

Food as Medicine: Nourishing Bodies and Minds

Christy W. Hockett, Ph.D.

Director of Community Research | Research Scientist
Lead of Data Management and Analysis Core
Avera Research Institute | Avera McKennan Hospital &
University Health Center
Associate Professor | Department of Pediatrics
University of South Dakota | School of Medicine

Lacey A. McCormack, Ph.D, MPH, RD

Research Scientist
Lead of Evaluation Core
Avera Research Institute | Avera McKennan Hospital &
University Health Center
Associate Professor | Department of Pediatrics
University of South Dakota | School of Medicine



Food as Medicine Movement

White House Conference on
Hunger, Nutrition, and Health,
September 2022

State demonstration projects through
Medicaid Section 1115 waivers

Major organizations and
foundations have begun to invest in
Food as Medicine Research and
Program Initiatives



United States Department of Agriculture
National Institute of Food and Agriculture



Healthy Dietary Patterns

Meeting food group and nutrient needs with nutrient-dense foods and beverages



Typical Burrito Bowl Total Calories = 1,120	Nutrient-Dense Burrito Bowl Total Calories = 715
White rice (1½ cups)	Brown rice (1 cup) + Romaine lettuce (½ cup)
Black beans (½ cup)	Black beans, reduced sodium (½ cup)
Chicken cooked with sauce (2 ounces)	Grilled chicken with spice rub (2 ounces)
No grilled vegetables	Added grilled vegetables (½ cup)
Guacamole (½ cup)	Sliced avocado (5 slices)
Jarred salsa (¼ cup)	Fresh salsa/pico de gallo (¼ cup)
Sour cream (¼ cup)	No sour cream
Cheese (½ cup)	Reduced-fat cheese (½ cup)
Jalapeño (5 slices)	Jalapeño (5 slices)
Iced tea with sugar (16 ounces)	Iced tea, no sugar (16 ounces)

Core Food Group Elements

- Vegetables of all types
- Fruits
- Grains
- Dairy
- Protein foods
- Oils

Limit added sugars, saturated fat, sodium and alcohol



Linking Diet and Health

- ↓ All-cause mortality
- ↓ Cardiovascular disease & related mortality
- ↓ Total and LDL cholesterol, blood pressure
- ↓ Type 2 diabetes
- ↓ Certain cancers
- ↑ Bone health

Nutrient-focused research

Preventing Deficiencies:

- Vitamin C → Scurvy
- Vitamin D → Rickets
- Calcium → Osteoporosis
- Folic Acid → Neural Tube Defects
- Iodine → Goiter

Promoting Health:

- Omega-3 fatty acids
- Saturated fat
- Antioxidants
 - Vitamins C and E
 - Carotenoids
 - Beta-carotene
 - Lycopene
 - Lutein

Diet-focused research

Nutrients not eaten in isolation – Dietary Patterns

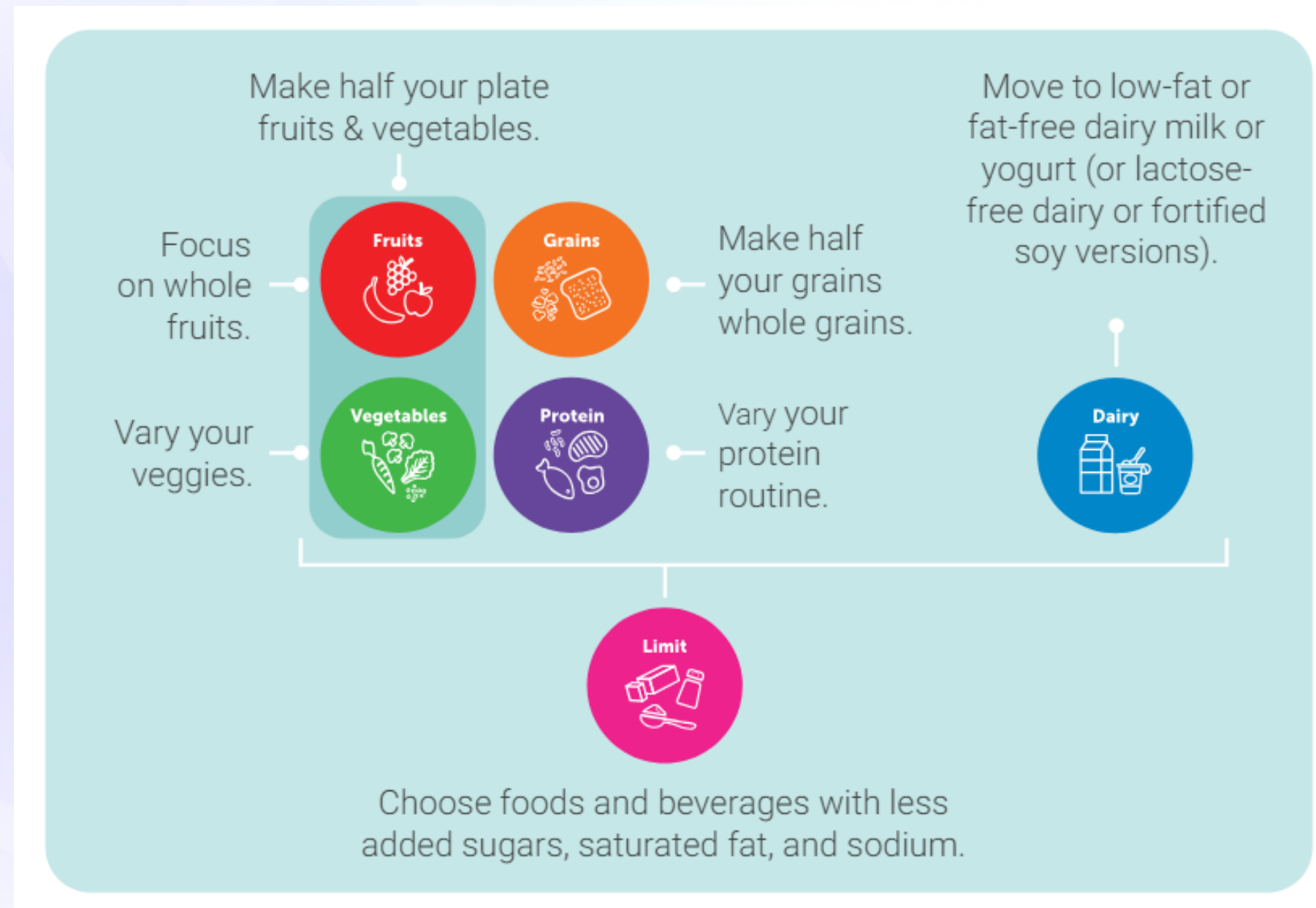
- **Healthy Dietary Patterns (USDA)**
 - **U.S.-Style**
 - **Mediterranean-Style**
 - **Vegetarian**
- **Other Dietary Patterns**
 - **Vegan**
 - **Dietary Approaches to Stop Hypertension (DASH)**
 - **Various macronutrient distributions**

Key Dietary Principles

Meet nutritional needs primarily from foods and beverages

Choose a variety of options from each food group

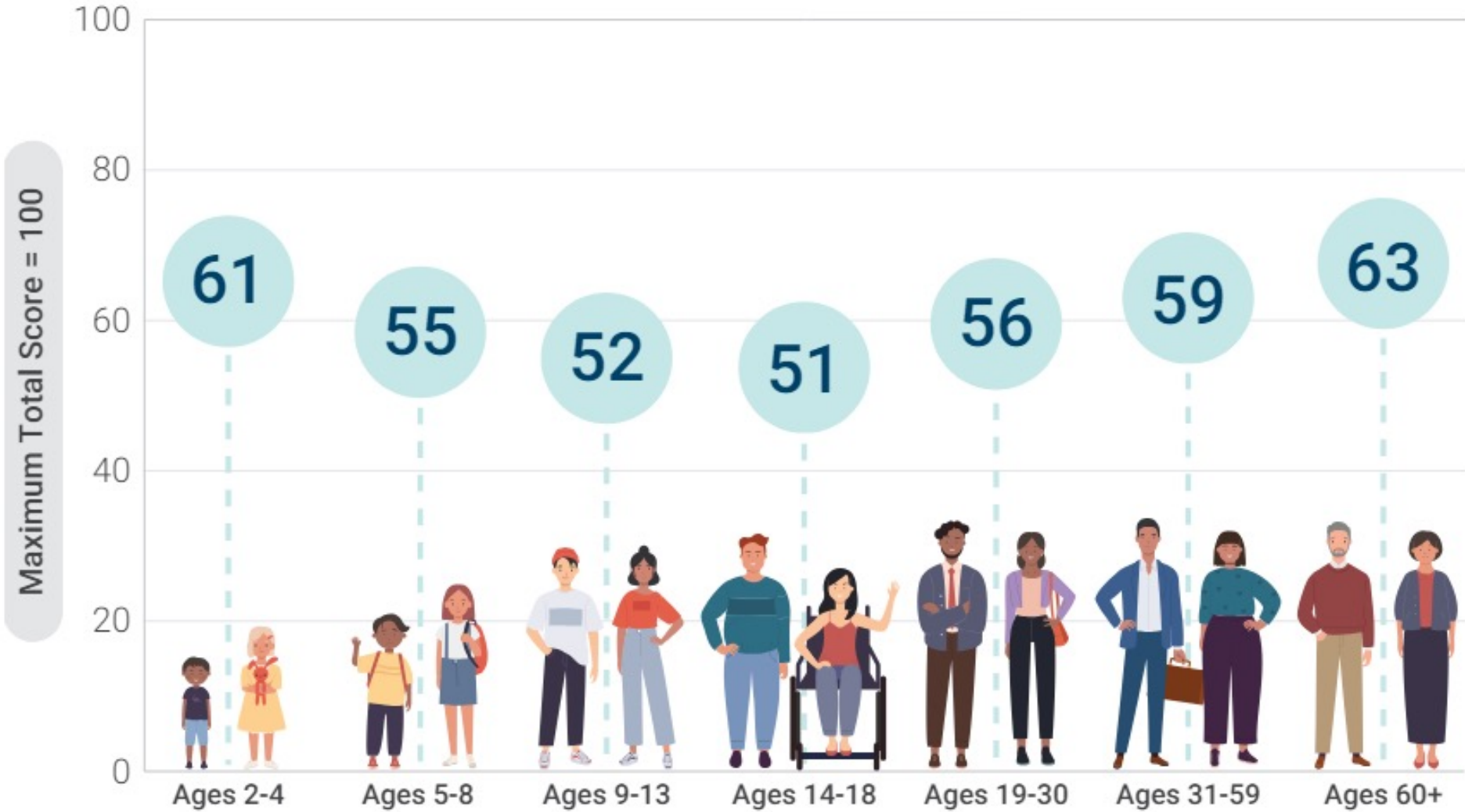
Pay attention to portion size



Healthy Dietary Patterns

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



NOTE: HEI-2015 total scores are out of 100 possible points. A score of 100 indicates that recommendations on average were met or exceeded. A higher total score indicates a higher quality diet.

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

Dietary Intakes Compared to Recommendations: Percent of the U.S. Population Ages 1 and Older Who Are Below and At or Above Each Dietary Goal



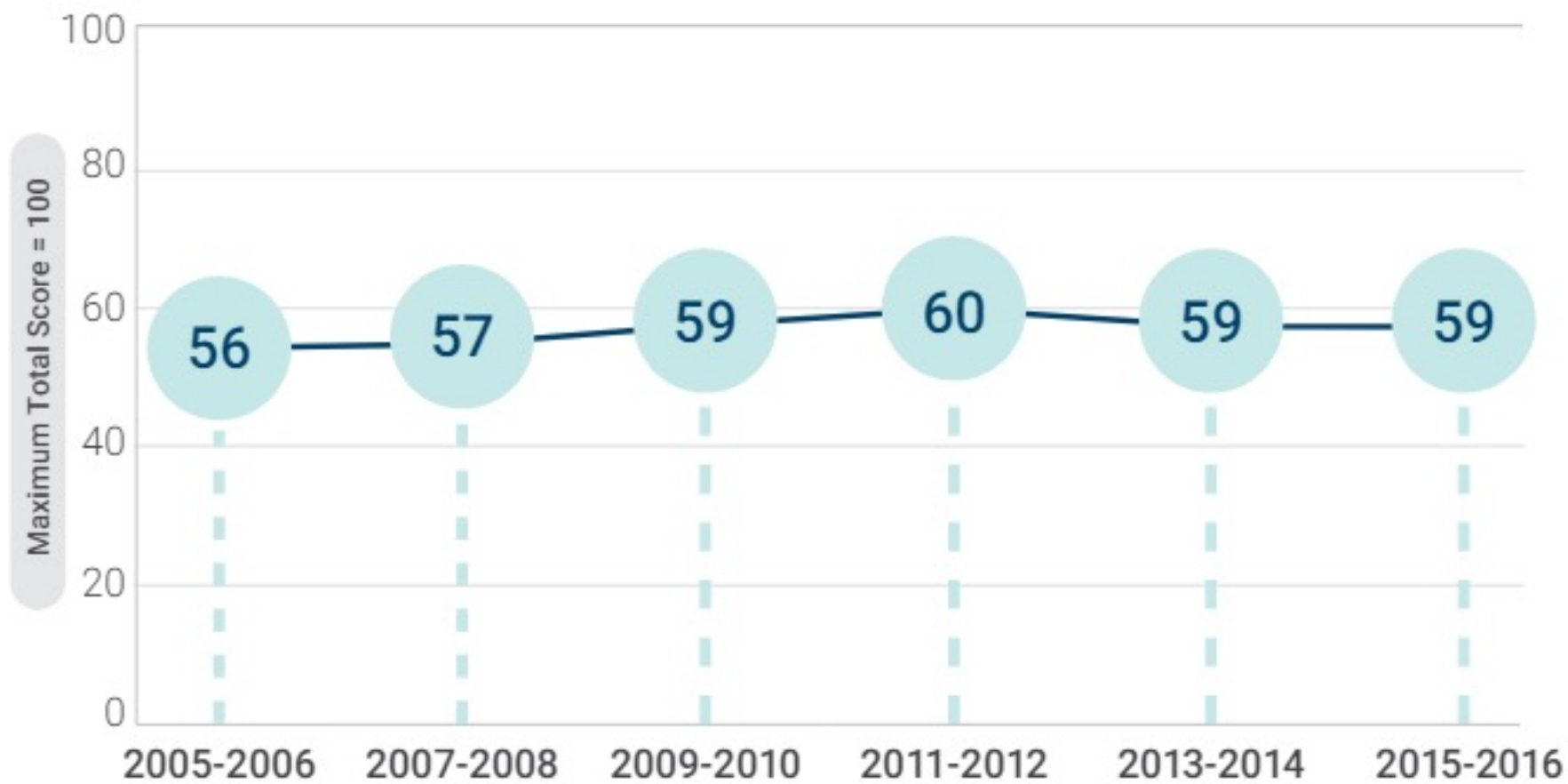
*NOTE: Recommended daily intake of whole grains is to be at least half of total grain consumption, and the limit for refined grains is to be no more than half of total grain consumption.

Data Source: Analysis of What We Eat in America, NHANES 2013-2016, ages 1 and older, 2 days dietary intake data, weighted. Recommended Intake Ranges: Healthy U.S.-Style Dietary Patterns (see [Appendix 3](#)).

Next Steps in Research

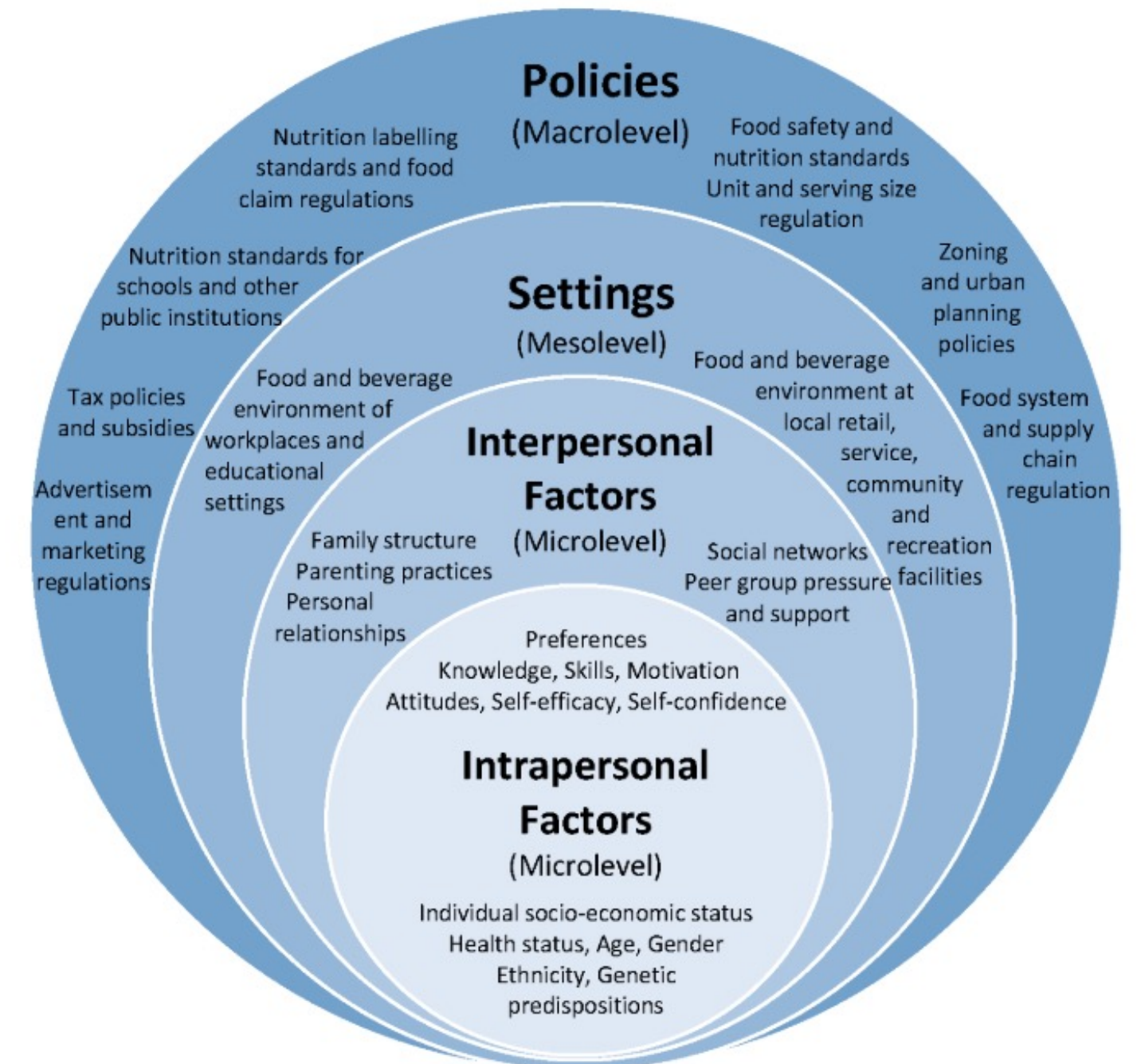
Figure I-1

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



NOTE: HEI-2015 total scores are out of 100 possible points. A score of 100 indicates that recommendations on average were met or exceeded. A higher total score indicates a higher quality diet.

Data Source: Analysis of What We Eat in America, National Health and Nutrition Examination Survey (NHANES) data from 2005-2006 through 2015-2016, ages 2 and older, day 1 dietary intake data, weighted.



Public Health Impact



Food as Medicine



Food as Medicine @ Avera



Does the mode of delivery for a produce prescription matter?

Is one mode of delivery associated with better outcome compared to the other mode?

Food as Medicine @ Avera



- 400 participants in Sioux Falls
- Eligible for SNAP, Medicaid, or WIC programs
- Randomized to traditional in-store or produce box delivery

IMPACT Stories



foodasmedicine@avera.org

605-504-3154