enriched grains
- Current intakes do not align with recommendations
  - 98% of Americans fall below recommendations for whole grains and 74% exceed limits for refined grains



# Snapshot of U.S. Eating Patterns Compared to Healthy U.S.-Style Eating Pattern



Refined grain intake exceeds limits; Whole grain intakes are far below recommended levels across all age-sex groups

<https://health.gov/our-work/food-nutrition/2015-2020-dietary-guidelines/guidelines/chapter-2/current-eating-patterns-in-the-united-states>



# Starting Healthy Habits Early Can Reduce Risk Over a Lifetime

In 2019, Worldwide **diets low in whole grains** were identified as the **2nd leading dietary risk factor** attributed to Disability Adjusted Life Years. Whole grains daily can reduce risk of disease over a lifetime.



# Get an Early Start on Whole Grain Habits

- Children aren't as picky as adults expect them to be!
- Childhood is the best time to teach healthy eating habits and familiarize children with the flavors and textures of whole grains
- Children who eat whole grains regularly tend to carry these habits with them into adulthood

## Number of Exposures to a New Food Before Acceptance\*

Infants: 1-5

Preschoolers: 5-10

School-aged: 10-15

Adults: 20+

\*Source: Dr. Keith Williams, Director of the Penn State Feeding Program and Professor of Pediatrics at Penn State College of Medicine





# Top Sources of Whole Grain for the Total Day

## Children 2-17 years

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

## Adults 18+ years

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

Results from NHANES 2017-2018



# MyPlate: Putting Guidelines into Practice

The plate icon illustrates the proportions of food recommended from each of five food groups. Half of your plate should be fruits and vegetables, about a quarter grains, and about a quarter protein foods. Dairy should accompany meals, as shown by the small circle to the side.



## MyPlate Plan

### Find your Healthy Eating Style

Everything you eat and drink matters. Find your healthy eating style that reflects your preferences, culture, traditions, and budget—and maintain it for a lifetime! The right mix can help you be healthier now and into the future. The key is choosing a variety of foods and beverages from each food group—and making sure that each choice is limited in saturated fat, sodium, and added sugars. Start with small changes—“MyWins”—to make healthier choices you can enjoy.

#### Food Group Amounts for 2,000 Calories a Day

Fruits	Vegetables	Grains	Protein	Dairy
2 cups	2 1/2 cups	6 ounces	5 1/2 ounces	3 cups
<p>Focus on whole fruits</p> <p>Focus on whole fruits that are fresh, frozen, canned, or dried.</p>	<p>Vary your veggies</p> <p>Choose a variety of colorful fresh, frozen, and canned vegetables—make sure to include dark green, red, and orange choices.</p>	<p>Make half your grains whole grains</p> <p>Find whole-grain foods by reading the Nutrition Facts label and ingredients list.</p>	<p>Vary your protein routine</p> <p>Mix up your protein foods to include seafood, beans and peas, unsalted nuts and seeds, soy products, eggs, and lean meats and poultry.</p>	<p>Move to low-fat or fat-free milk or yogurt</p> <p>Choose fat-free milk, yogurt, and soy beverages (soy milk) to cut back on your saturated fat.</p>

Tips to encourage nutrient-dense choices

Recommended limits on sodium, saturated fat, and added sugars



Drink and eat less sodium, saturated fat, and added sugars. Limit:

- Sodium to 2,300 milligrams a day.
- Saturated fat to 22 grams a day.
- Added sugars to 50 grams a day.

Activity recommendations

Be active your way: Children 6 to 17 years old should move 60 minutes every day. Adults should be physically active at least 2 1/2 hours per week.



# An Eating Pattern is More Than the Sum of Its Parts



# Opportunities to strengthen Child Nutrition programs

- WIC: Adopt NASEM recommendation for all breakfast cereal to be whole grain-rich
- School meals: Move towards all grains served in the school meal program as whole grain-rich
- CACFP: Move towards more whole grain rich offerings in the program (currently only 1 whole grain-rich grain needs to be served)

# Conclusions

- Carbohydrate quality, including a focus on whole grains, is accepted in dietary guidance
- Substituting whole grains for refined grains lowers chronic disease risk and is universally supported in dietary guidance
- New research shows increased whole grain consumption can lead to healthcare cost savings
- Cost, sustainability, supply, culture, and convenience all impact whole grain intake and must be considered in dietary guidance
- We must support and strengthen Child Nutrition Programs to enable higher whole grain intakes in kids



# In Summary

- Whole grains are an important way to improve public health through the NSLP, SBP, CACFP, & WIC
- Whole grain consumption through government feeding programs positively impacts overall dietary quality
- Whole grain exposure helps drive acceptance in children
- Stay tuned for comment periods regarding school nutrition updates (and possibly WIC updates) to voice support for stronger whole grain requirements

# References

- Feinstein, Dianne. (2022). *Bicameral Group Urges USDA to Update Special Supplemental Nutrition Program for Women, Infants, Children Food Packages, Ensure Access to Healthy Food for Low-Income Families*. <https://www.feinstein.senate.gov/public/index.cfm/press-releases?ID=4008A222-AF52-4A1E-8153-E57CA5F60B36>.
- United States Department of Agriculture Food and Nutrition Service. (2021). *Identifying Whole Grain-Rich Foods for the Child and Adult Care Food Program Using the Ingredient List*. <https://fns-prod.azureedge.us/sites/default/files/resource-files/cacfp-worksheet-identifying-wgrfoods-en-2021.pdf>
- United States Department of Agriculture Food and Nutrition Service. (2021). *WIC Food Packages - Maximum Monthly Allowances*. <https://www.fns.usda.gov/wic/wic-food-packages-maximum-monthly-allowances>.
- United States Department of Agriculture Food and Nutrition Service. (2022). *§ 226.20 Requirements for meals*. <https://www.ecfr.gov/current/title-7/subtitle-B/chapter-II/subchapter-A/part-226/subpart-E/section-226.20>.
- United States Department of Agriculture Food and Nutrition Service. (2022). *Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium*. 87 FR 6984. <https://www.federalregister.gov/documents/2022/02/07/2022-02327/child-nutrition-programs-transitional-standards-for-milk-whole-grains-and-sodium>.







# References

---

Chiasson, M.A., S.E. Findley, J.P. Sekhobo, R. Scheinmann, L.S. Edmunds, A.S. Faly, and N.J. McLeod. “Changing WIC Changes What Children Eat.” *Obesity*, vol. 21, no. 7, 2013, pp. 1423–1429.

Fox, Mary Kay, Elizabeth Gearan, Charlotte Cabili, Dallas Dotter, Katherine Niland, Liana Washburn, Nora Paxton, Lauren Olsho, Lindsay LeClair, and Vinh Tran. “School Nutrition and Meal Cost Study, Final Report Volume 4: Student Participation, Satisfaction, Plate Waste, and Dietary Intakes.” Alexandria, VA: Office of Policy Support, Food and Nutrition Service, U.S. Department of Agriculture, April 2019.

Gearan, Elizabeth, Mary Kay Fox, Katherine Niland, Dallas Dotter, Liana Washburn, Patricia Connor, Lauren Olsho, and Tara Wommak. “School Nutrition and Meal Cost Study, Final Report Volume 2: Nutritional Characteristics of School Meals.” Alexandria, VA: Office of Policy Support, Food and Nutrition Service, U.S. Department of Agriculture, April 2019.

Gleason, S., D. Hansen, and B. Wakar. “Indicators of Diet Quality, Nutrition, and Health for Americans by Program Participation Status, 2011–2016: WIC Report.” Alexandria, VA: Office of Policy Support, Food and Nutrition Service, U.S. Department of Agriculture, October 2021.

Ishdorj, A., and O. Capps, Jr. “The Effect of Revised WIC Food Packages on Native American Children.” *American Journal of Agricultural Economics*, vol. 95, no. 5, 2013, pp. 1266–1272.

Logan, C., P. Connor, L. LeClair, K. Patlan, M. Glenn, C. Stidsen, M. Mendelson, A. Enver, L. Olsho, M. Boyle, M. Witt, and K.A. Copeland. “Study of Nutrition and Activity in Child Care Settings: Summary of Findings.” Alexandria, VA: Office of Policy Support, Food and Nutrition Service, U.S. Department of Agriculture, October 2021.



# References (con't)

---

Tester, J. M., C.W. Leung, and P.B. Crawford. “Revised WIC Food package and children’s diet quality. *Pediatrics*, vol. 137, no. 5, 2016, e20153557.

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025. 9th Edition*. Alexandria, VA: U.S. Department of Agriculture, December 2020.

U.S. Department of Agriculture, Food and Nutrition Service. “Final rule: Nutrition standards in the National School Lunch and School Breakfast programs.” *Federal Register*, vol. 77, no. 17, 2012, pp. 4088–4167.

U.S. Department of Agriculture, Food and Nutrition Service. “Child and Adult Care Food Program: Meal Pattern Revisions Related to the Healthy, Hunger-Free Kids Act of 2010.” *Federal Register*, vol. 81, no. 79, 2016, pp. 24348–24383.

Whaley, S.E., L.D. Ritchie, P. Spector, and J. Gomez. “Revised WIC Food Package Improves Diets of WIC Families.” *Journal of Nutrition Education and Behavior*, vol. 44, no. 3, 2012, pp. 204–209.

**Thank you for joining us!**

**Questions?**