

# Foundations of Cardiometabolic Health Certification Course

## Certified Cardiometabolic Health Professional (CCHP)



## Diet and Cardiometabolic Health

Alice H. Lichtenstein, D.Sc., FAHA  
Gershoff Professor of Nutrition Science and  
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Director and Senior Scientist, Cardiovascular  
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Nutrition Research Center on Aging  
Tufts University, Boston, MA

# Questions/Overview



- Is there a relation between diet and cardiometabolic health?
- How is the U.S. population doing in terms of diet quality?
- What are the current recommendations for diet and cardiometabolic health?
- How can we move the population closer to a healthy cardiometabolic dietary pattern?
- Where do we go from here?



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## Relation Between Diet and Cardiometabolic Health

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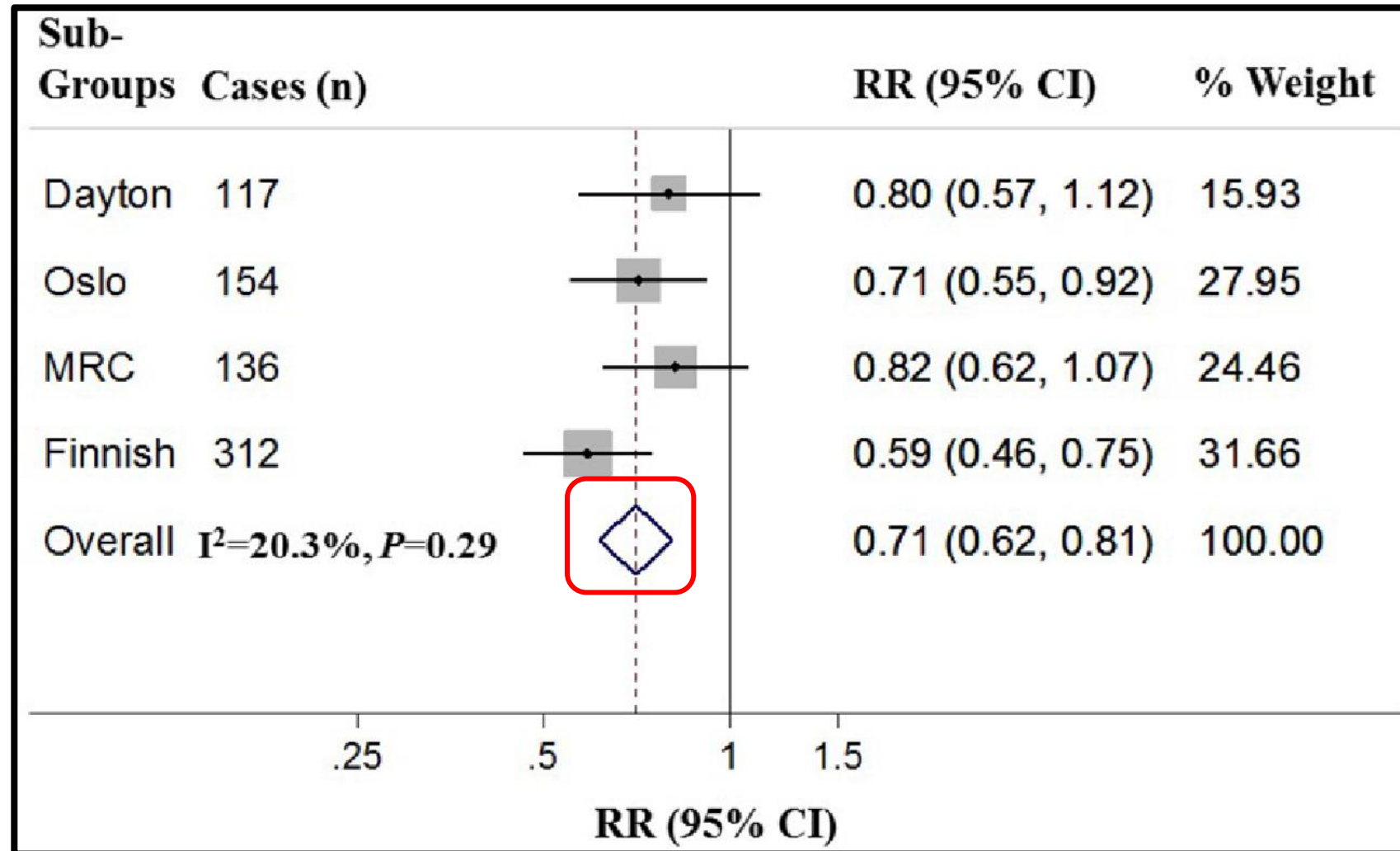
Is there a relation between diet and cardiometabolic health?



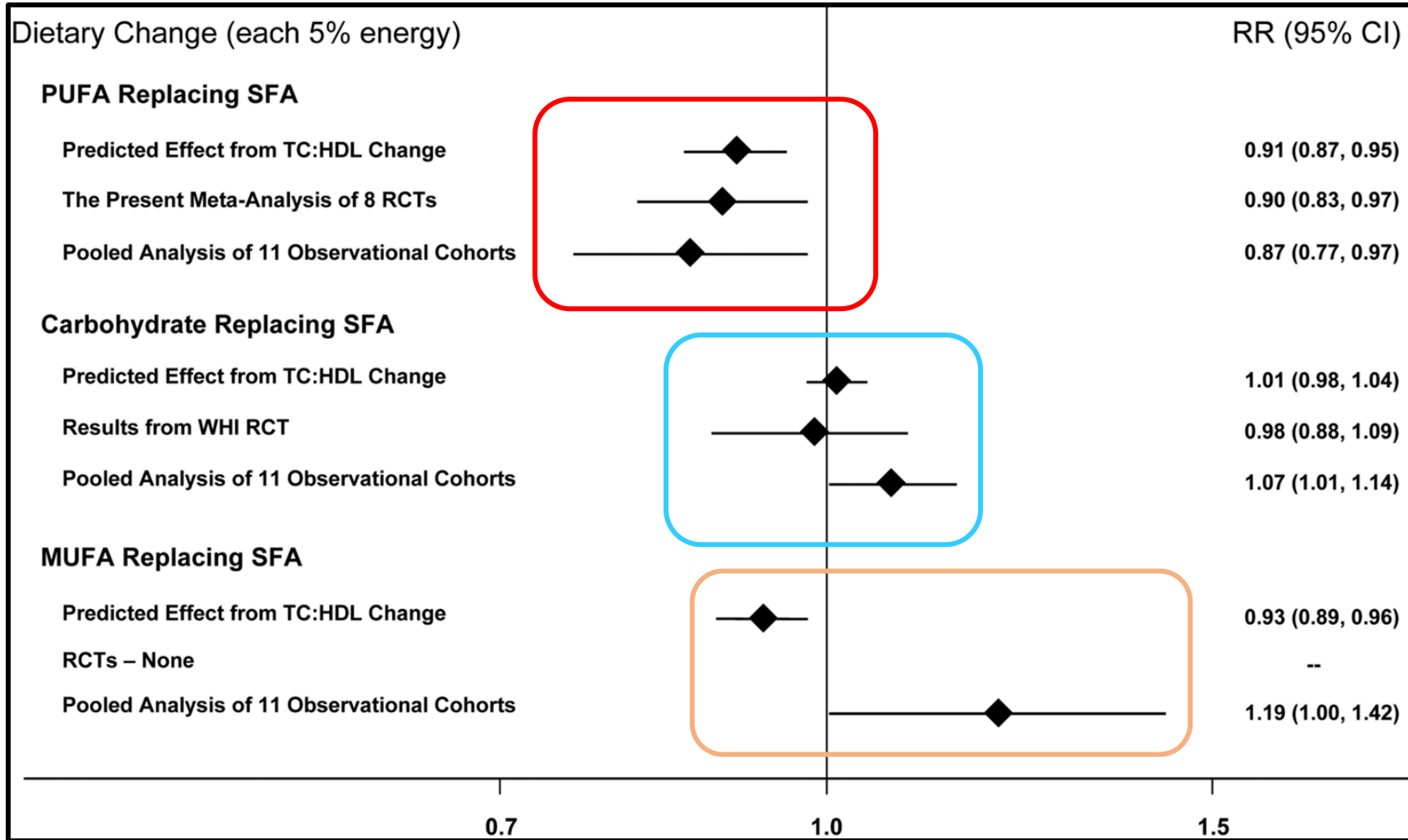
# Shared Risk Factors for Type 2 Diabetes and CHD

Risk Factor	Type 2 Diabetes	CHD
Age	↑ ↑ ↑	↑ ↑ ↑
Physical inactivity	↑ ↑	↑ ↑
Overweight/obesity	↑ ↑ ↑ ↑ ↑	↑ ↑
Smoking	↑	↑ ↑
Excess energy intake	↑	↑
Dietary fiber	↓ ↓	↓ ↓
Fruit and vegetables	↓ ↓	↓ ↓
Whole grains	↓ ↓	↓ ↓ ↓

# Core Trials Replacing Saturated With Polyunsaturated Fat and CHD



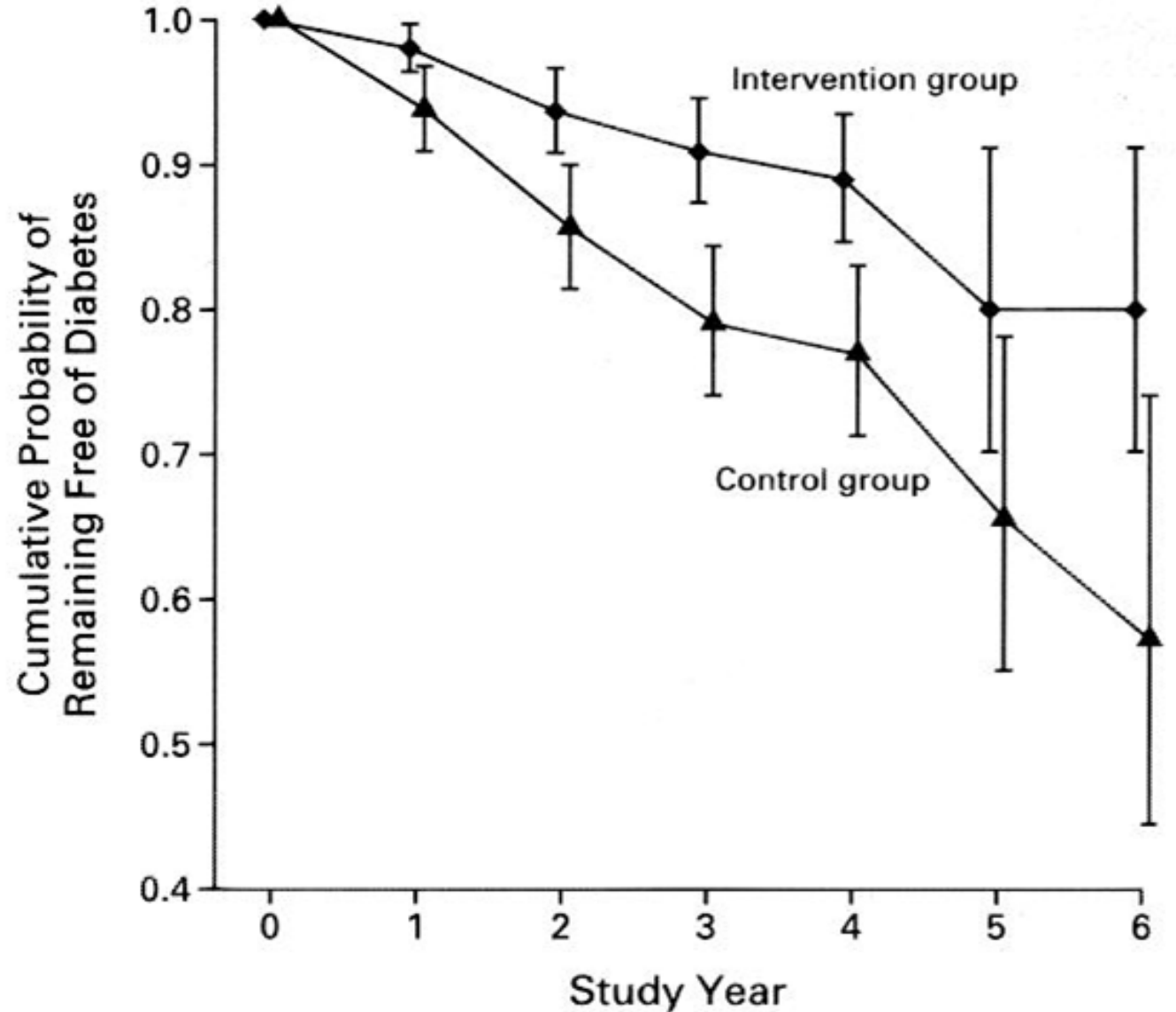
# Substitution Analysis, Diet and CHD



Relative Risk of CHD for Each 5% Energy Intake

# Diabetes Prevention Study

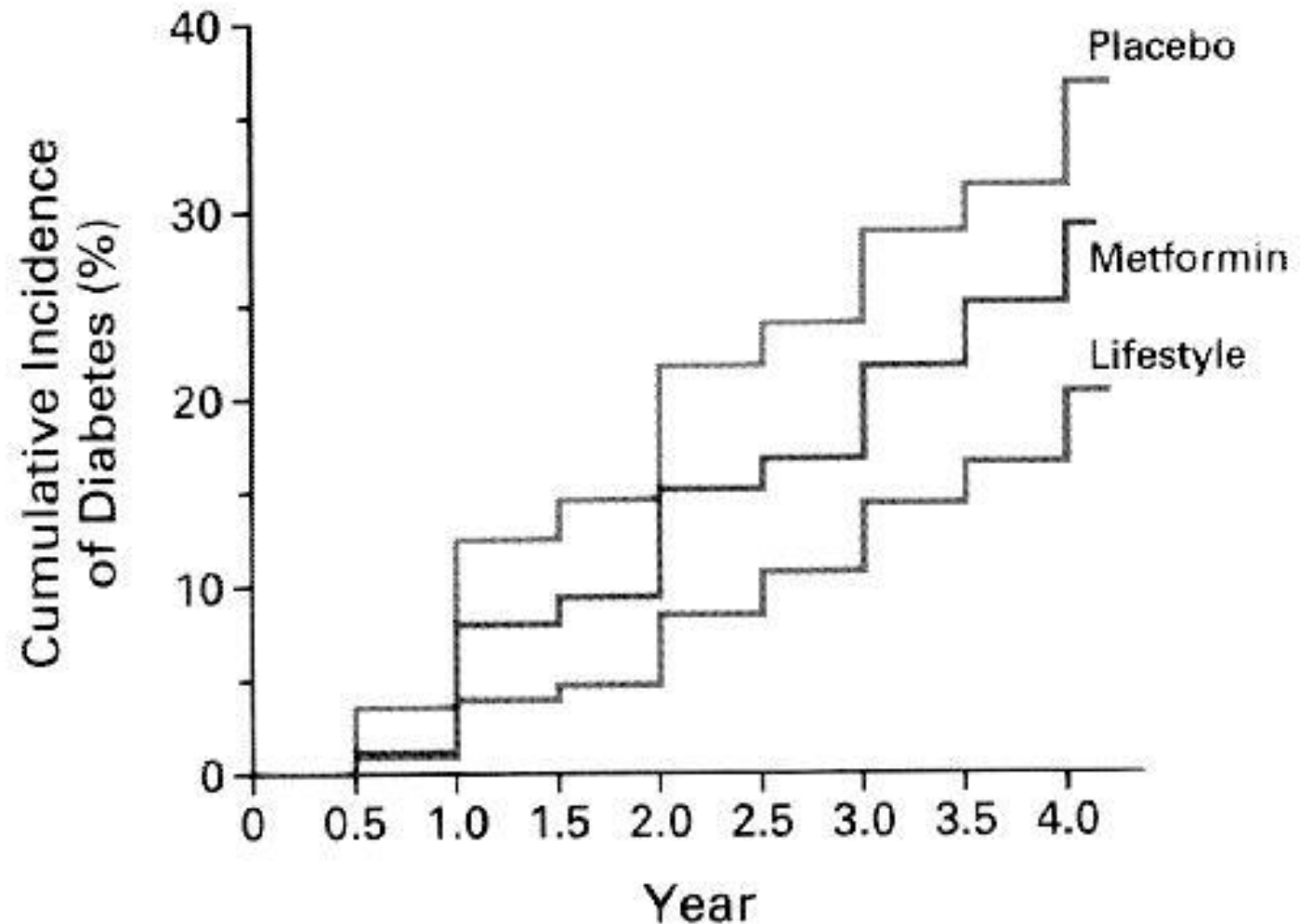
- Physical activity
- Weight reduction
- Fat <30% E
- Saturated fat <10% E
- Fiber >15 g





# Diabetes Prevention Program Research Group

- Physical activity (150 m/wk)
- Weight reduction (>7%)
- Fat <30% E
- Saturated fat <10%



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## Dietary Quality – Current Patterns

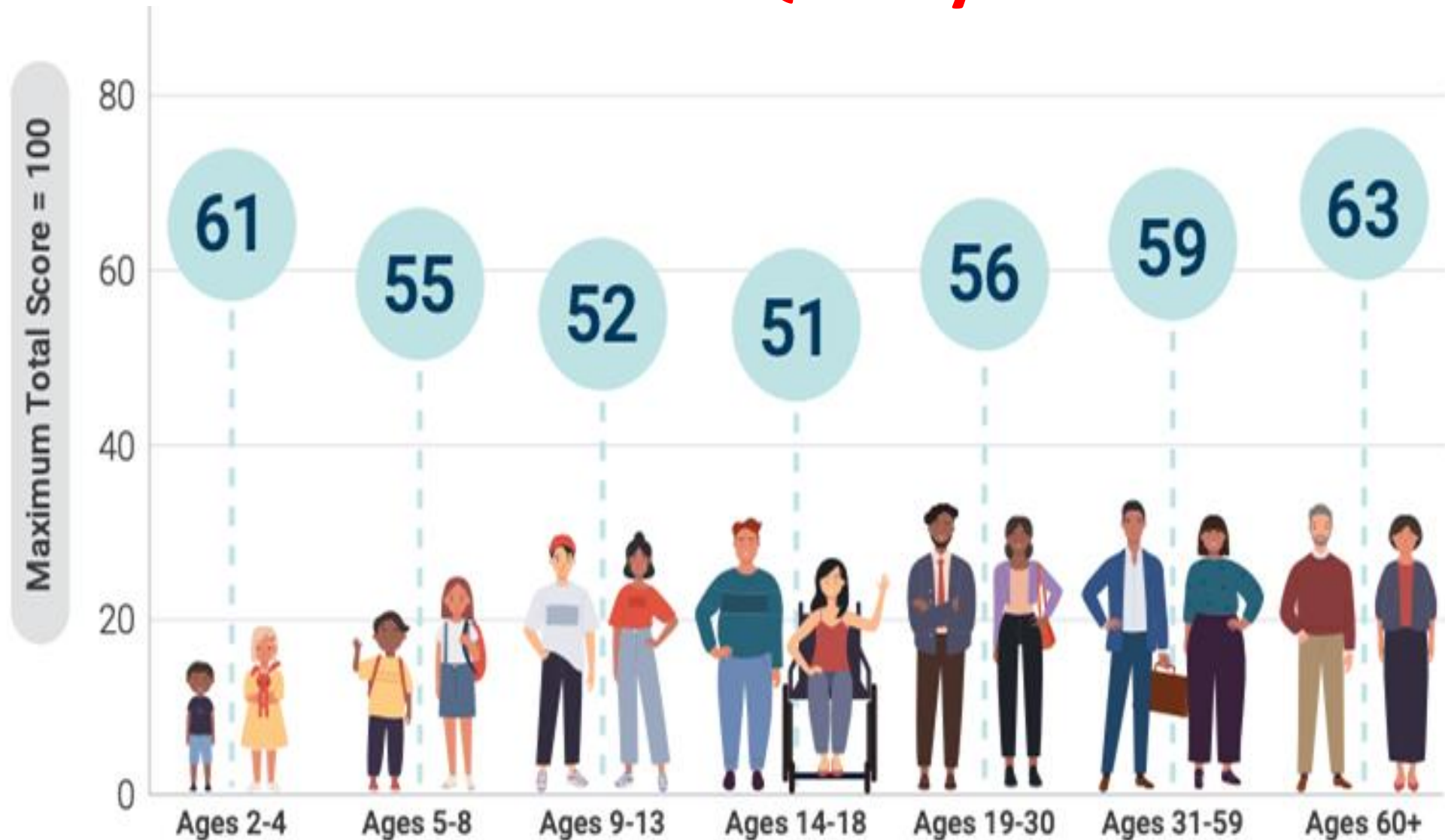
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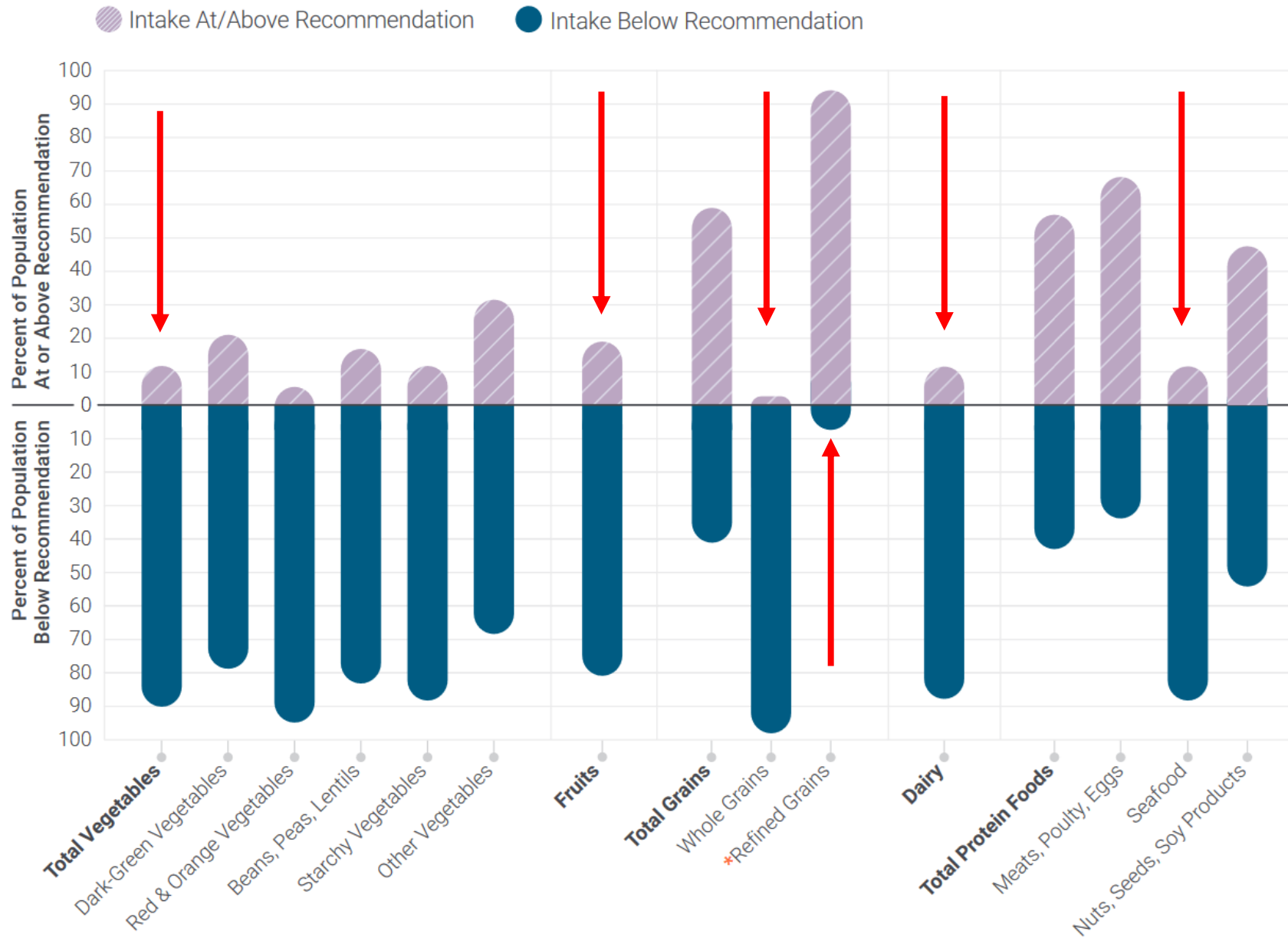
How is the U.S. population doing in terms of diet quality?



# U.S. Diet Quality

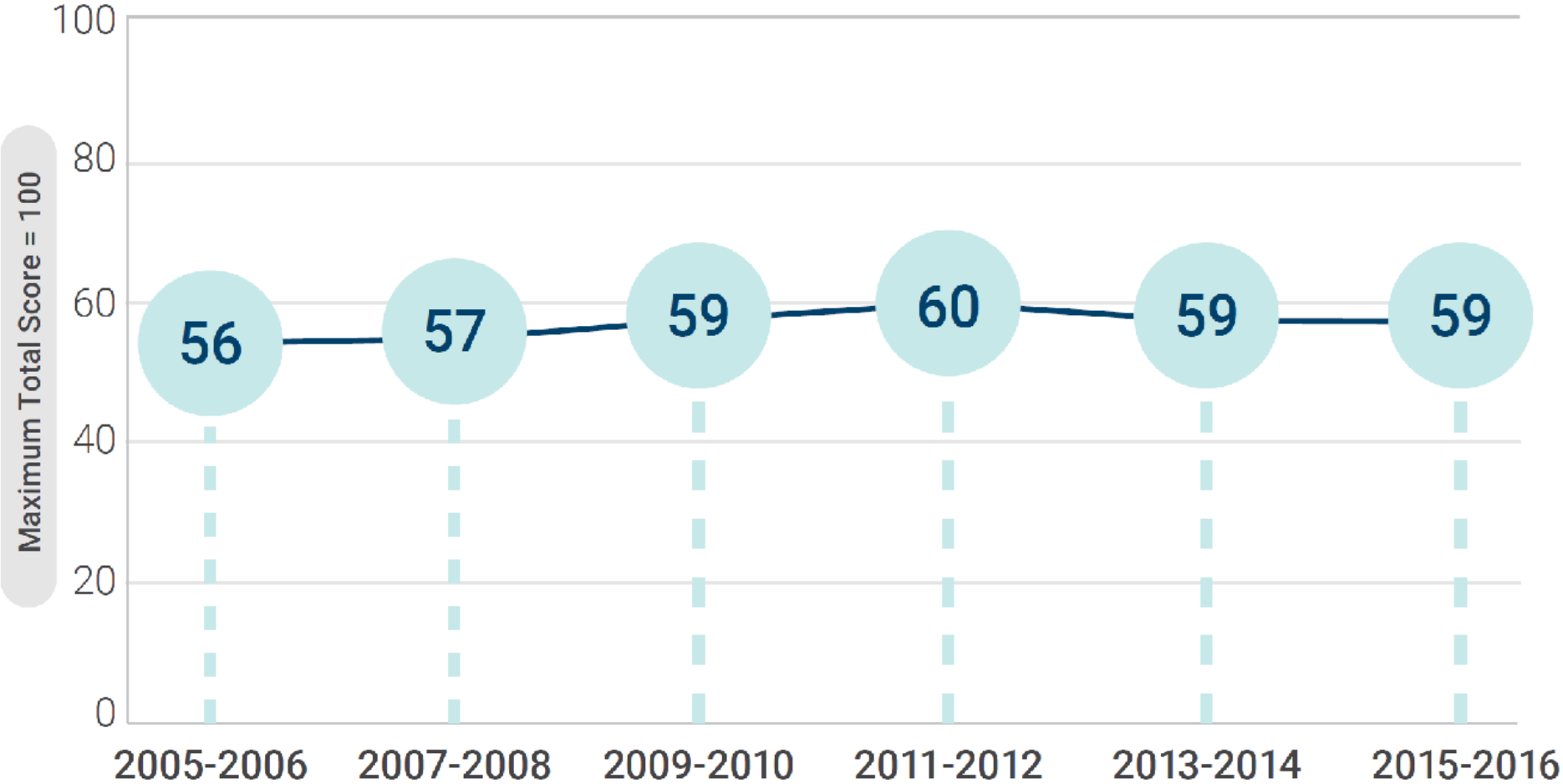


Data Source: Analysis of What We Eat in America, NHANES 2015-2016, ages 2 and older, day 1 dietary intake data, weighted.





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



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## Current Recommendations for a Heart-Healthy Dietary Pattern

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What are current recommendations for a heart – healthy dietary pattern?



## **AHA SCIENTIFIC STATEMENT**

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# 2021 Dietary Guidance to Improve Cardiovascular Health: A Scientific Statement From the American Heart Association

*Circulation.* 2021;144:00–00. DOI: 10.1161/CIR.0000000000001031|

Lichtenstein AH, Appel LJ, Vadiveloo M, Hu FB, Kris-Etherton PM, Rebholz CM, Sacks FM, Thorndike AN, Van Horn L, Wylie-Rosett J

# Dietary Guidance to Improve CVD Health

Focus on **dietary patterns**, rather than individual foods or nutrients.

- Sum of all foods and beverages consumed



vs





# Advantages of Dietary Pattern Approach

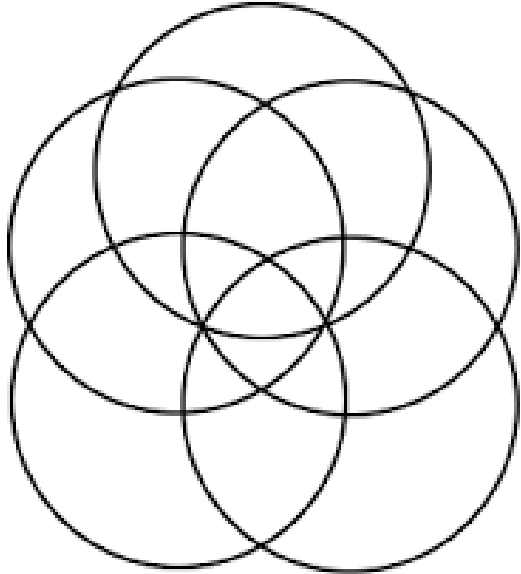
- Adaptable to personal preferences, ethnic and religious practices, and life stages.
- Food based to facilitate implementation.
- Eliminates need to estimate intake dietary components (e.g., % saturated fat, g added sugar).

# 2021 Dietary Guidance to Improve CVD Health

- Underscore the critical role of initiating heart-healthy dietary habits early in life



# 2021 Dietary Guidance to Improve CVD Health



- Emphasize common features of dietary patterns that promote cardiometabolic health

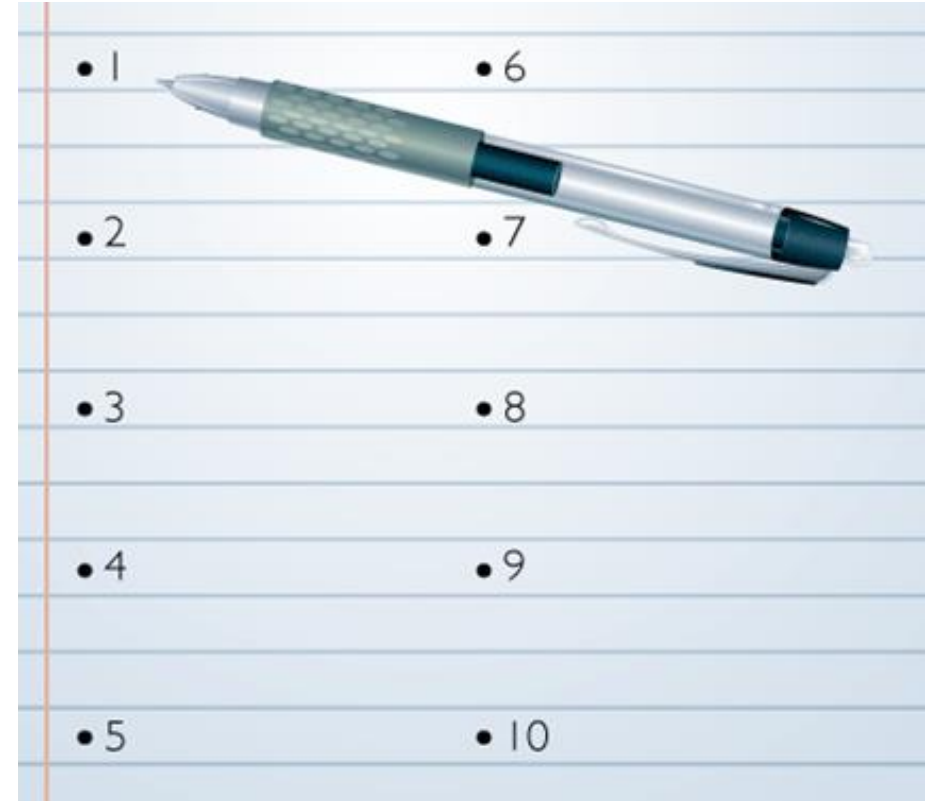
# 2021 Dietary Guidance to Improve CVD Health

- Emphasis on prevention, rather than treatment



# 2021 Dietary Guidance to Improve CVD Health

- Organized into 10 Features





# Adjust Energy Intake and Expenditure to Achieve and Maintain a Healthy Body Weight

## Feature 1

- Energy balance
  - Portion size and frequency.
  - Encourage adoption of a rapid diet screening tool into routine clinical care.  
(Vadiveloo M et al. Rapid Diet Assessment Screening Tools. Circ Cardiovasc Qual Outcomes. 2020;13:e000094).

# Feature 1

FOOD TYPE	CALORIES APROX.	 WALK OFF KCAL (medium walk 3-5mph)	 RUN OFF KCAL (slow running 5mph)
 Sandwich (chicken & bacon)	445	1 hr 22 min	42 min
 Large Pizza (1/4 pizza)	449	1 hr 23 min	43 min
 Medium mocha coffee	290	53 min	28 min
 Packet Crisps	171	31 min	16 min
 Dry roasted peanuts (50g)	296	54 min	28 min
 Iced cinnamon roll	420	1 hr 17 min	40 min
 Cereal (1 bowl)	172	31 min	16 min
 Blueberry muffin	265	48 min	25 min

# Eat Plenty of Fruits and Vegetables, Choose a Wide Variety

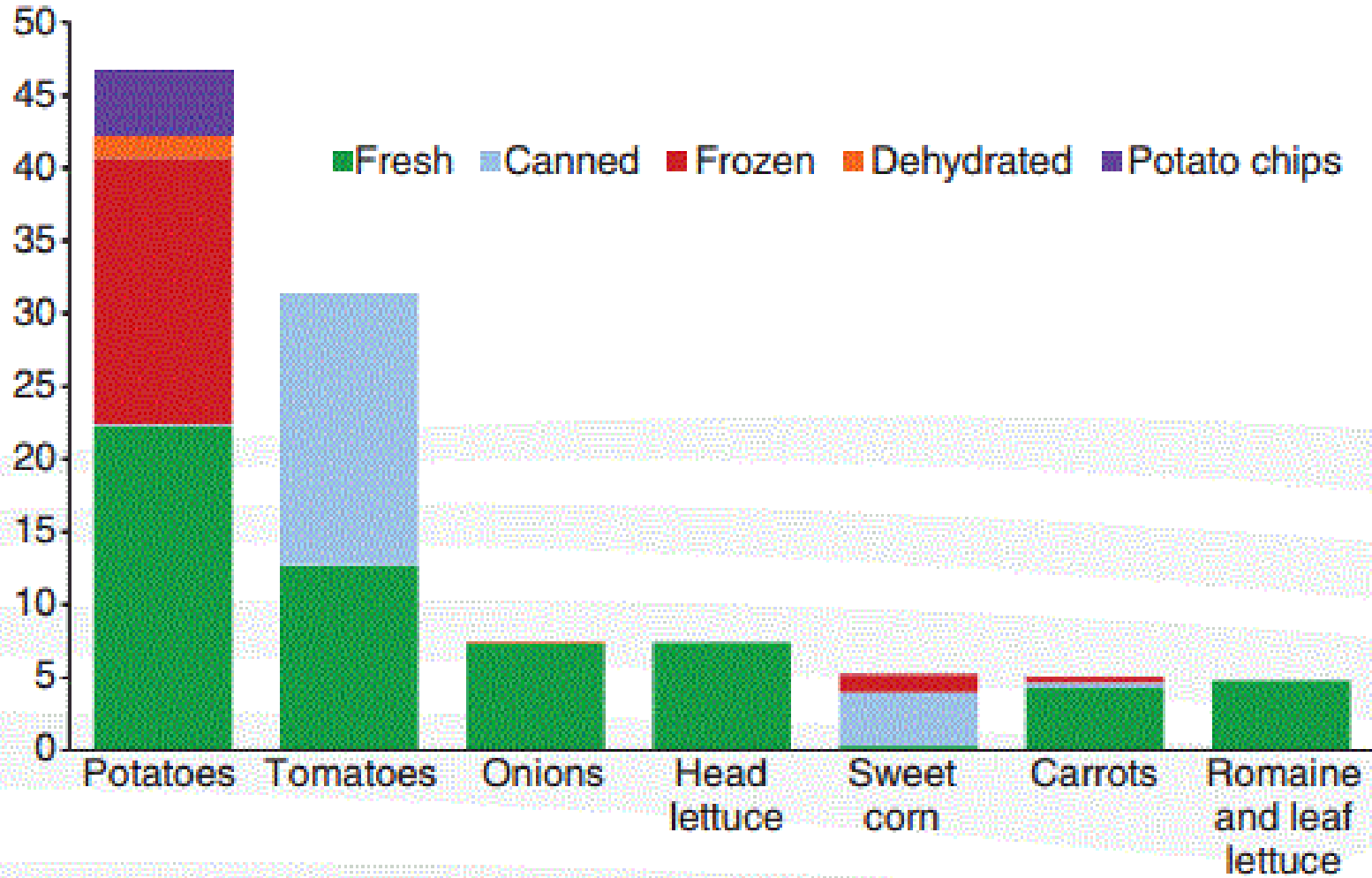
## Feature 2

- Consistent benefits identified for dietary patterns rich in fruits and vegetables.
- Fruits and vegetables that are deeply colored tend to be high in essential nutrients and phytochemicals.

## Feature 2

### Most commonly consumed vegetables among U.S. consumers

Pounds per person



Loss-adjusted food availability data are proxies for consumption.

Source: USDA, Economic Research Service, Loss-Adjusted Food Availability Data.

# Eat Plenty of Fruits and Vegetables, Choose a Wide Variety

## Feature 2

Encourage use of multiple forms (e.g., frozen)



# Choose Foods Made Mostly With Whole Grains Rather Than Refined Grains

## Feature 3

- Consistent benefits identified for dietary patterns higher in whole grains.
- Beneficial effects beyond heart health (gut microbiota).



# Choose Foods Made Mostly With Whole Grains Rather Than Refined Grains

## Feature 3

- Whole grain foods defined as containing >51% whole grains (don't judge a bread by its color or name).



# Choose Healthy Sources of Protein

Mostly protein from plants (legumes and nuts)

## Feature 4

- Good sources of protein and fiber.
- Lower carbon footprint than animal sources.
- Cautionary note about plant-based meat alternatives because many are ultra-processed and nutrient profile consistently evolving.

# Choose Healthy Sources of Protein



## Regular Intake of Fish and Seafood

### Feature 4

- Dietary patterns containing fish and seafood consistently associated with lower CVD risk (2-3 servings/week).
- Benefits attributed to n-3 fatty acids and substitution effect when fish replaces other types of animal protein (meat, full-fat dairy).

# Choose Healthy Sources of Protein

## Low-Fat or Fat-Free Dairy Products Instead of Full-Fat Dairy Products

### Feature 4

- Weight of evidence indicates fat-free and low-fat dairy associated with a lower risk of cardiovascular disease.
- Dairy fat should be replaced with plant oils to favorably affect unsaturated/saturated fat ratio.

# Choose Healthy Sources of Protein

*If Meat or Poultry Are Desired, Choose Lean Cuts and Avoid Processed Forms*

- Substitution analyses found replacement of red and processed meat with alternative sources of protein such as unprocessed poultry, fish, nuts and legumes associated with lower CVD risk and mortality.



# Use Liquid Plant Oils Rather Than Tropical Oils, Animal Fats and Partially Hydrogenated (*Trans*) Fats

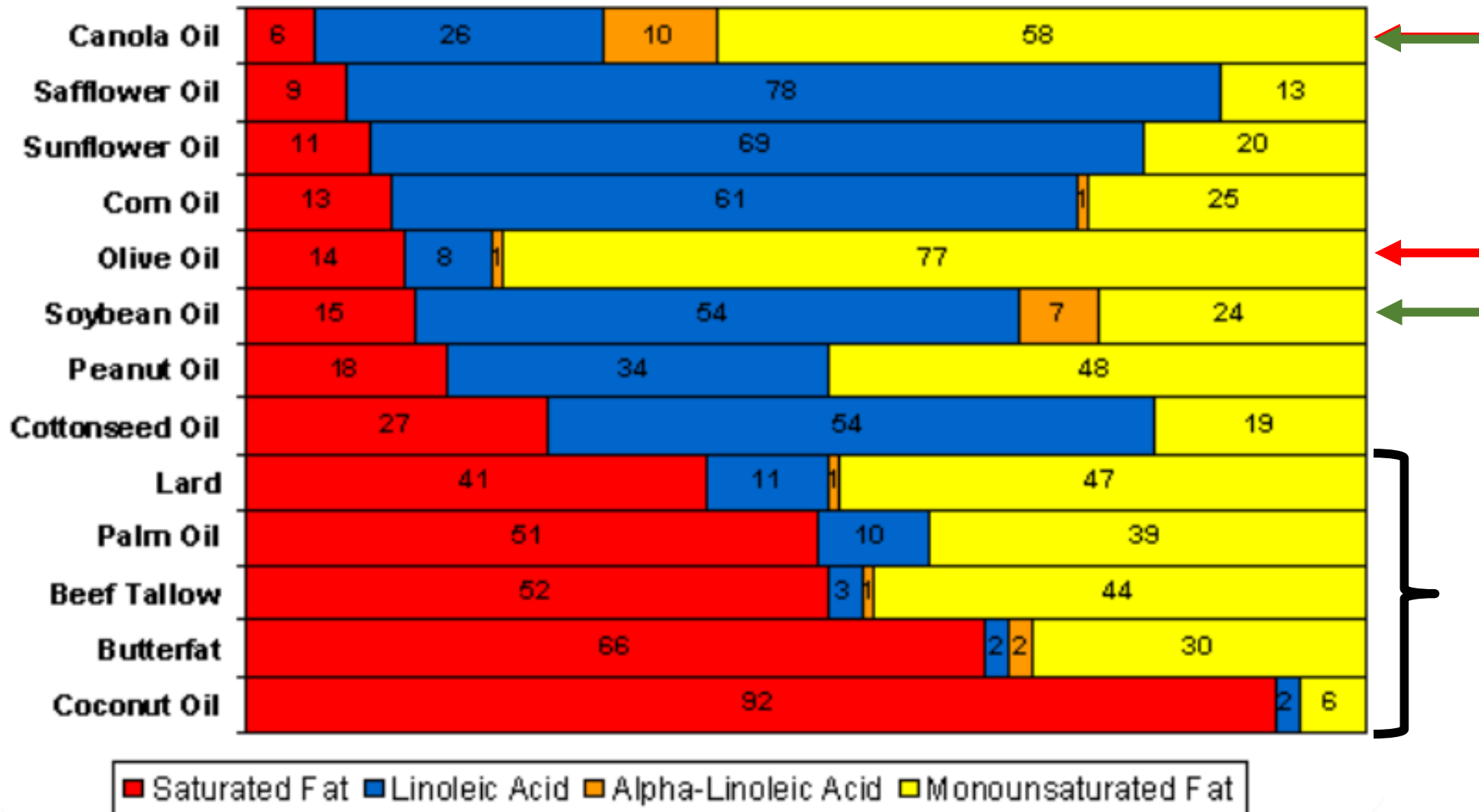
## Feature 5

- Robust scientific evidence demonstrates cardiovascular benefits of unsaturated fats (polyunsaturated and monounsaturated) when replacing saturated and *trans* fat.



Feature 5

### Comparison of Dietary Fats







# Choose Minimally Processed Foods Instead of Ultra-Processed Foods

## Feature 6

- Food processing results in beneficial and adverse effects.
- Currently, there is no standard definition for the term ultra-processed.
- High intake of 'ultra-processed' foods associated with adverse health outcomes (body weight, cardiometabolic disorders).

# Choose Minimally Processed Foods Instead of Ultra-Processed Foods

## NOVA Food classification

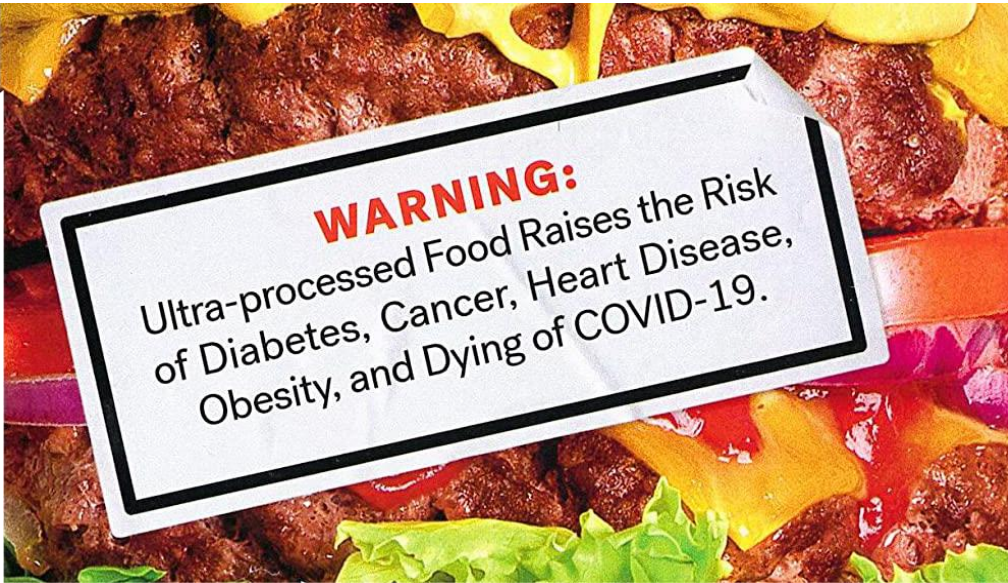
Unprocessed or minimally processed foods	Processed culinary ingredients	Processed foods	Ultra-processed foods
<p>Foods which did not undergo processing or underwent minimal processing techniques, such as fractioning, grinding, pasteurization and others.</p> 	<p>These are obtained from minimally processed foods and used to season, cook and create culinary dishes.</p> 	<p>These are unprocessed or minimally processed foods or culinary dishes which have been added processed culinary ingredients. They are necessarily industrialized.</p> 	<p>These are food products derived from foods or parts of foods, being added cosmetic food additives not used in culinary.</p> 
<p>Legumes, vegetables, fruits, starchy roots and tubers, grains, nuts, beef, eggs, chicken</p>		<p>Meat in soup or purees</p>	<p>Bread, form, shake, drink</p>





# Choose Minimally Processed Foods Instead of Ultra-Processed Foods

Feature 6







## **Food Processing**

- Temperature (pasteurization, heating/freezing)
- Modified package atmosphere
- Enrichment (pellagra, goiter, rickets)
- Fermentation

**Virtually eliminated deficiency diseases, and reduced foodborne illness and spoilage.**

# Minimize Intake of Beverages and Foods With Added Sugars

- Added sugars have consistently been associated with elevated risk of CHD, type 2 diabetes, excess body weight.

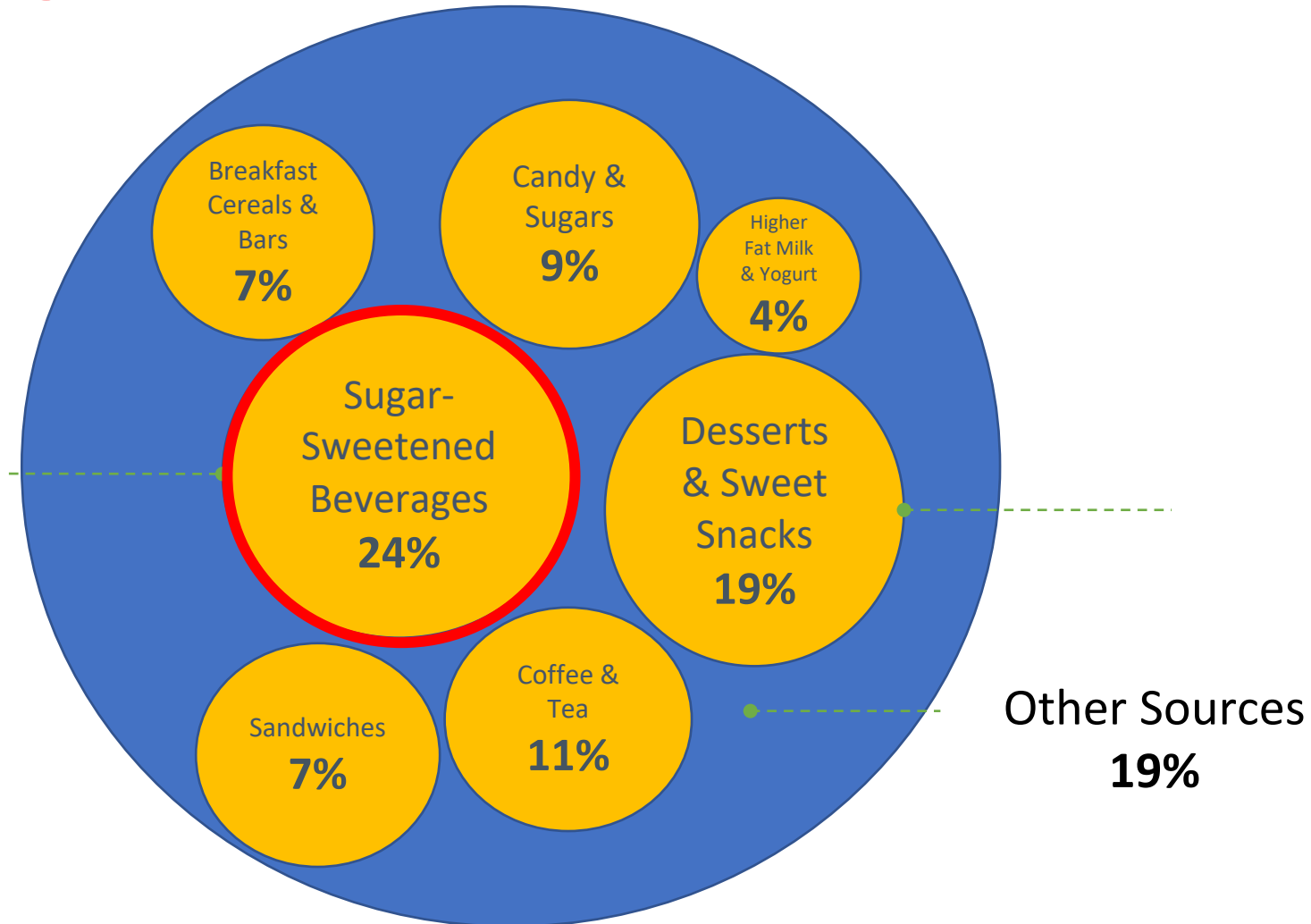
Sucrose, glucose, dextrose, fructose, molasses, cane sugar, brown sugar, corn syrup, honey, maple syrup, concentrated fruit juice.





# Minimize Intake of Beverages and Foods With Added Sugars

## Feature 7



## Feature 8

# Choose and Prepare Foods With Little or No Salt

- Direct, positive relationship between salt (sodium chloride) intake and blood pressure

**THE SALTY SIX**

**DID YOU KNOW?**  American Heart Association  
life is why™

**THESE SIX POPULAR FOODS CAN ADD HIGH LEVELS OF SODIUM TO YOUR DIET!**  
The American Heart Association recommends that you aim to eat less than 1,500 mg of sodium per day.

When you see the Heart-Check mark on a product, you know the food has been certified to meet nutritional criteria for heart-healthy foods, including sodium.

**1 BREADS & ROLLS**  
Some foods that you eat several times a day, such as bread, add up to a lot of sodium even though each serving may not seem high in sodium. Check the labels to find lower-sodium varieties.

**2 COLD CUTS & CURED MEATS**  
One 2 oz. serving, or 6 thin slices, of deli meat can contain as much as half of your daily recommended dietary sodium. Look for lower-sodium varieties of your favorite lunch meats.

**3 PIZZA**  
A slice of pizza with several toppings can contain more than half of your daily recommended dietary sodium. Limit the cheese and add more veggies to your next slice.

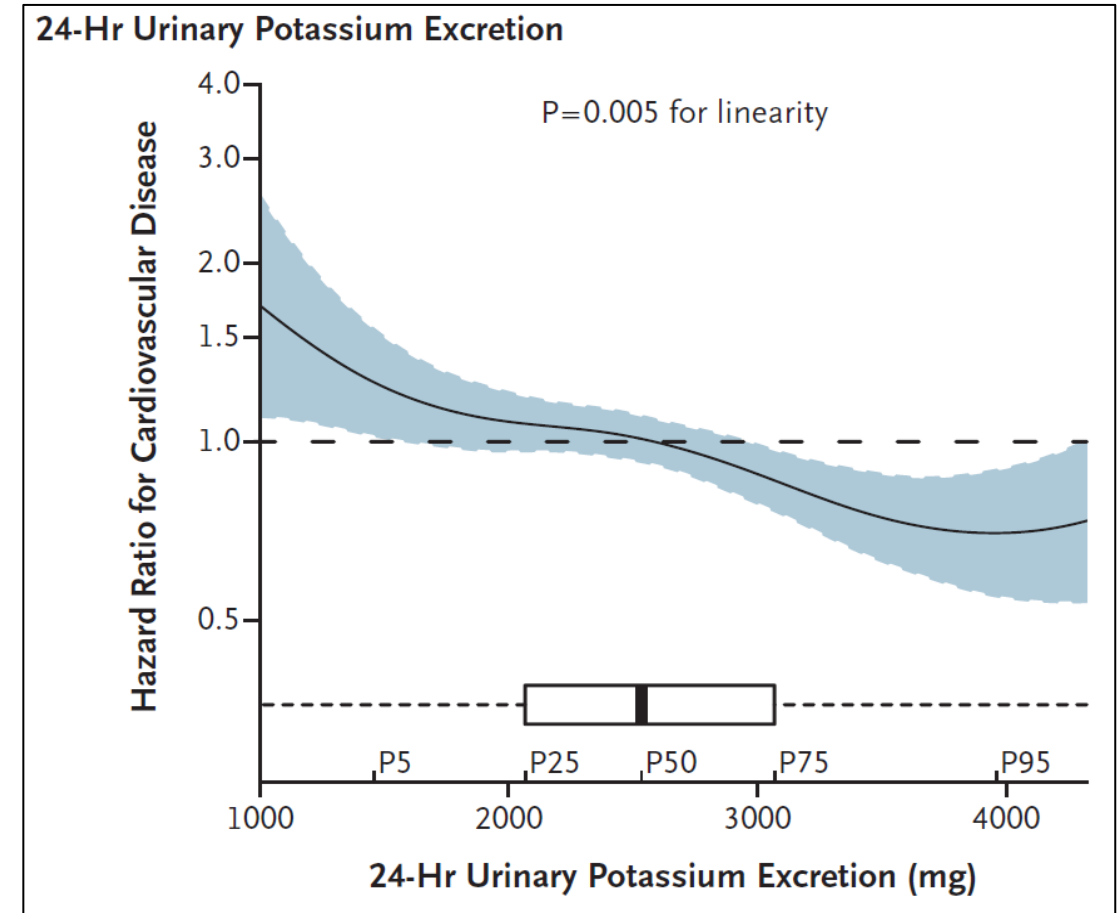
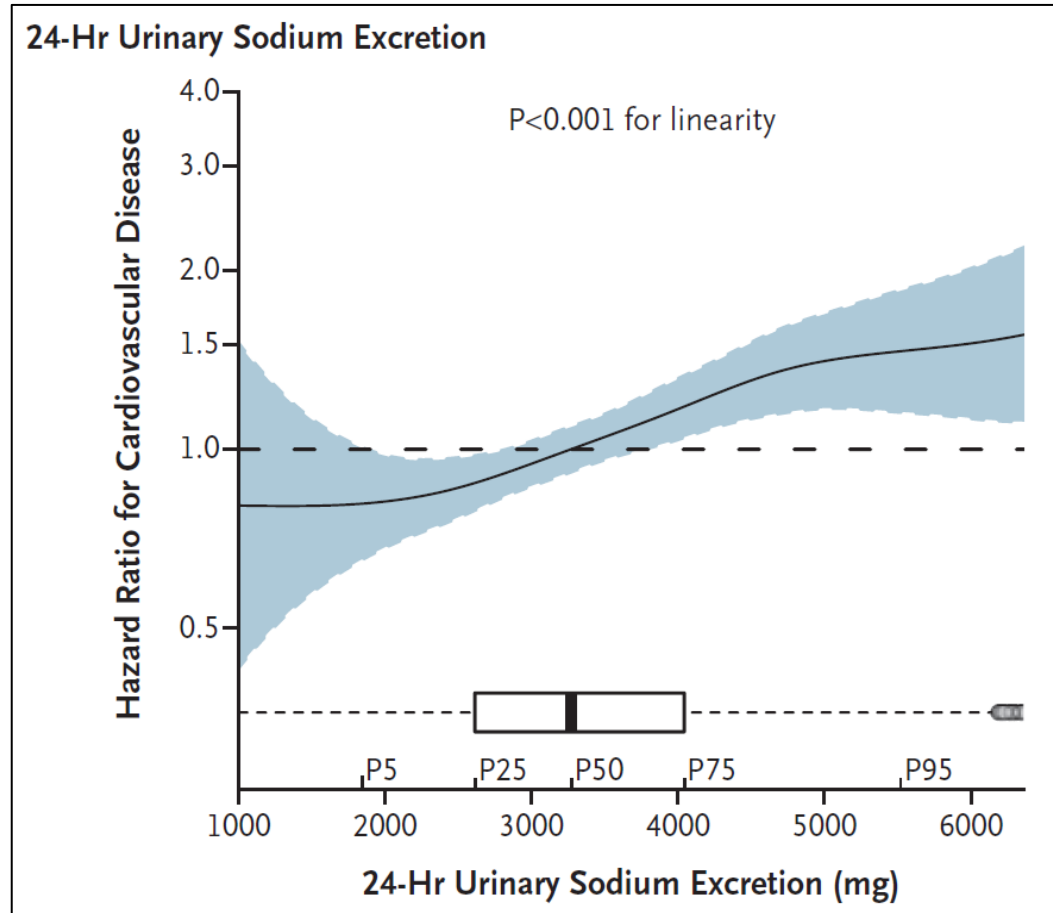
**4 POULTRY**  
Sodium levels in poultry can vary based on preparation methods. You will find a wide range of sodium in poultry products, so it is important to choose wisely.

**5 SOUP**  
Sodium in one cup of canned soup can range from 100 to as much as 940 milligrams—more than half of your daily recommended intake. Check the labels to find lower sodium varieties.

**6 SANDWICHES**  
A sandwich or burger from a fast food restaurant can contain more than 100 percent of your daily suggested dietary sodium. Try half a sandwich with a side salad instead.

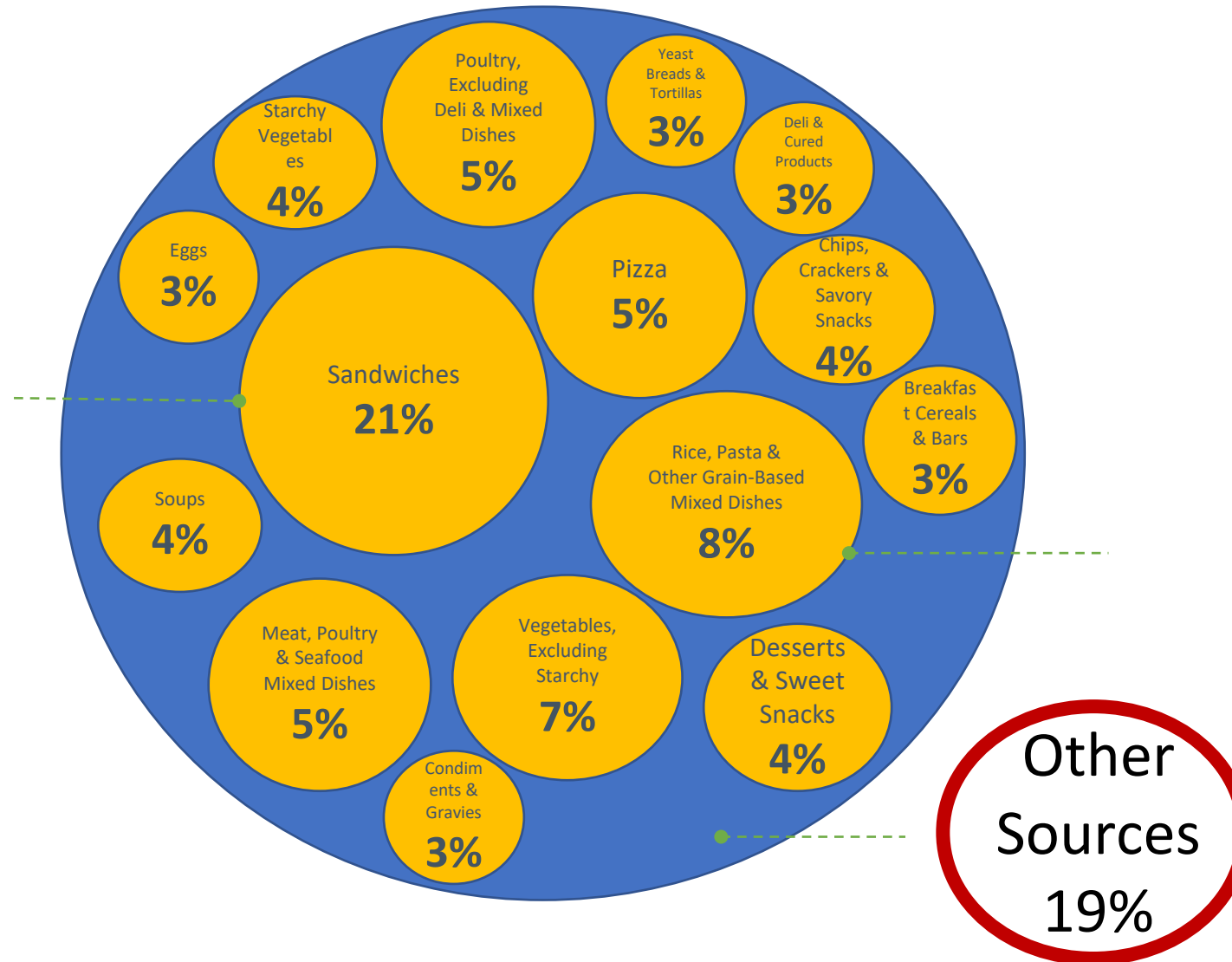
©2014, American Heart Association 11/14DS8903  
\*Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report (MMWR), Vital Signs: Food Categories Contributing the Most to Sodium Consumption—United States, 2007–2008, February 16, 2012 / 61(05):92–98.

# Choose and Prepare Foods With Little or No Salt



# Choose and Prepare Foods With Little or No Salt

## Feature 8



Added during cooking  
Added at table  
Miscellaneous

# If You Do Not Drink Alcohol, Do Not Start; If You Choose to Drink Alcohol, Limit Intake

## Feature 9

- Relation between alcohol intake and CVD complex.
- For CHD and ischemic stroke, J- or U-shaped relation has been observed, based on observational data only, hence, confounding by other variables cannot be excluded.

# If You Do Not Drink Alcohol, Do Not Start; If You Choose to Drink Alcohol, Limit Intake

## Feature 9

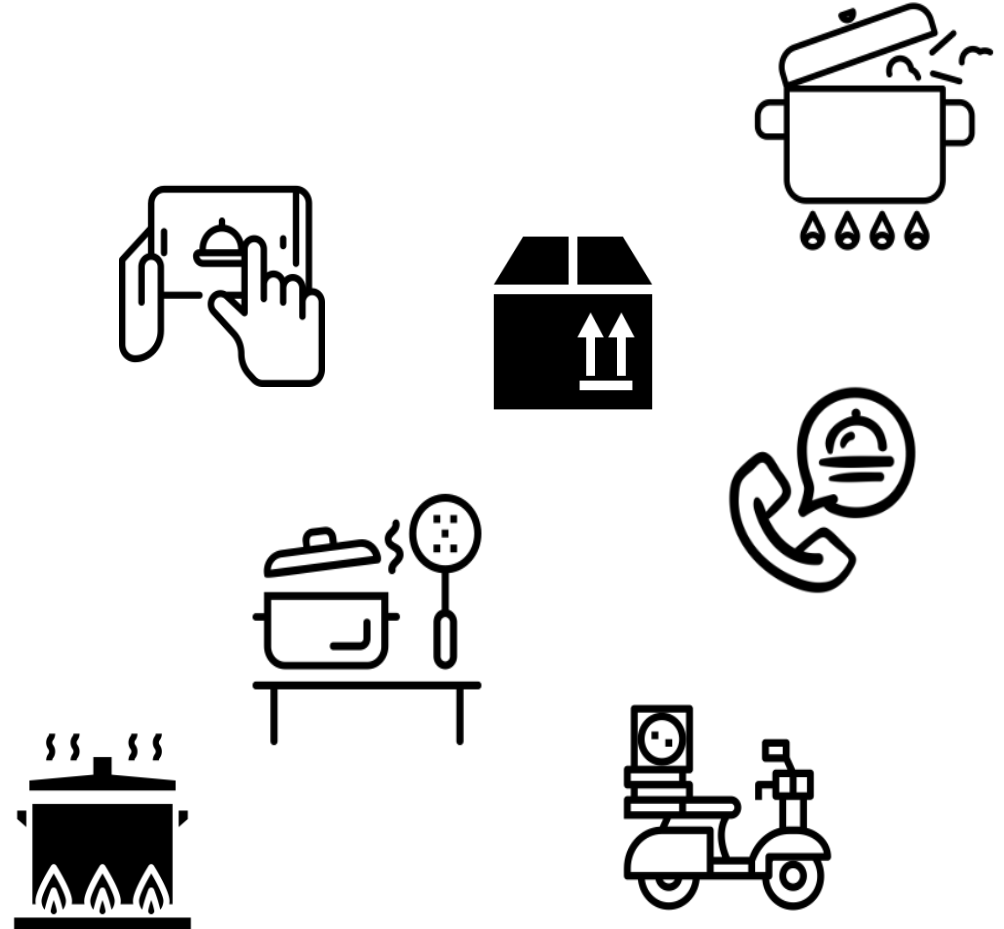
- AHA does not support initiation of alcohol intake to improve CVD health, given the uncertainty about net health effects and deleterious effects on numerous outcomes.



# Adhere to This Guidance Regardless of Wherever Food is Prepared or Consumed

## Feature 10

- Food is procured, prepared and consumed in many venues.



# Adhere to This Guidance Regardless of Wherever Food is Prepared or Consumed

## Feature 10

- Encourage enactment of policies that make the healthier option the default option.
- Nutrient Facts labels now contain information on *trans* fat and added sugar.



## EMPHASIZE

- Fruits and vegetables
- Whole grain foods
- Healthy sources of proteins; fish and seafood, legumes and nuts, low-fat/fat-free dairy, poultry and if desired lean meat
- Liquid plant oils (eg, soybean oil and canola oil)



## MINIMIZE

- Beverages and foods with added sugars
- Ultra-processed foods
- Processed meats
- Food high in salt
- Alcoholic beverages
- Tropic oils

- Adjust energy intake to achieve and maintain a healthy body weight
- Follow this guidance regardless of where food is prepared or consumed

# Additional Benefits of Heart Healthy Dietary Patterns

- Meets essential nutrient requirements for most individuals.



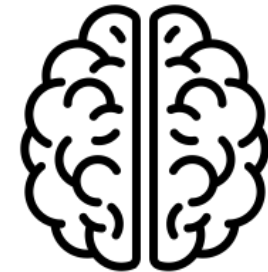
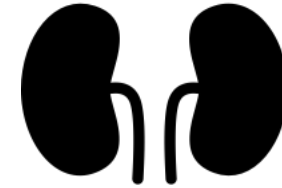
# Additional Benefits of Heart Healthy Dietary Patterns



- Rich in healthy fats and low in saturated fat, *trans* fat, cholesterol, and added sugars and salt.

# Additional Benefits of Heart Healthy Dietary Patterns

- Benefits beyond heart health; stroke, type 2 diabetes, kidney disease, cognitive function.





# Additional Benefits of Heart Healthy Dietary Patterns

- Consistent with promoting a healthy planet.



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## Moving Closer to a Cardiometabolic Healthy Dietary Pattern: Challenges and Considerations

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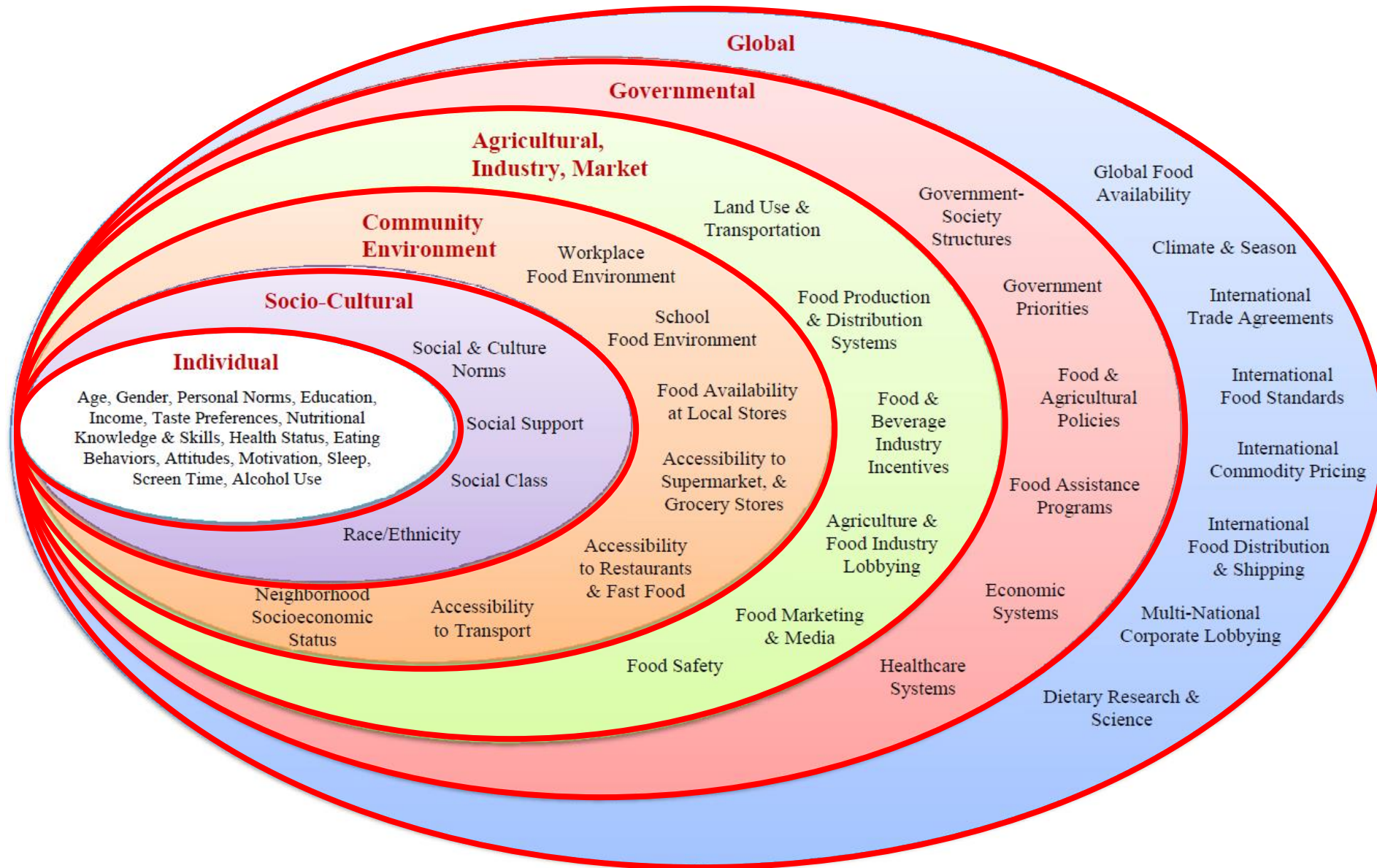
**How can we move the population closer to a cardiometabolic healthy dietary pattern?**

## Challenges

- Societal Influences
- Nutrition confusion
- Socioeconomic factors



# Factors Influencing Food Choices



# Relative Cost of Foods and Beverages

- Products most heavily advertised and discounted tend to be grain-based deserts, snack foods, pre-sweetened cereals and sugar-sweetened beverages.







13.5-15 Oz. - Beets, Spinach, Potatoes or

**Sliced Carrots**

**89¢**



19.5 Oz. - Traditional Fudge or Milk Chocolate

**Pillsbury Brownie Classics**

**1.39**



12.25-16 Oz. - All Varieties  
**Nabisco Ritz Crackers**

**2.99**



8 Oz. - All Varieties

**Kettle Chips**

**2/\$5**



4.2-7.2 Oz.

Select Varieties  
Pasta Roni or  
**Rice A Roni**

**1.49**



9.75-14 Oz.

Select Varieties  
**Sunshine Cheez-It Crackers**

**2.79**



14.5-15.25 Oz.  
Carb Clever Fruit and Pears,  
Fruit Cocktail or  
**Del Monte Peaches**

**1.49**



9.6-18 Oz. - Select Varieties

**Nabisco Oreo Sandwich Cookies**

**2.99**

# everyday

## that last on all y

4-Pack - 20 Oz.  
**Bumble Bee Chunk Light Tuna**

**2.69**



14.5 Oz. - All Varieties  
**Del Monte Diced Tomatoes**

**99¢**



6-Roll  
**Bounty Paper Towels**

**8.99**



5.71-6.73 Oz.  
Select Varieties  
**Pringles**

**1.49**



14.50-15 Oz.  
Select Varieties  
**Chef Boyardee Canned Pasta**

**\$1**



8.7-19.8 Oz.  
Select Varieties  
**Old El Paso Taco Dinner Kits**

**2.85**



6-12 Roll  
**Charmin Ultra Strong Mega Roll Bath Tissue**

**7.49**



4-Pack - 14 Oz. - All Varieties  
**Hunt's Snack Pack Pudding**

**1.19**



all your favorite beverages **for less!**

12 Oz. Cans - Sprite, Mountain Dew  
Diet or Regular  
**12-Pack Coke or Pepsi**

**3/\$10**

Plus Deposit



20 Oz. - All Varieties  
**Sobe Life Water**

**99¢**



10-Pack  
Select Varieties  
**CapriSun**

**2/\$4**



All Varieties  
Diet or Regular  
**2 Liter**

**95¢**

Plus Deposit





# Public Health Efforts to Decrease Dietary *Trans* Fatty Acids

Ruminant fat



Traditional stick margarine

Vegetable shortening



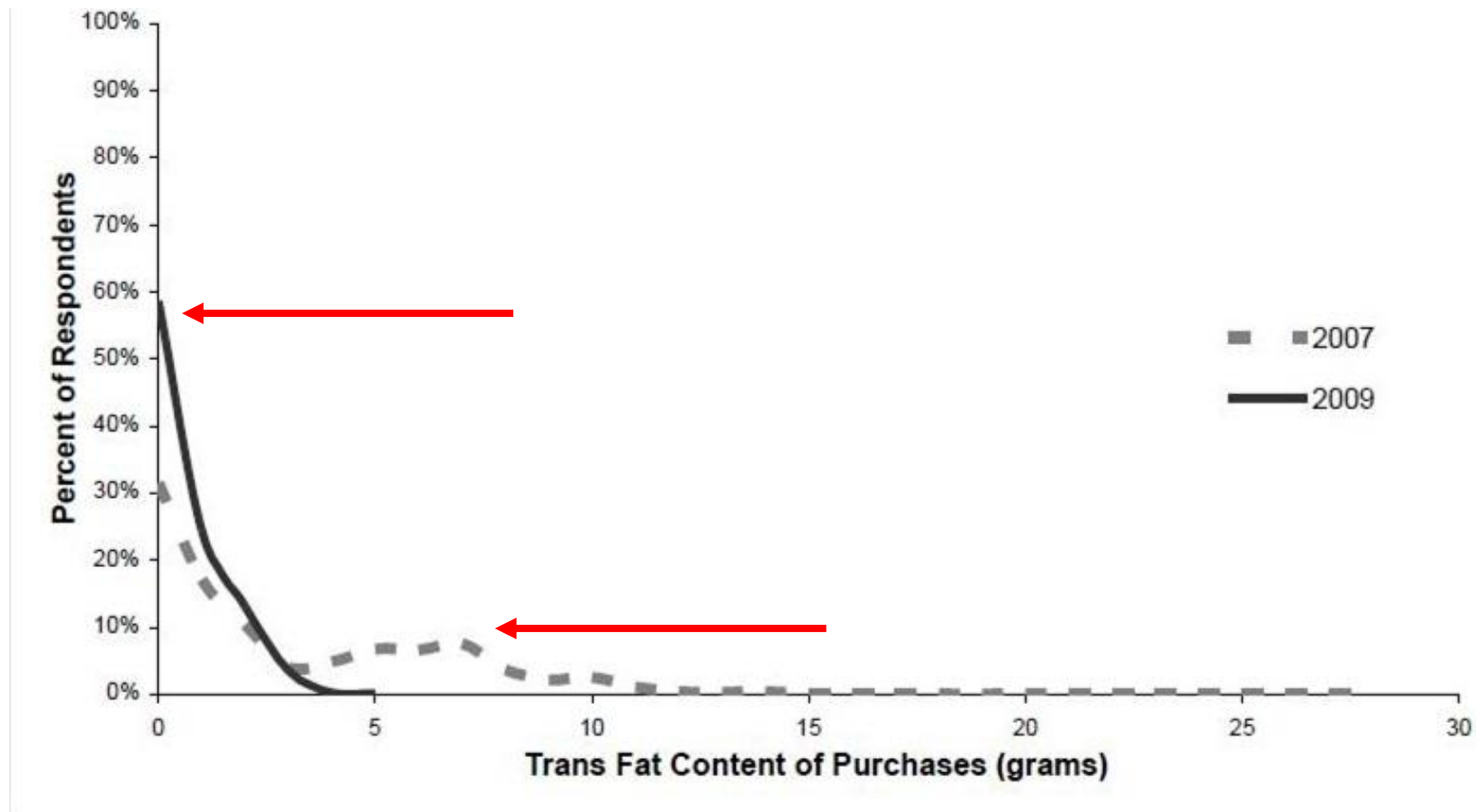
# New York City Ban on *Trans* Fatty Acids

Sept. 2006

NYC Health Department proposed an amendment to the Health Code that would “phase out artificial *trans* fat” in all NYC restaurants and other food service establishments.



# Distribution of *Trans* Fat Content per Purchase, 2007 vs 2009



Trans fat contents represented in the Figure may be an underestimation since companies can report trans fat values less than 0.5 grams as "0 grams" trans fat. In 2007, only 32% of customer purchases had "0" grams of trans fat versus 59% of customer purchases in 2009. Similarly, the maximum amount of trans fat in an individual purchase in 2007 was 28 g, versus only 5 g in 2009.

# Nutrition Facts

Serving Size 1 cup (228g)

Servings per Container 2

## Amount Per Serving

**Calories** 280

**Calories from Fat** 120

## % Daily Value\*

**Total Fat** 13g 20%

Saturated Fat 5g 25%

Trans Fat 2g

**Cholesterol** 2mg 10%

**Sodium** 660mg 28%

**Total Carbohydrate** 31g 10%

Dietary Fiber 3g 0%

Sugars 5g

**Protein** 5g

Vitamin A 4% • Vitamin C 2%

Calcium 15% • Iron 4%

\*Percent Daily Values are based on a 2,000-calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	<b>Calories:</b>	<b>2,000</b>	<b>2,500</b>
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Fiber		25g	30g

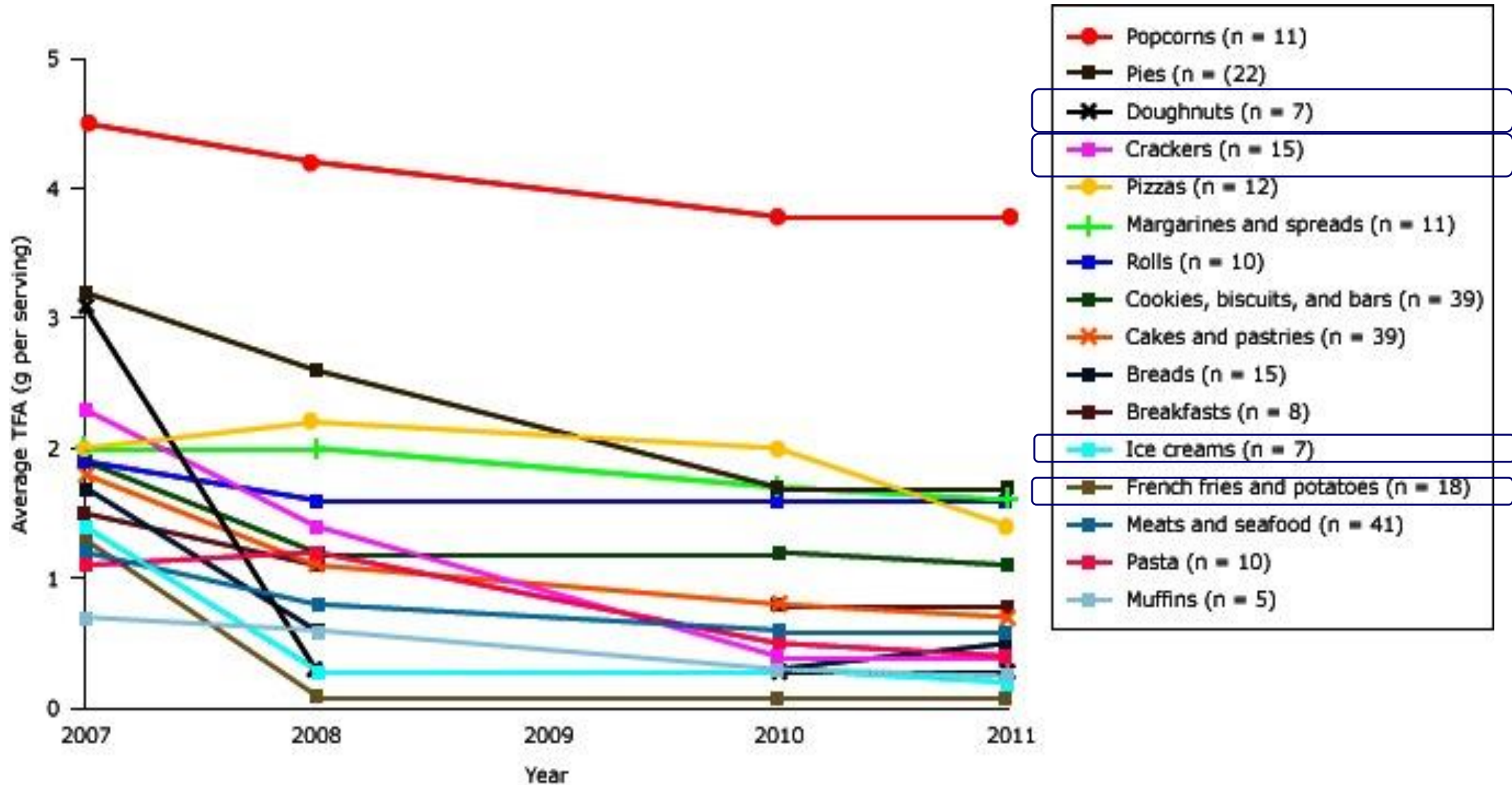
## Calories per gram:

Fat 9 • Carbohydrate 4 • Protein 4

2006



# Trans Fat – Public Health Policy





**U.S. FOOD & DRUG  
ADMINISTRATION**

## Partially Hydrogenated Fat

November 7, 2013, the FDA issued a preliminary determination that partially hydrogenated fats are no longer "generally recognized as safe".

June 18, 2018, no food prepared in the United States is allowed to include partially hydrogenated fats, unless approved by the FDA.









39g

65g

108g

# A SIP IN THE RIGHT DIRECTION



**Replace sugary drinks** with water, seltzer, unsweetened teas, fat-free milk and fresh fruit.





**ARE YOU POURING ON THE POUNDS?**



20oz. Soda + 24oz. Medium Frozen Vanilla Coffee  
+ 20oz. Fruit Punch + 23oz. Sweetened Tea

You're drinking  
**85** PACKETS OF  
**SUGAR**  
in just 4 sugary drinks a day.

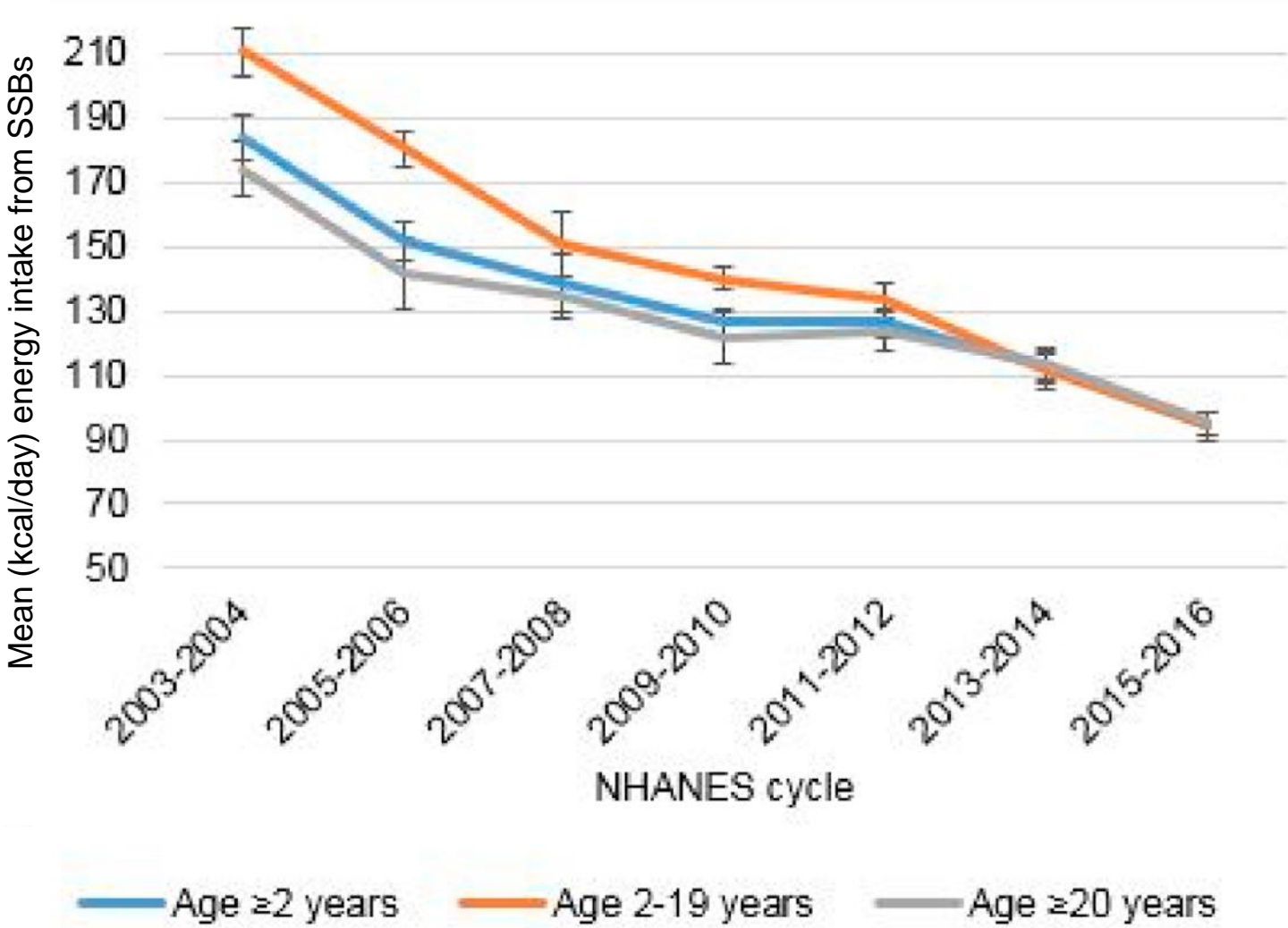
All those extra calories can bring on obesity, type 2 diabetes  
and heart disease. To learn more, call 311.

**NYC**  
Health

Michael R. Bloomberg  
Mayor  
Thomas Farley, M.D.,  
Commissioner



# Trends Over Time In Energy Intake From SSBs



# Nutrition Facts

Serving Size 2/3 cup (55g)  
Servings Per Container About 8

## Amount Per Serving

**Calories** 230      Calories from Fat 40

**% Daily Value\***

<b>Total Fat</b> 8g	<b>12%</b>
Saturated Fat 1g	<b>5%</b>
<i>Trans</i> Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 160mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>12%</b>
Dietary Fiber 4g	<b>16%</b>
Sugars 1g	
<b>Protein</b> 3g	

Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%

\* Percent Daily Values are based on a 2,000 calorie diet.  
Your daily value may be higher or lower depending on  
your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

# Nutrition Facts

**8 servings per container**

Serving size      2/3 cup (55g)

Amount per 2/3 cup

**Calories**      **230**

**% DV\***

<b>12%</b>	<b>Total Fat</b> 8g
<b>5%</b>	<b>Saturated Fat</b> 1g
	<i>Trans</i> Fat 0g
<b>0%</b>	<b>Cholesterol</b> 0mg
<b>7%</b>	<b>Sodium</b> 160mg
<b>12%</b>	<b>Total Carbs</b> 37g
<b>14%</b>	<b>Dietary Fiber</b> 4g
	<b>Sugars</b> 1g
	<b>Added Sugars</b> 0g
	<b>Protein</b> 3g
<b>10%</b>	<b>Vitamin D</b> 2mcg
<b>20%</b>	<b>Calcium</b> 260mg
<b>45%</b>	<b>Iron</b> 8mg
<b>5%</b>	<b>Potassium</b> 235mg

\* Footnote on Daily Values (DV) and calories  
reference to be inserted here.

FDA  
May 2016



# LOWER ADDED SUGAR YOGURTS







# Mixed and Inconsistent Messages About Food









# 5 Superfoods to Improve Heart Health

- 1 Fat-free, fiber-rich beans
- 2 Blood pressure lowering and blood vessel protecting berries
- 3 Folate-rich, heart disease preventing dark leafy greens
- 4 Cholesterol-lowering nuts, seeds, and salmon
- 5 Heart attack and stroke-preventing oats

Penn Medicine

# Health Claim

Can Help Lower cholesterol\*

\*Three grams of soluble fiber daily from whole grain oat foods, like Cheerios cereal, in a diet low in saturated fat and cholesterol, may reduce the risk of heart disease. Cheerios cereal provides 1 gram per serving.

## EATING A SOUTHERN DIET substantially increases health risks

- 56%\* HIGHER RISK** of heart disease
- 50%\* INCREASE IN RISK** of death in patients with kidney disease
- 30%\* HIGHER RISK** of stroke

UAB THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

PhysiciansCommittee

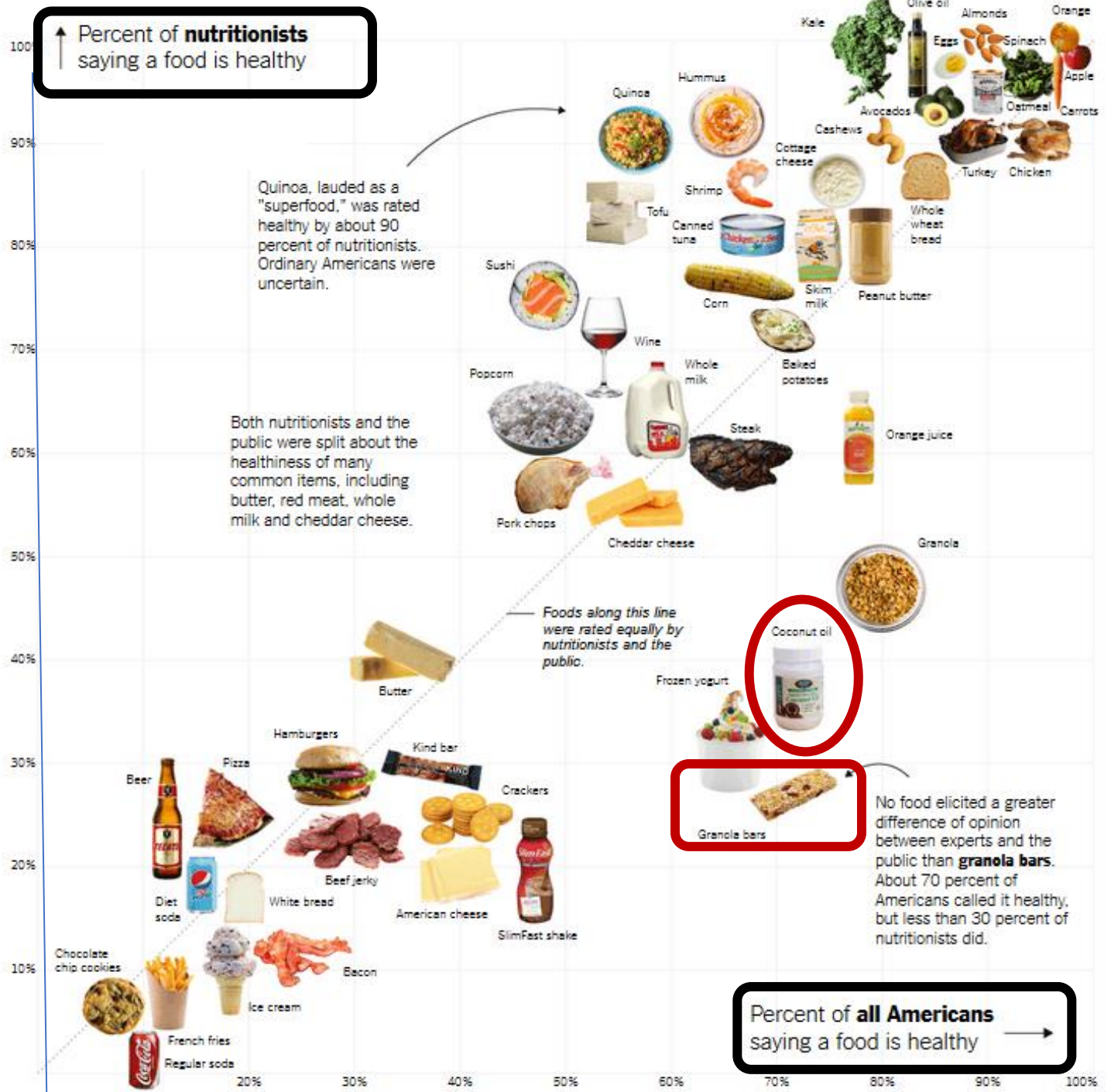
# Plant-Based Diets Reduce Heart Disease Risk by 40%

Kahleova H, Levin S, Barnard ND. Vegetarian dietary patterns and cardiovascular disease. *Prog Cardiovasc Dis*. Published online May 29, 2018.

### Foods considered healthier by the public than by experts

	Nutritionists	Public
 Granola bar	28%	71%
 Coconut oil	37%	72%

New York Times July 5, 2016






# Confusing Messaging



# Health Halo – *Trans* Fat

ZERO GRAMS  
TRANS FAT  
MUFFINS



LOADED WITH FLAVOR

ZERO GRAMS TRANS FAT

Blueberry, Corn, Cranberry Walnut,  
Double Chocolate Chunk, Carrot Nut,  
Raisin Bran, Pumpkin, Apple Spice,  
Lowfat Triple Berry, Lowfat Chocolate Cake

## BLUEBERRY MUFFIN Nutrition Facts

Serving size 5.6 oz (159 g)

Calories 490 kcal

Total Fat 17 g

Saturated Fat 2 g

*Trans* Fat 0 g

Cholesterol 20 mg

Sodium 510 mg



# Whole Grains

## *How to choose a healthy breakfast cereal*



*Health* claims that highlight "grams" of *whole grain* and fat: Many cereals claim they're low in saturated fat and are, therefore, **good for your heart.**

# SHREDDED WHEAT

## AN INGREDIENT LIST THAT IS SO GOOD, WE HAVE NOTHING TO HIDE

Wouldn't it be great if it were easy to understand what is in your food?

With Post Shredded Wheat, it's easy to be confident with your breakfast choice. It is made with nothing but goodness, so go ahead and enjoy a bowl.

**100% Whole Grain Wheat and Wheat Bran:** We make it easy to understand what is in your food – it's just the natural goodness of whole grain wheat and wheat bran.

**No Sugar\* or Salt Added:** Our flavor comes from 100% whole grain wheat and wheat bran, nothing else. That means Post Shredded Wheat'n Bran is sodium free and has 0g sugar per serving. Every bowl contains

### THE BISCUIT OF BENEFITS

Post Shredded Wheat'n Bran is made with 100% whole grain wheat and wheat bran, which are natural sources of fiber. It is also low in fat and cholesterol and sodium free. So what does this mean in terms of health benefits for you? They are so plentiful, the cereal could be renamed Biscuit of Benefits!

**Heart Health:** Diets rich in whole grain foods and other plant foods, and low in saturated fat and cholesterol, may help reduce the risk of heart disease.

**Digestive Health:** Diets rich in fiber have many benefits and are important for maintaining digestive health.

**Reduced Cancer Risk:** Low fat diets rich in fiber-containing grain products, fruits and vegetables may reduce the risk of some types of cancer, a disease associated with many factors.

Heart Health:  
Diets rich in whole grain foods and other plant foods, and low in saturated fat and cholesterol may help reduce the risk of heart disease

A WHOLE GRAIN FOOD IS MADE BY USING ALL THREE PARTS OF THE GRAIN. ALL GENERAL MILLS BIG G CEREALS CONTAIN MORE WHOLE GRAIN THAN ANY OTHER SINGLE INGREDIENT.

THIN MINTS  
FLAVORED WITH OTHER NATURAL FLAVORS  
cereal

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✓ NO HIGH FRUCTOSE CORN SYRUP    ✓ NO COLORS FROM ARTIFICIAL SOURCES    ✓ NO ARTIFICIAL FLAVORS

Limited  
Edition

girl scouts

THIN MINTS

FLAVORED WITH OTHER NATURAL FLAVORS

cereal



SWEETENED  
WHOLE GRAIN  
CORN CEREAL

ENLARGED TO  
SHOW DETAIL

NET WT 11 OZ (311g)

PER 3/4 CUP SERVING

120 CALORIES	1g SAT FAT 2% DV	90mg SODIUM 4% DV	9 SUGARS
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SEE NUTRITION FACTS FOR "AS PREPARED" INFORMATION

- No high fructose corn syrup
- No colors from artificial sources
- No artificial flavors

- Whole Grain Corn Cereal



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Whole Grain Corn, **Sugar**, Corn Meal, **Dextrose**, Palm Oil, Cocoa Processed with Alkali, **Corn Syrup**, Salt, Caramel Color, Canola Oil, Corn Starch, Natural Flavor, Unsweetened Chocolate, Baking Soda. Vitamin E (Mixed Tocopherols) Added to Preserve Freshness.

# Green Tea

## *Some of the Amazing Benefits of Drinking Green Tea*



- **Bring down your heart disease and cancer risk.**
- Lower your cholesterol and blood pressure.
- Help you lose weight faster.
- Prevent arthritis.
- Keep allergies at bay.



# Green Tea



## Sweet news about chocolate by Samara Felesky-Hunt

**“Chocolate is made from plants, which means it contains many of the health benefits of dark vegetables. These benefits come from flavonoids. They act as antioxidants, helping the body's cells to resist damage caused by free radicals, which can lead to heart disease.”**



# Chocolate

## *Chocolate: The next sunscreen?*

If you have a “bit of chocolate a day” habit, you might already have heard of some of the research surrounding the health benefits of chocolate, which in its purer forms has been **tied to heart and metabolic health.**





# Chocolate







# SAVE THE BOWL

YOU'RE GOING TO WANT THE WHOLE PINT

# Foundations of Cardiometabolic Health Certification Course

## Certified Cardiometabolic Health Professional (CCHP)



## Healthy Dietary Patterns for Cardiometabolic Health: Practical Tips & Summary

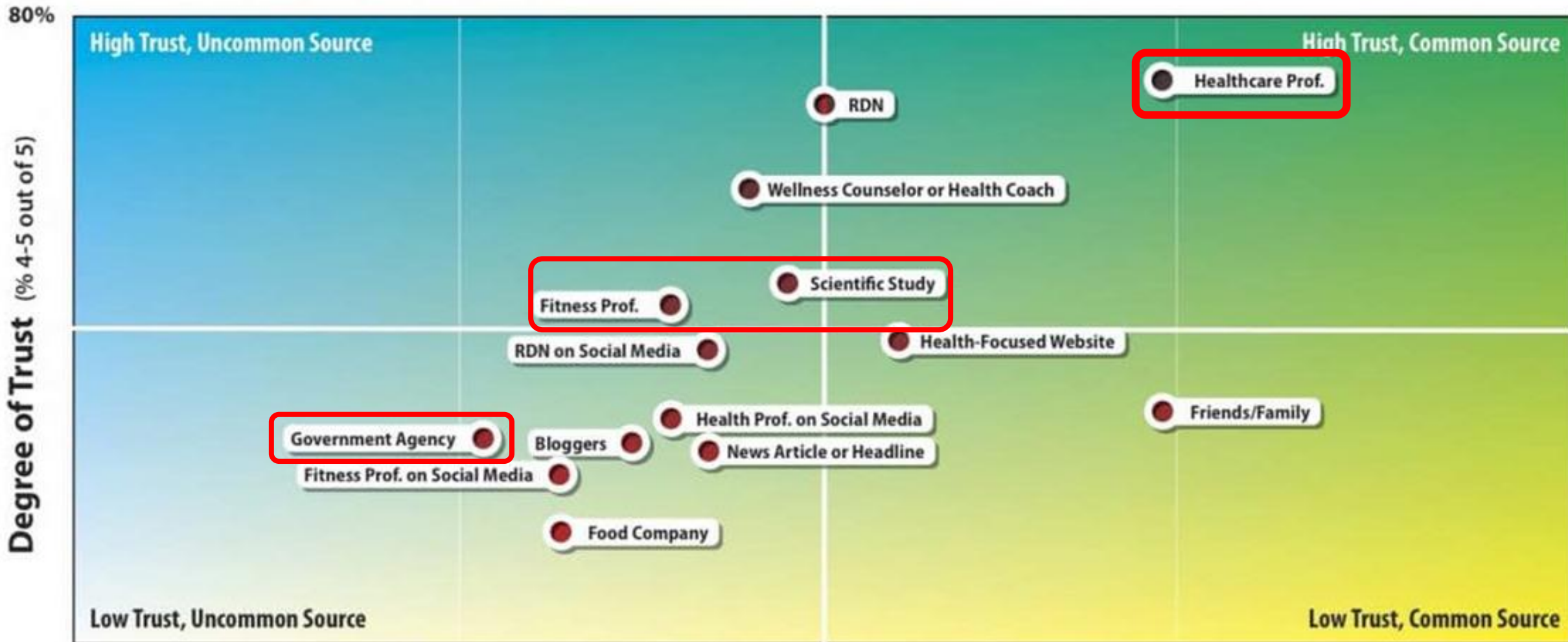
Alice H. Lichtenstein, D.Sc., FAHA  
Gershoff Professor of Nutrition Science and  
Policy, Friedman School  
Director and Senior Scientist, Cardiovascular  
Nutrition Laboratory, JM USDA Human  
Nutrition Research Center on Aging  
Tufts University, Boston, MA



**Where do we go from here?**



# Level of Trust vs. Reliance as a Source





**AHA SCIENTIFIC STATEMENT**

**Rapid Diet Assessment Screening Tools  
for Cardiovascular Disease Risk Reduction  
Across Healthcare Settings**

**A Scientific Statement From the American Heart Association**

Vadiveloo M, Lichtenstein AH, Anderson C, Aspary  
K, Foraker R, Griggs S, Hayman LL, Johnston E,  
Stone NJ, Thorndike AN

# Rapid Diet Screener Tool Options for Clinical Settings

A few identified, none that achieved widespread adoption.

# Rapid Diet Screener Tool for Clinical Settings

Journal of the American Heart Association

## ORIGINAL RESEARCH

### Validation of a Brief Dietary Questionnaire for Use in Clinical Practice: Mini-EAT (Eating Assessment Tool)

Kyla M. Lara-Breitinger , MD, MSc; Jose R. Medina Inojosa , MD; Zhuo Li, MS; Sarka Kunzova , MD, PhD; Amir Lerman , MD; Stephen L. Kopecky , MD; Francisco Lopez-Jimenez , MD, MSc

# Rapid Diet Screener Tool for Clinical Settings

Evaluated relative the 2015 HEI (Healthy Eating Index; 156-item FFQ)

- 19-item dietary assessment questionnaire
- 9-item dietary assessment questionnaire (Mini-Eating Assessment Tool (Mini-EAT))

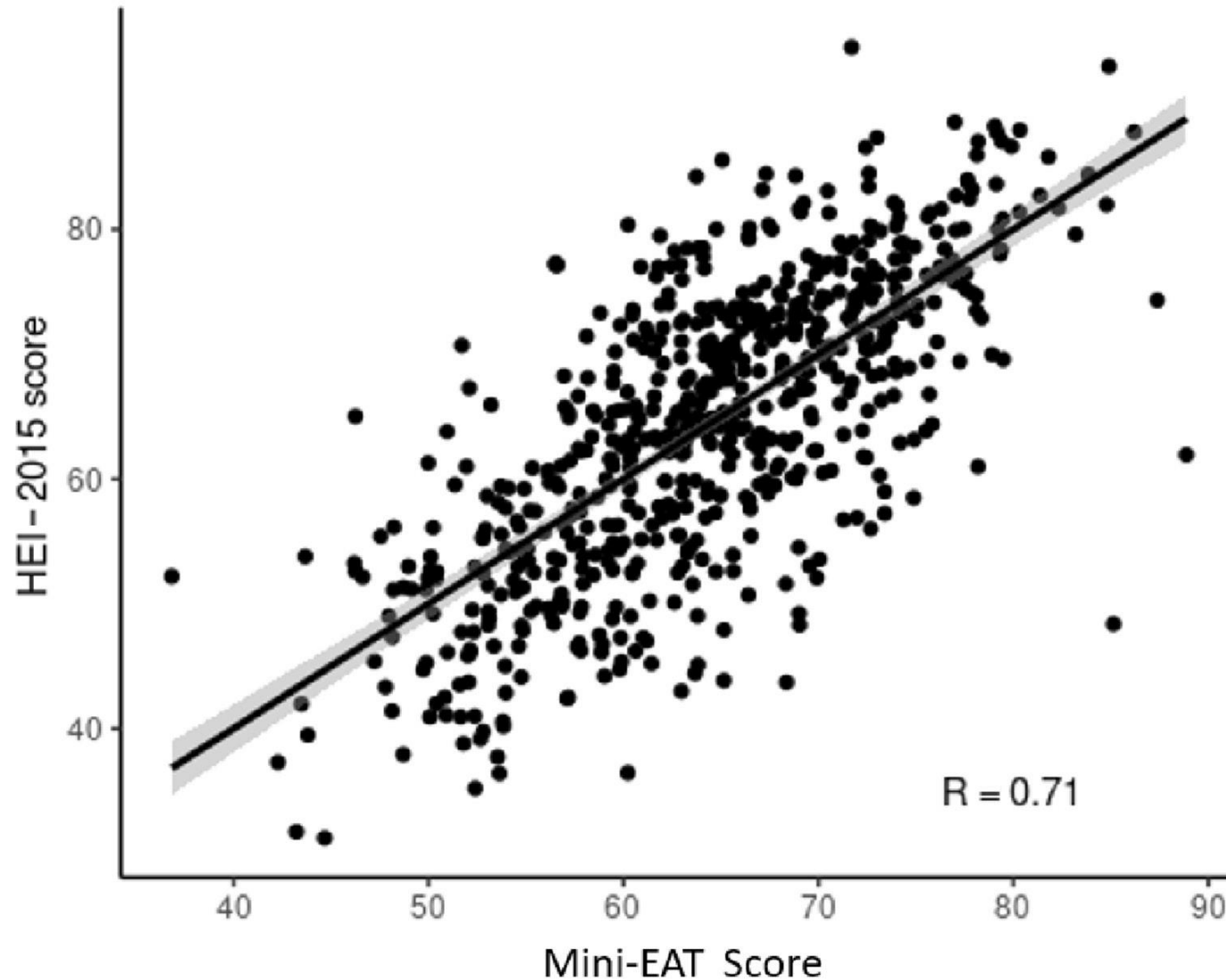


# Rapid Diet Screener Tool for Clinical Settings

9-item dietary assessment questionnaire;

- How often do you eat fresh fruits?
- How often do you eat vegetables?
- How often do you eat legumes, nuts and seeds?
- How often do you eat whole grains?
- How often do you eat refined grains?
- How often do you eat low fat dairy?
- How often do you eat high fat dairy and saturated fats?
- How often do you eat sweets and sweet foods?

# Rapid Diet Screener Tool for Clinical Settings



Lara-Breitinger KM et al J  
Am Heart Assoc.  
2023;12:e025064

- Incorporate diet screener responses into patient's electronic medical record.
- Develop clinical decision support systems to advise and encourage improvement.



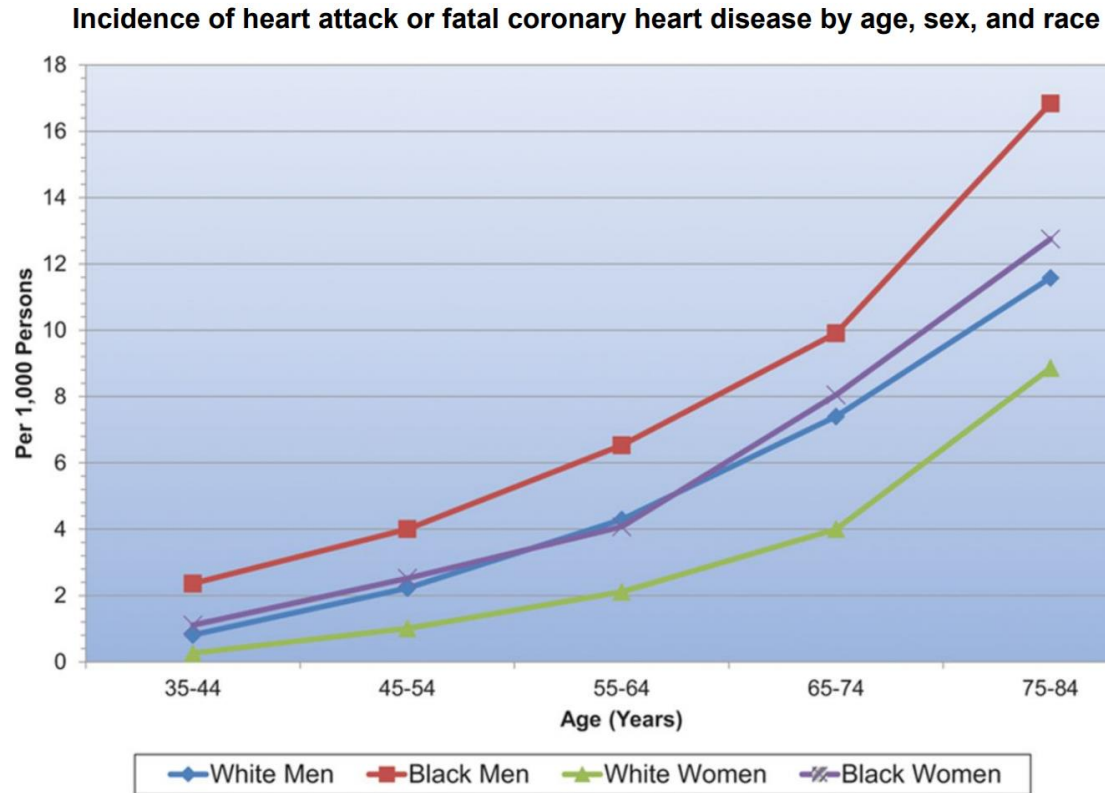


**Where else do we go from here?**



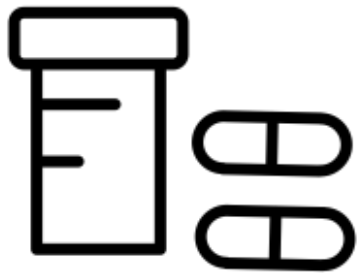
# Combating Myths About Cardiovascular Disease

Young people do not need to worry about heart disease.



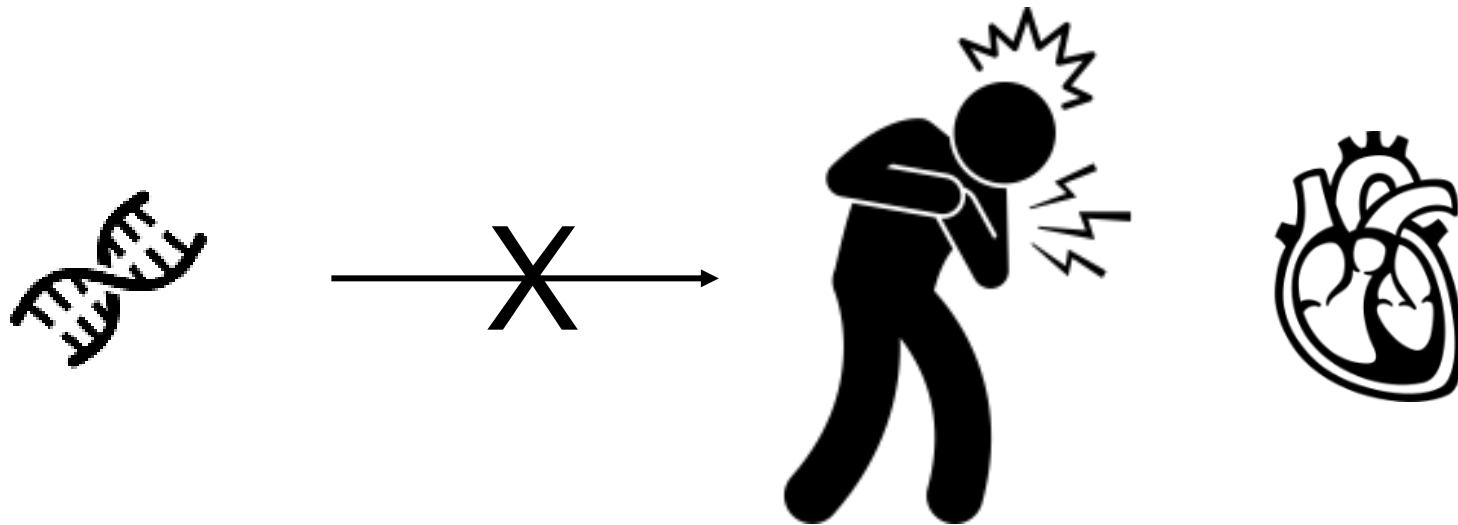
# Combating Myths About Cardiovascular Disease

If I take a statin I don't need to worry about what I eat.

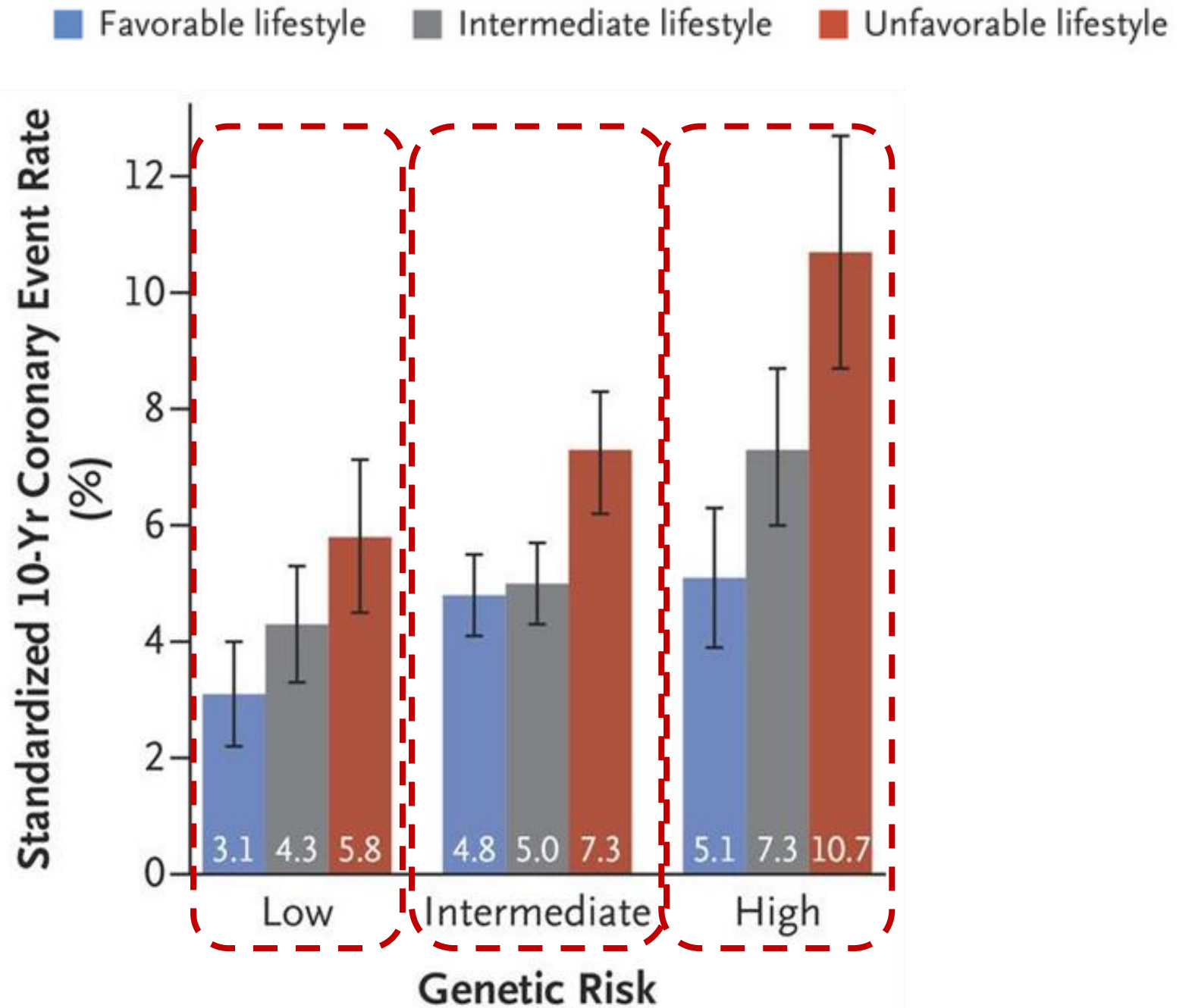


# Combating Myths About Cardiovascular Disease

Heart disease runs in my family, so there is nothing I can do to prevent it.



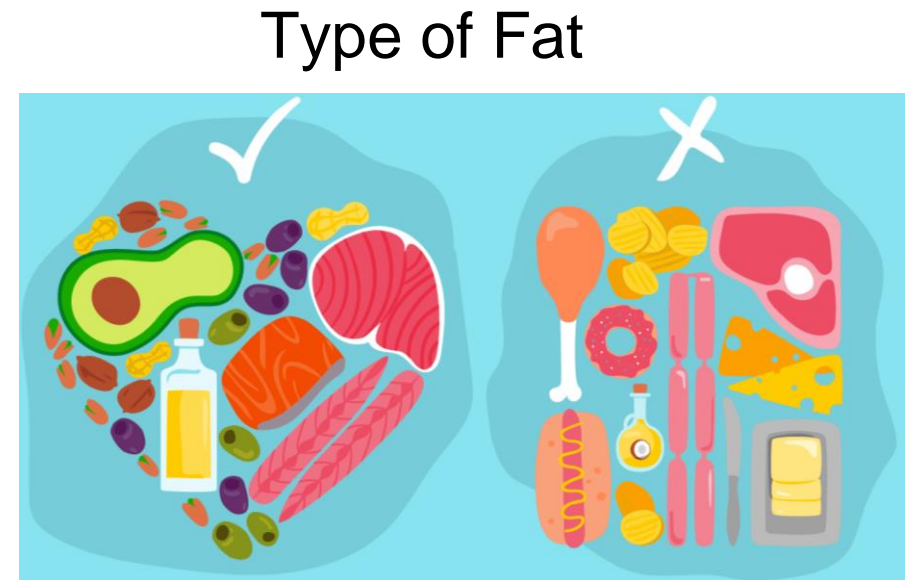
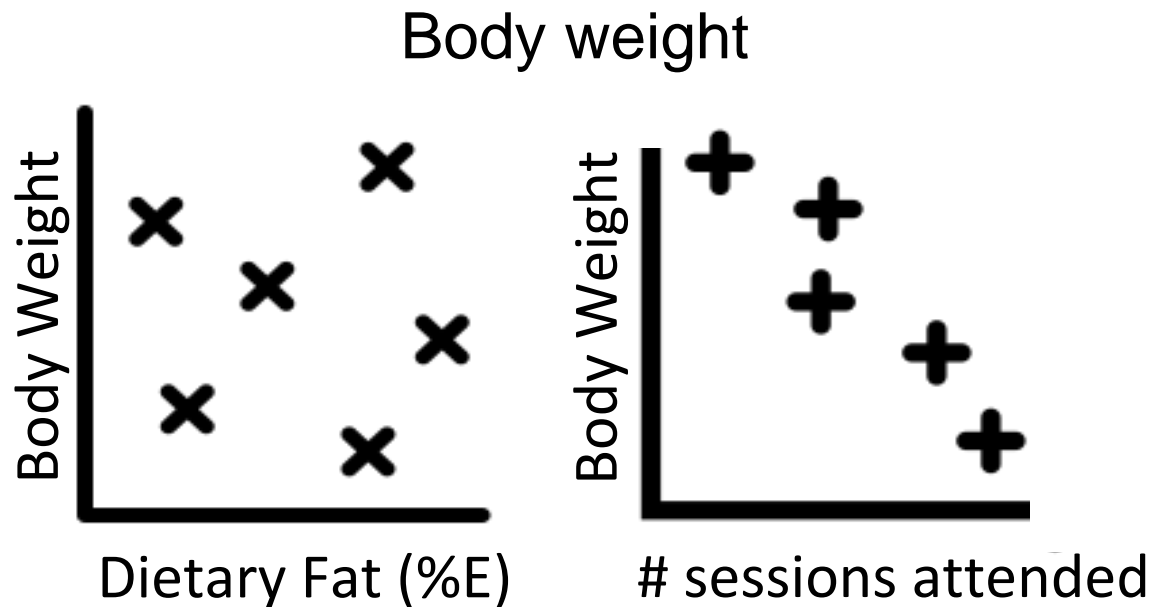
# Genes, Diet/Lifestyle and Risk





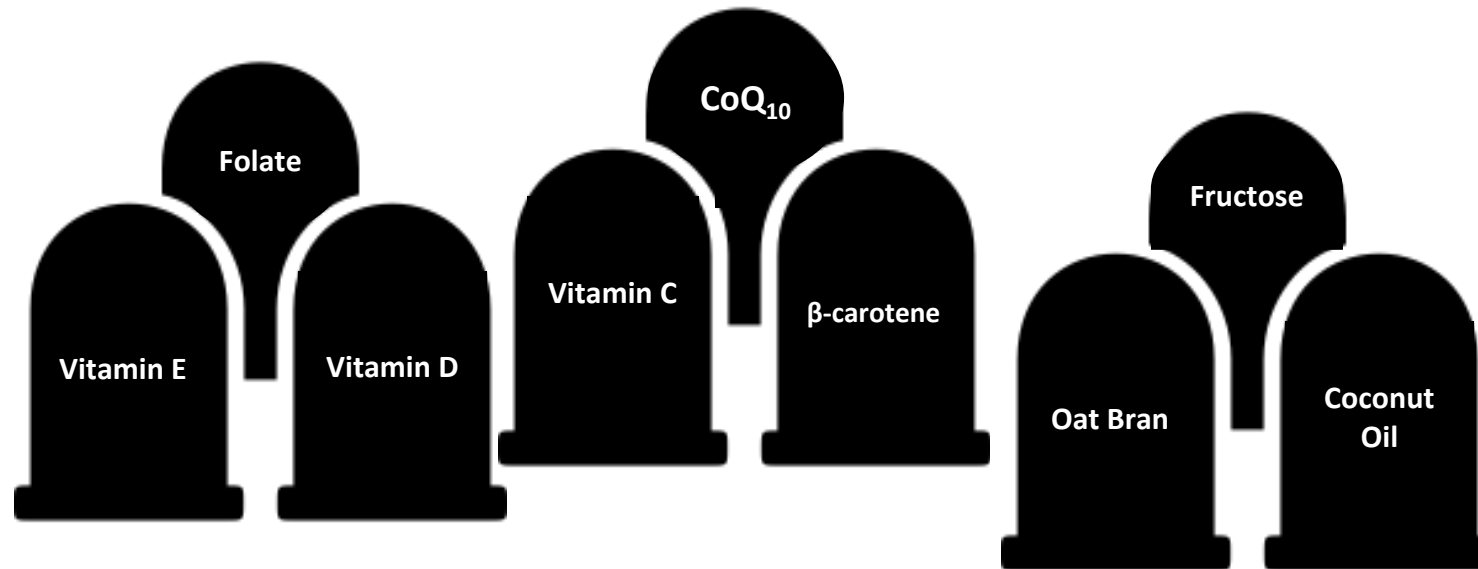
# Combating Myths About Cardiovascular Disease

People with heart disease should avoid eating all fat.



# Combating Myths About Cardiovascular Disease

Specific vitamins and foods can prevent heart disease.





# Review

- Is there a relation between diet and cardiometabolic health?
- How well is the population doing in terms of diet quality?
- What are the current recommendations for diet and cardiometabolic health?
- How can we move the population closer to a cardiometabolic healthy dietary pattern?
- Where do we go from here?