

FOOD AS MEDICINE: THE POWER OF PLANT-BASED NUTRITION

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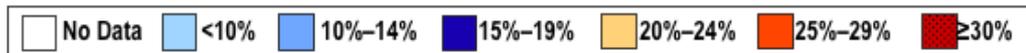
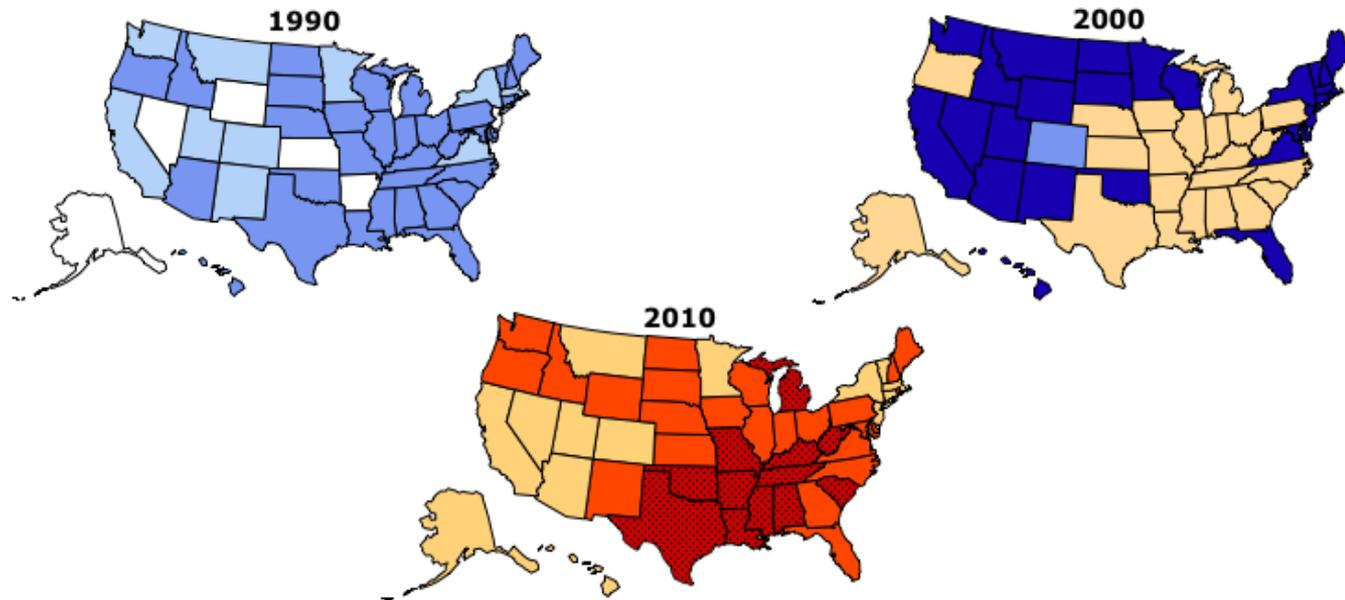


OBESITY IN THE UNITED STATES



Obesity Trends* Among U.S. Adults BRFSS, 1990, 2000, 2010

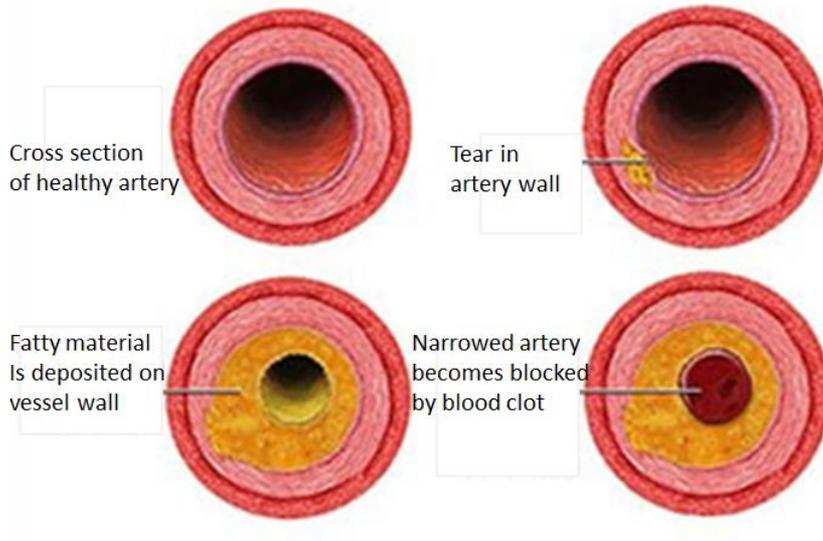
(*BMI ≥ 30 , or about 30 lbs. overweight for 5'4" person)



Source: Behavioral Risk Factor Surveillance System, CDC.



ATHEROSCLEROSIS IN YOUTH



From autopsy of aorta and coronary arteries of young American children killed in motor accidents, **over 50% of children aged 10-14 years had some evidence of early atherosclerosis**

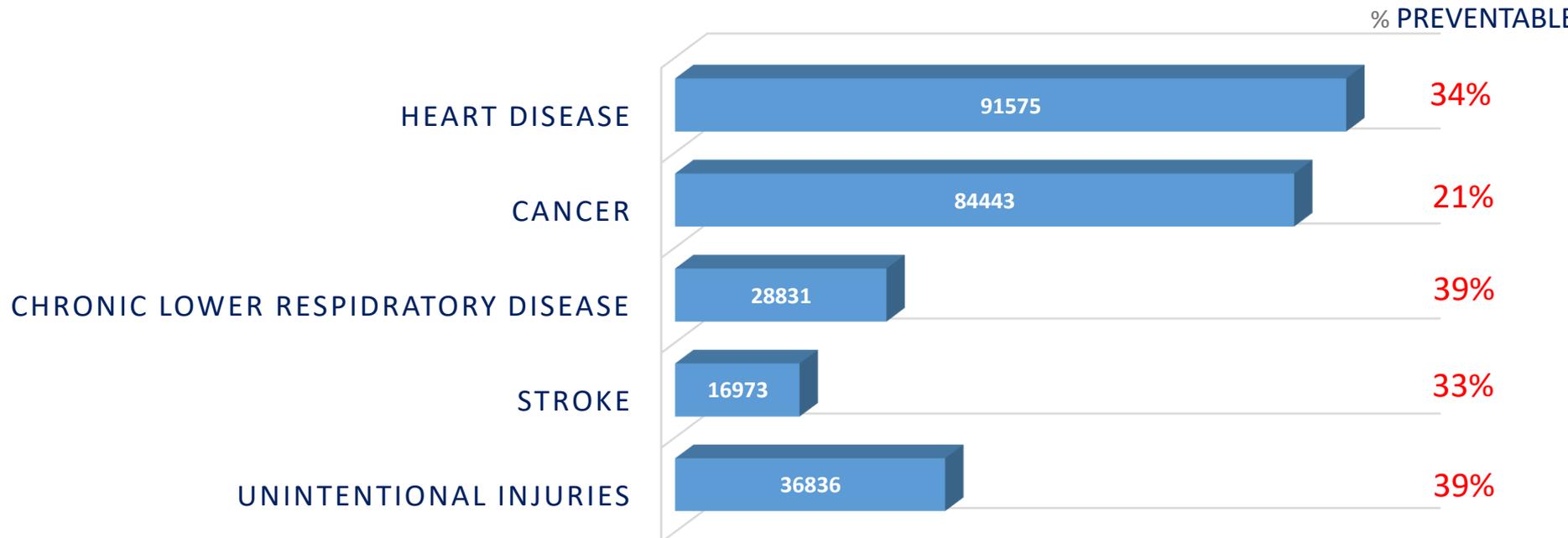
Stary HC. Evolution and progression of atherosclerotic lesions in coronary arteries of children and young adults. *Arteriosclerosis (Dallas, Tex)*. 1989;9(1 Suppl):119-32.

NEARLY A THIRD OF DEATHS IN THE UNITED STATES ARE PREVENTABLE



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POTENTIALLY PREVENTABLE DEATHS FROM THE FIVE LEADING CAUSES OF DEATH — UNITED STATES, 2008–2010



Yoon PW, Bastian B, Anderson RN, Collins JL, Jaffe HW. *MMWR Morbidity and mortality weekly report*. 2014;63(17):369-374.

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GLOBAL BURDEN OF DISEASE STUDY, 1990-2017



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IN 2017, POOR DIET WAS LINKED TO:

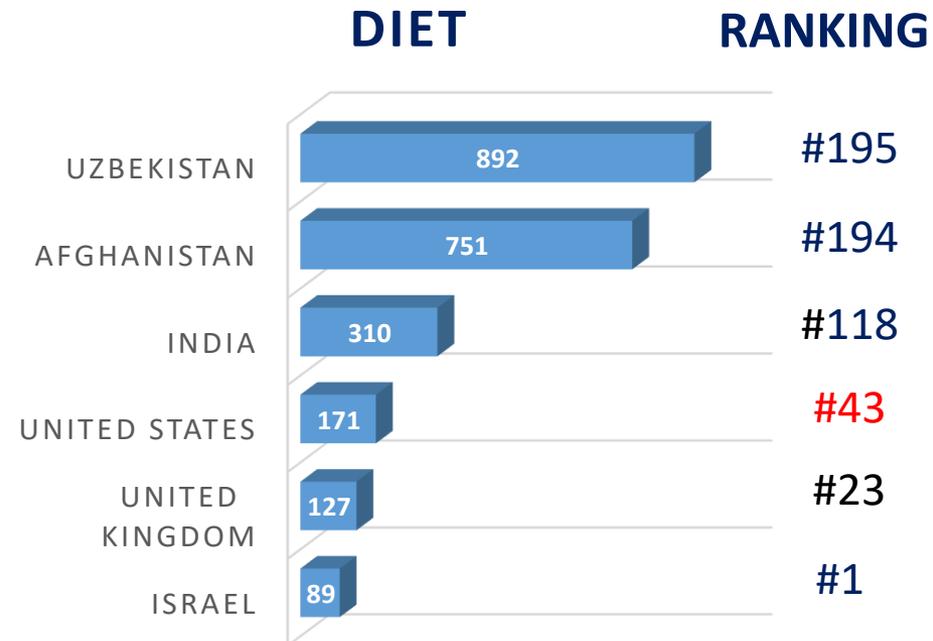
1 IN 5 DEATHS WORLDWIDE



255 MILLION YEARS OF "HEALTHY" LIFE LOST



DEATHS PER 100, 000 PEOPLE ATTRIBUTED TO



Health effects of dietary risks in 195 countries, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet (London, England)*. 2019;393(10184):1958-1972.

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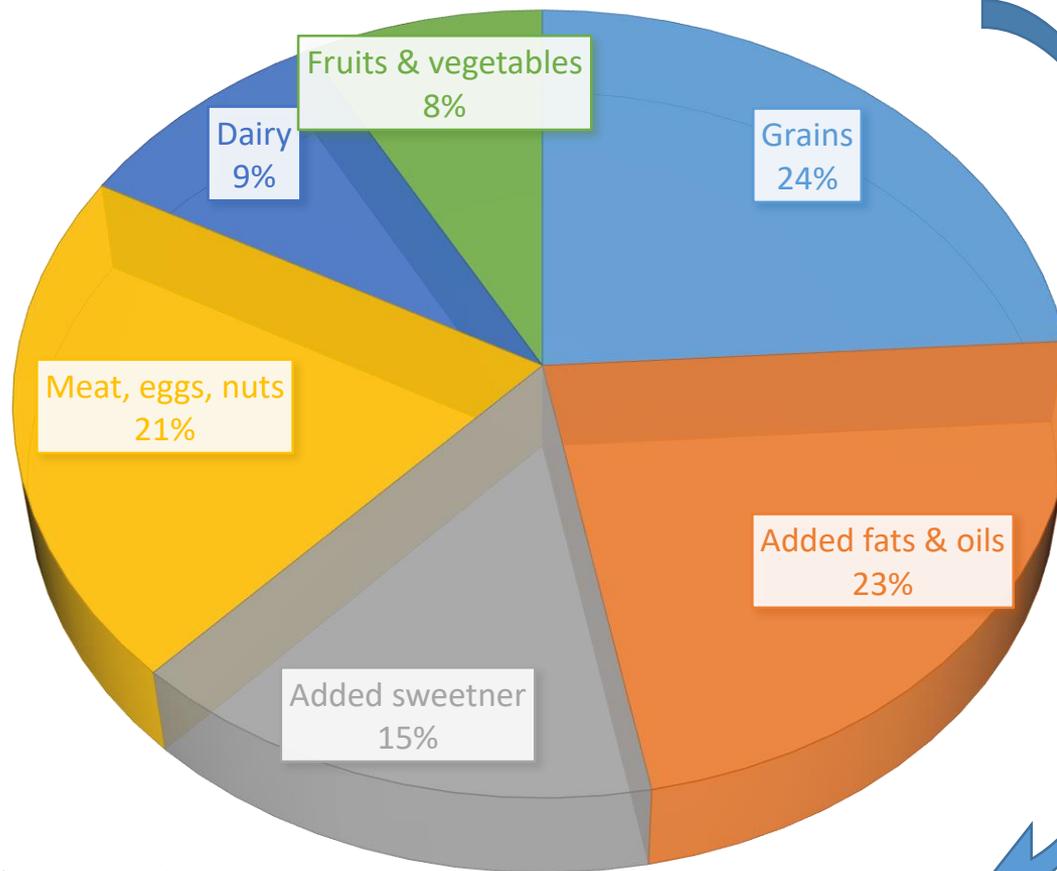
POOR DIET FOUND TO BE BIGGEST RISK FACTOR FOR MORTALITY



Health effects of dietary risks in 195 countries, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet (London, England)*. 2019;393(10184):1958-1972.

WHAT IS ON OUR PLATE?

THE STANDARD AMERICAN DIET



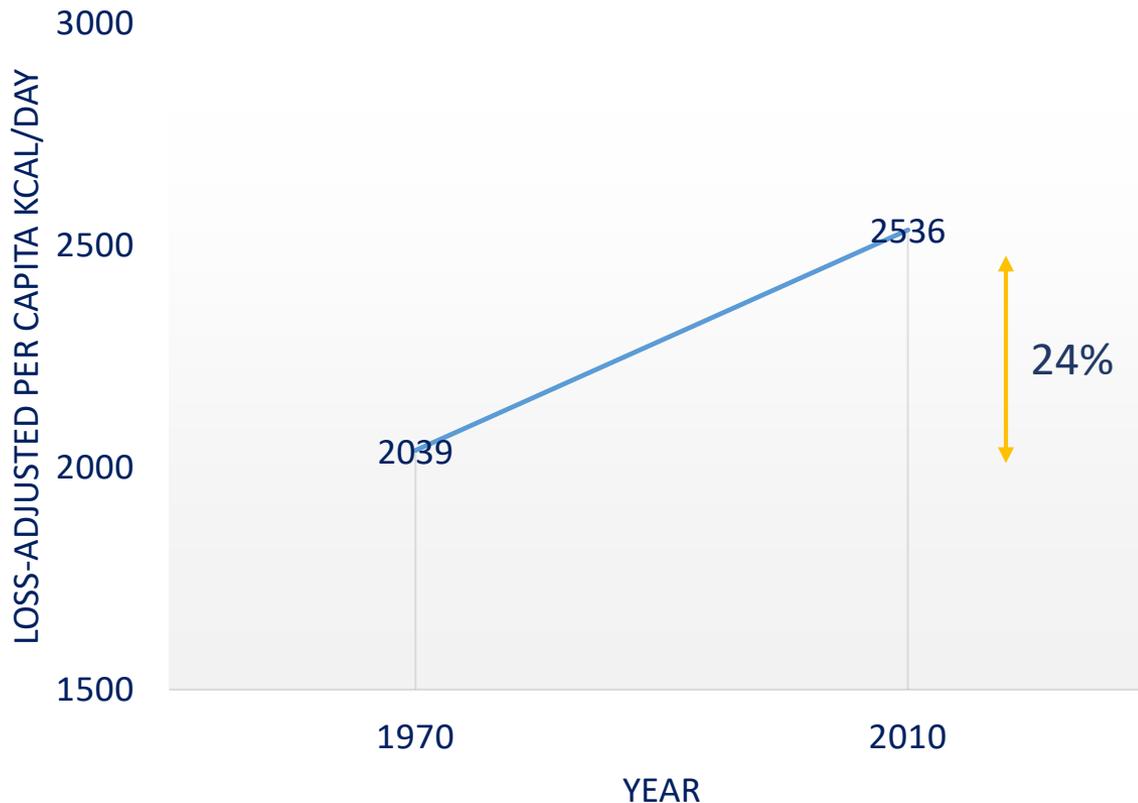
62% of daily calories are from processed foods

Data source :
USDA Economic Research Service 2013

CALORIE DENSITY



CALORIE INTAKE IN THE US 1970-2010



Average per capita calorie consumption has increased 497 kcal/day

CDC NHES and NHANES 1960-2008

USDA ERS loss-adjusted food disappearance

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COMPOSITION OF INCREASED CALORIE CONSUMPTION

- Fruits and vegetables (2%)
- Added sugar and sweeteners (6.8%)
- Added fats and oils (45%)
- (Refined) grains (34%)



Grains (mostly refined), added fats and oils, and added sugars and sweeteners account for 87% of the increase in per capita calorie consumption.

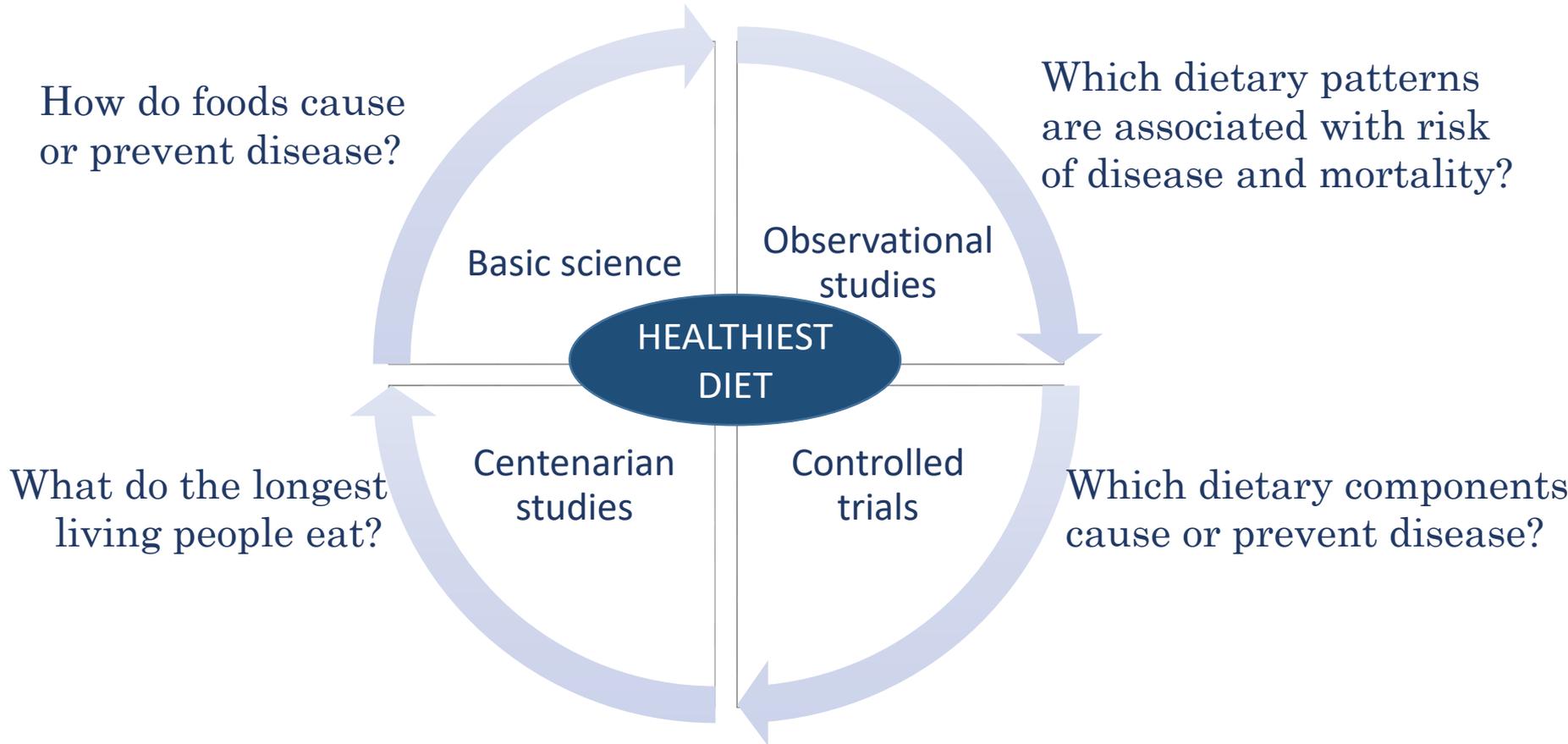
Data source: USDA Economic Research Service data as of February 2016

What should we be eating? And can we know which dietary pattern is the most health-promoting?

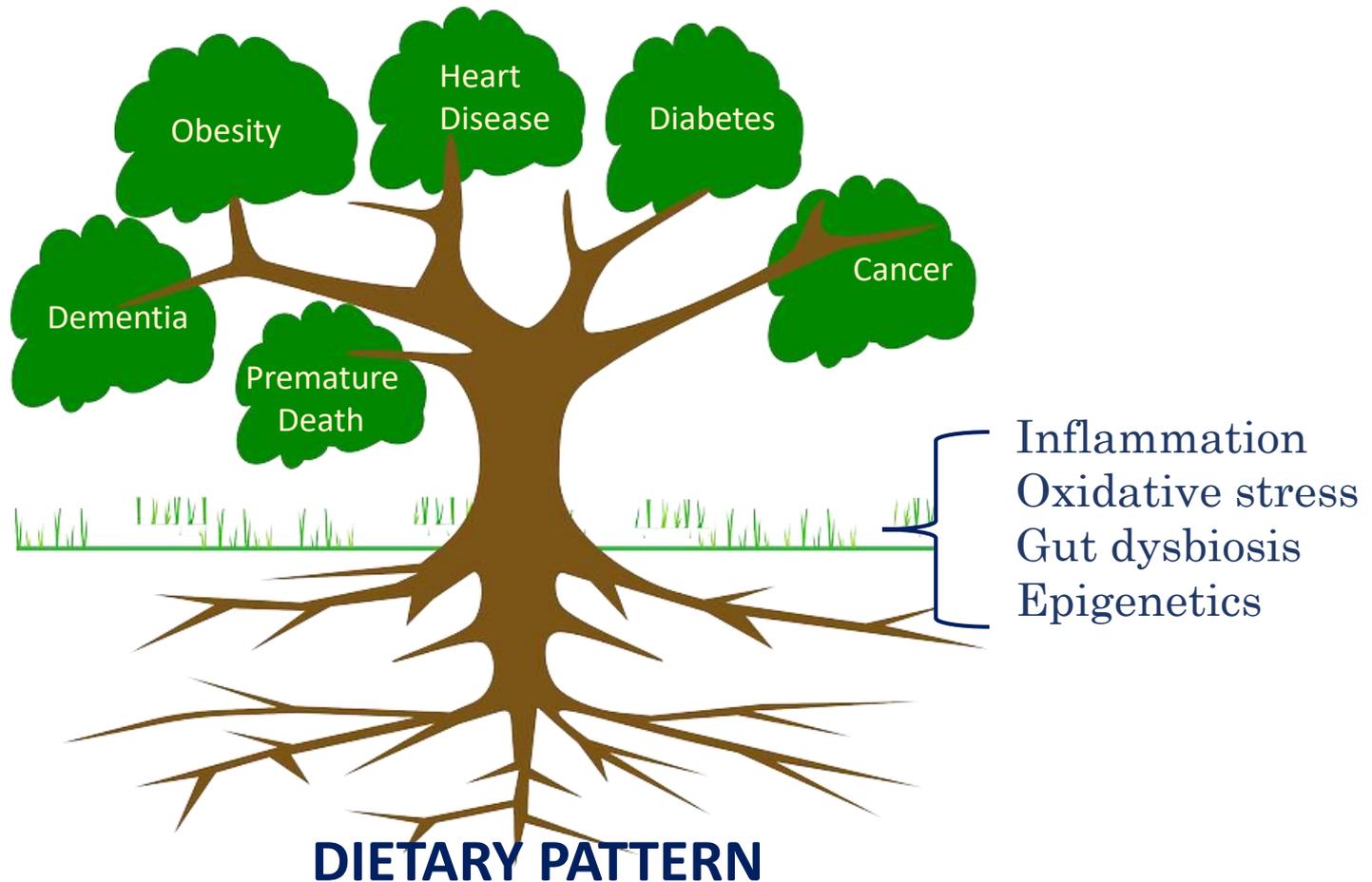
HOW CAN WE KNOW WHICH DIETARY PATTERN IS HEALTHIEST?



CONVERGENCE OF EVIDENCE



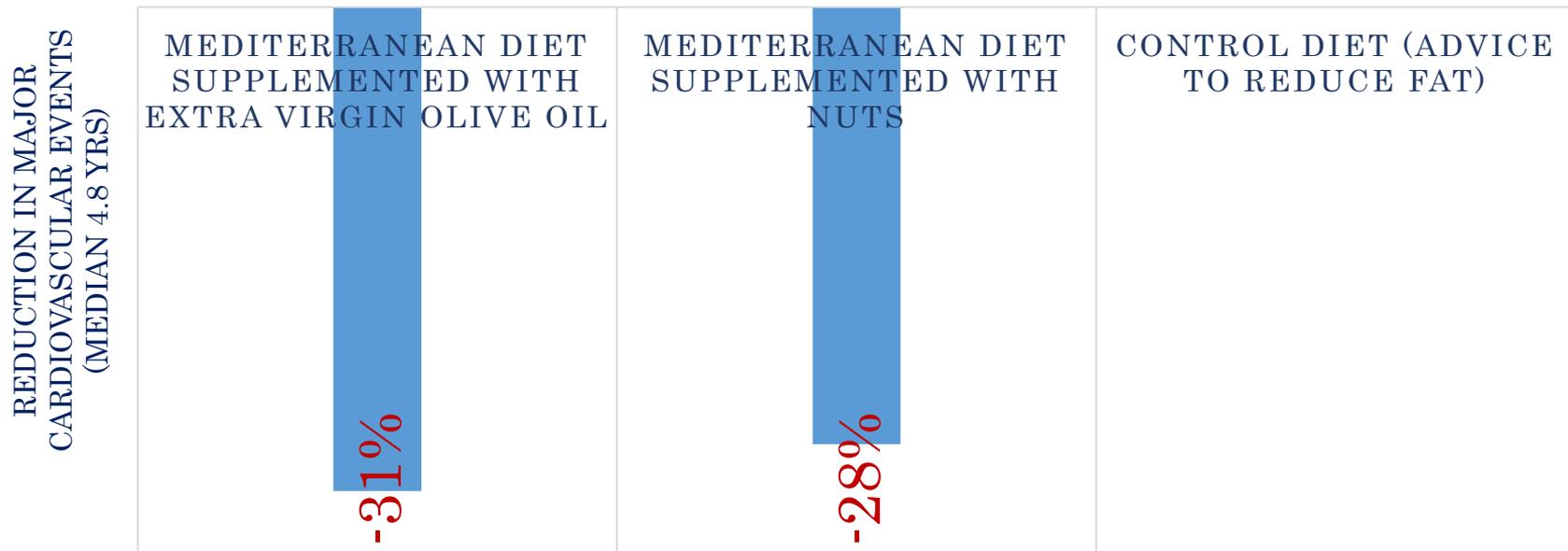
BUILDING A STRONG FOUNDATION: A basic science perspective



CONTROLLED TRIAL: PREDIMED STUDY AND CARDIOVASCULAR PREVENTION



LARGEST DIETARY INTERVENTION TRIAL ON MEDITERRANEAN DIET AND CARDIOVASCULAR DISEASE PREVENTION



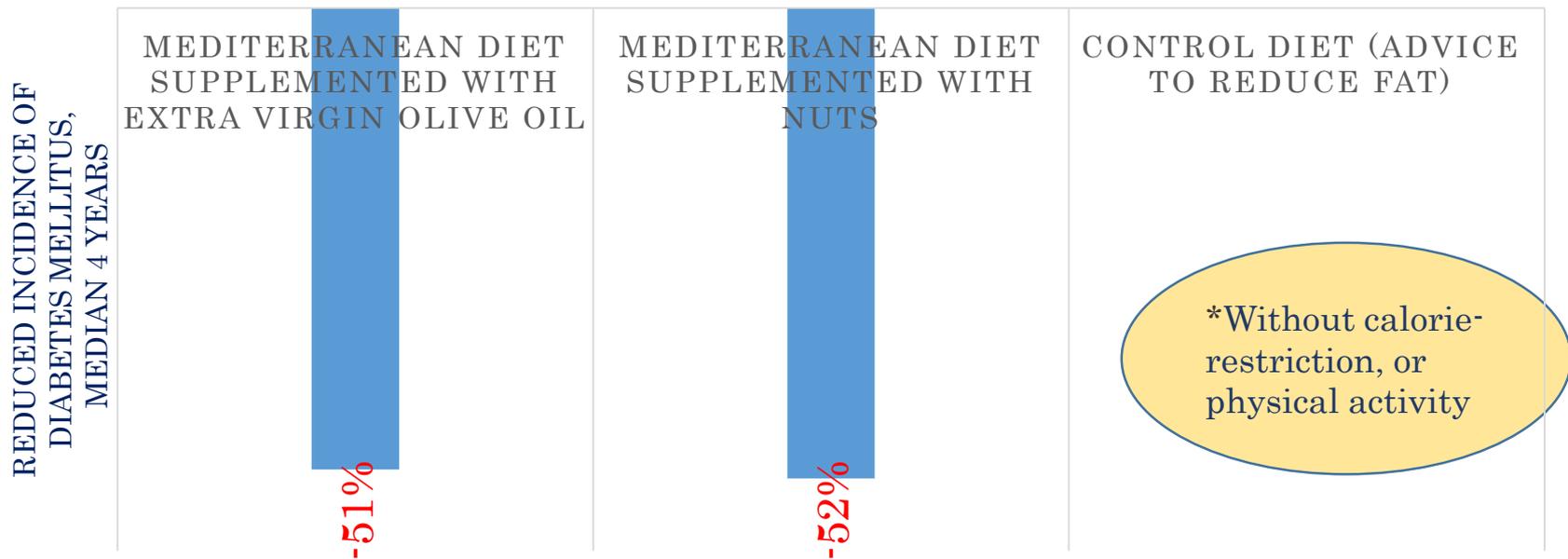
Prevencción con Dieta Mediterránea assigned 7447 participants (55 to 80 years of age, 57% women) at high cardiovascular risk, but with no cardiovascular disease to one of three diets.

CONTROLLED TRIAL PREDIMED STUDY: PREVENTION OF DIABETES



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EFFECT OF MEDITERRANEAN DIET VS LOW FAT ON INCIDENCE OF DIABETES

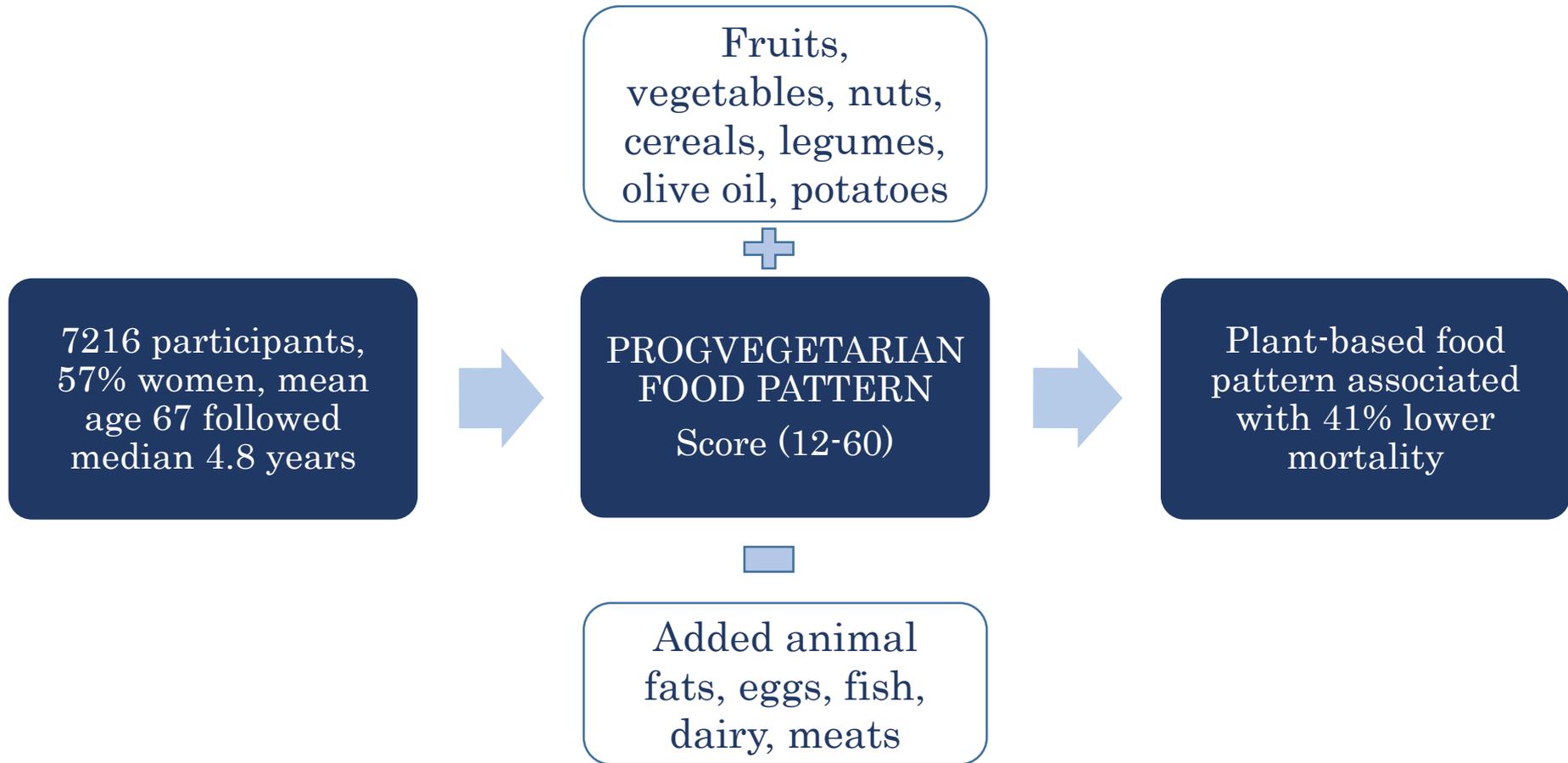


418 men and women without diabetes (aged 55 to 80 years) at high risk for heart disease (subgroup from the Prevención con Dieta Mediterránea cardiovascular prevention trial)

CONTROLLED TRIAL: PREDIMED STUDY PLANT-BASED FOOD PATTERN AND MORTALITY



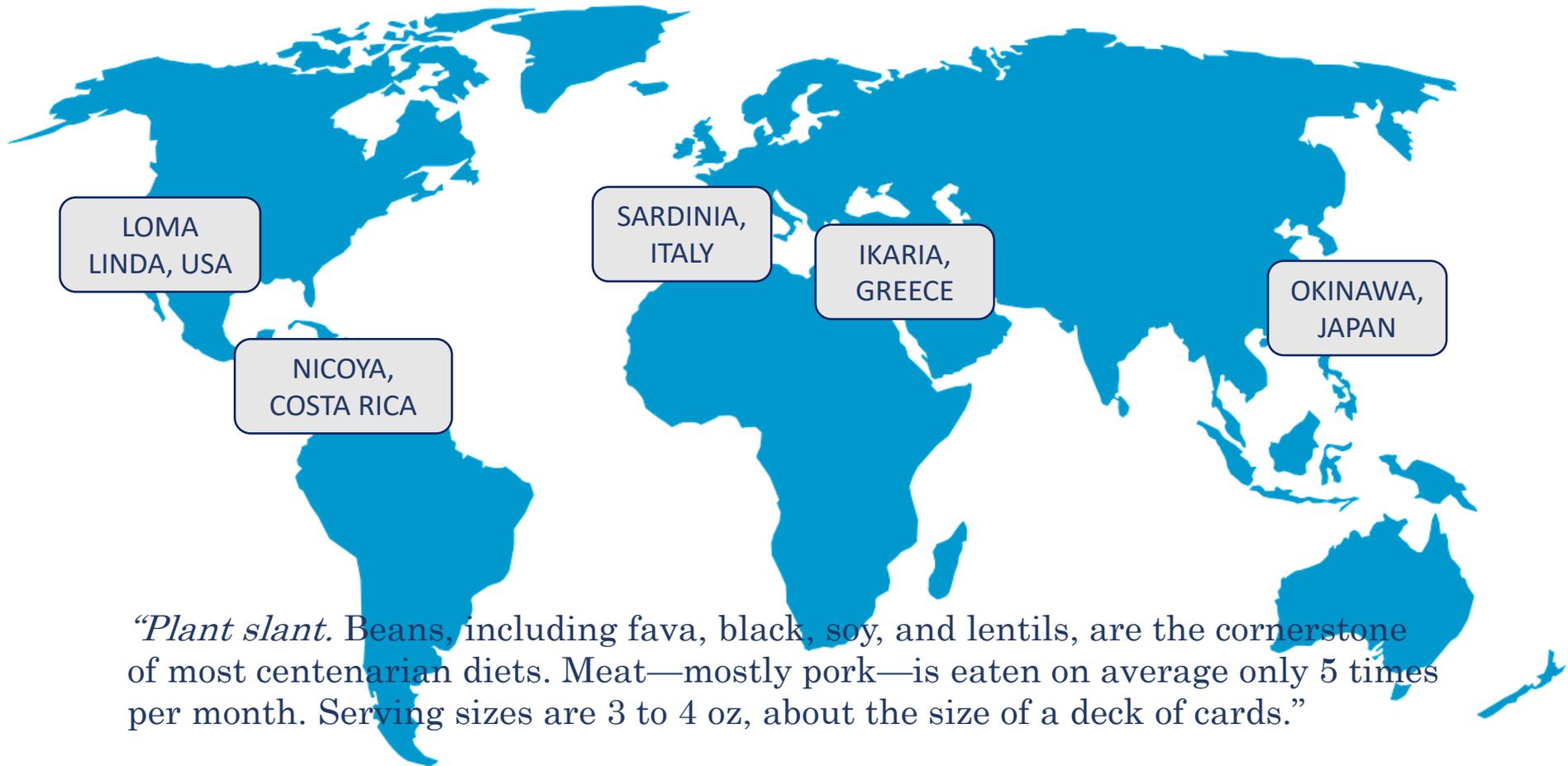
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Martínez-González MA, Sánchez-Tainta A, Corella D, et al.. *The American journal of clinical nutrition*. 2014;100(suppl_1):320S-328S.

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CENTENARIAN STUDIES BLUE ZONES: LONGEVITY REGIONS



“Plant slant. Beans, including fava, black, soy, and lentils, are the cornerstone of most centenarian diets. Meat—mostly pork—is eaten on average only 5 times per month. Serving sizes are 3 to 4 oz, about the size of a deck of cards.”

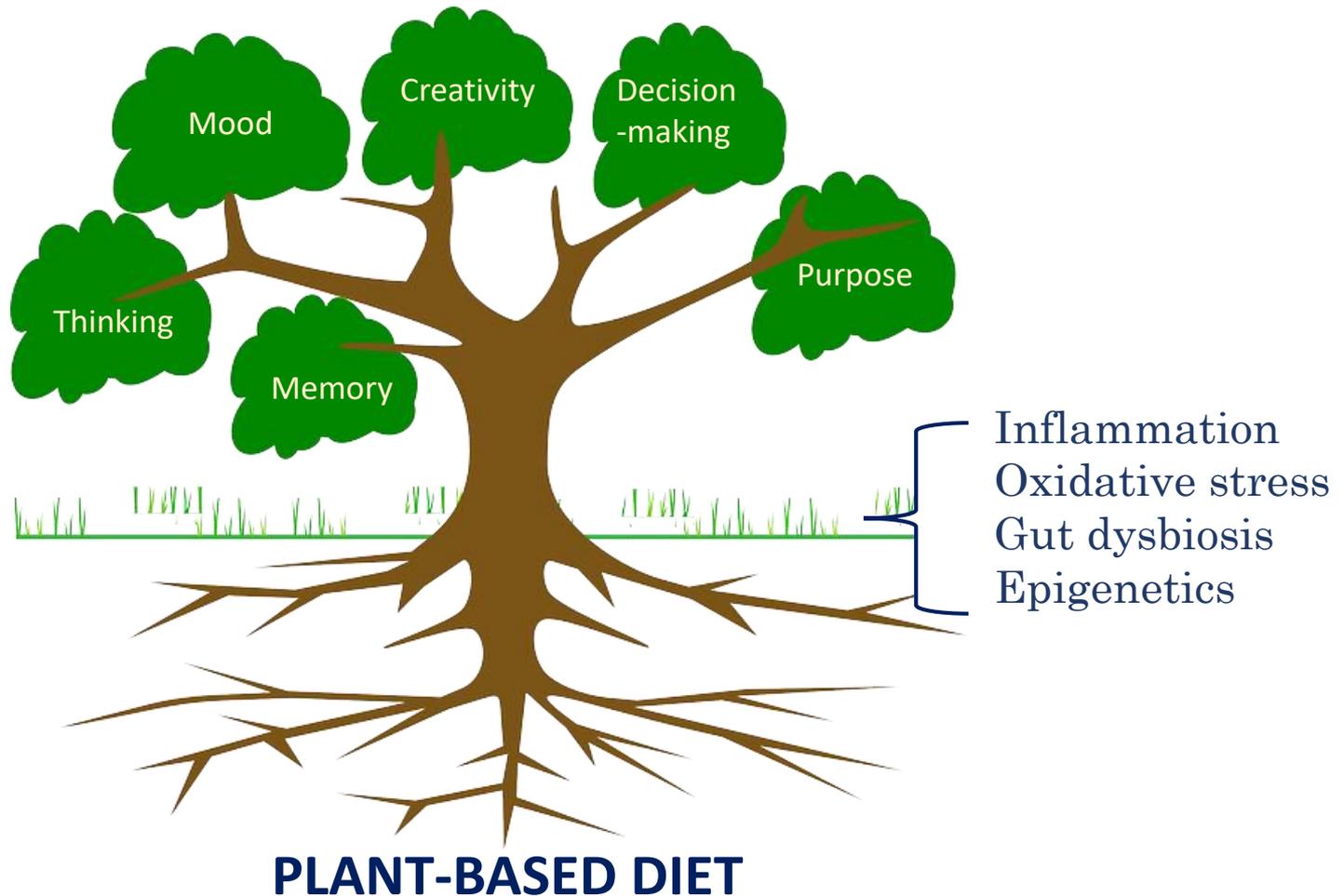
Buettner D, Skemp S. Blue Zones: Lessons From the World's Longest Lived. *American journal of lifestyle medicine.* 2016;10(5):318-321.

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PLANT-BASED DIETS AS FOUNDATION OF WELLBEING



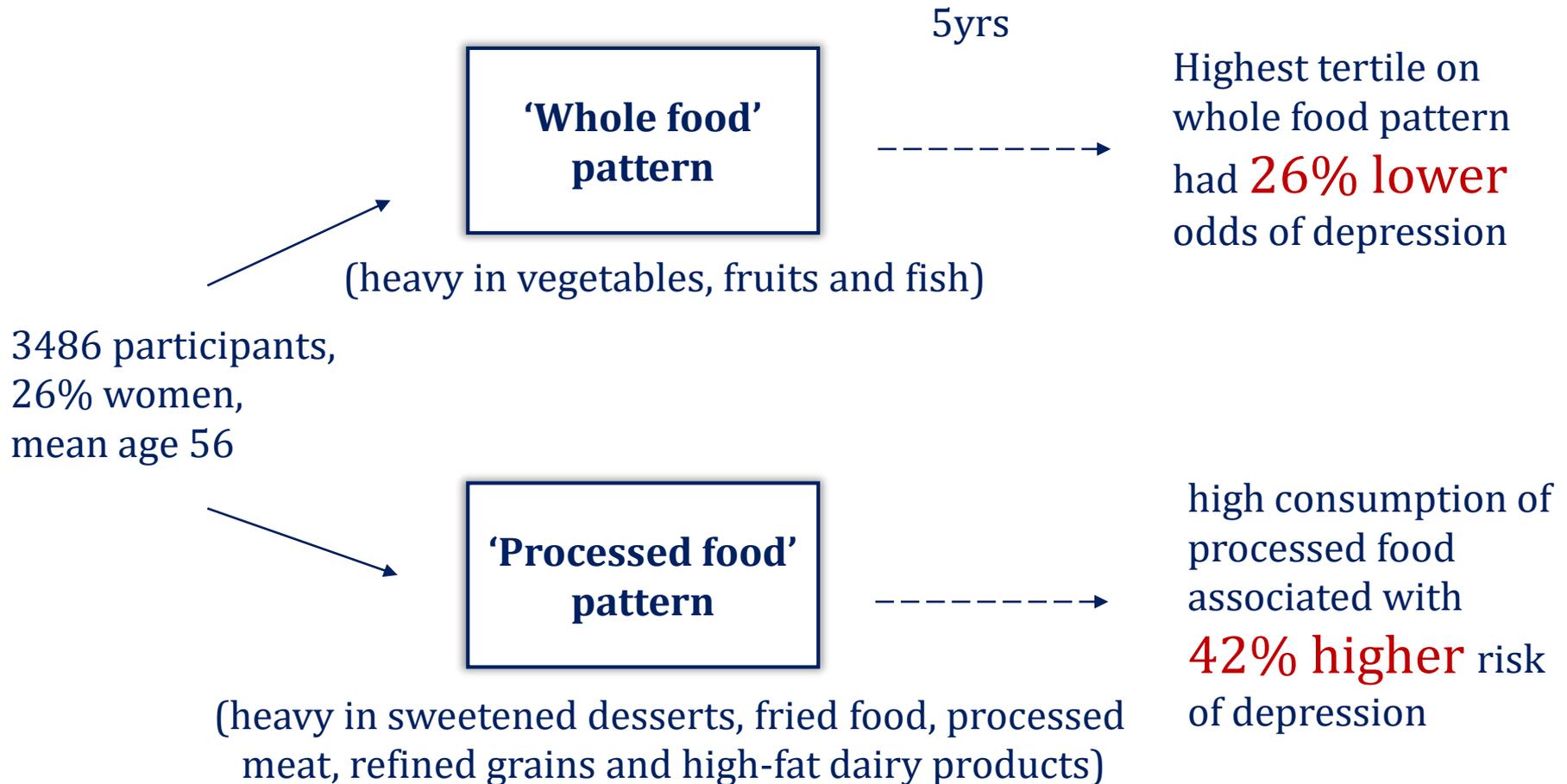
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DIETARY PATTERN AND RISK OF DEPRESSION



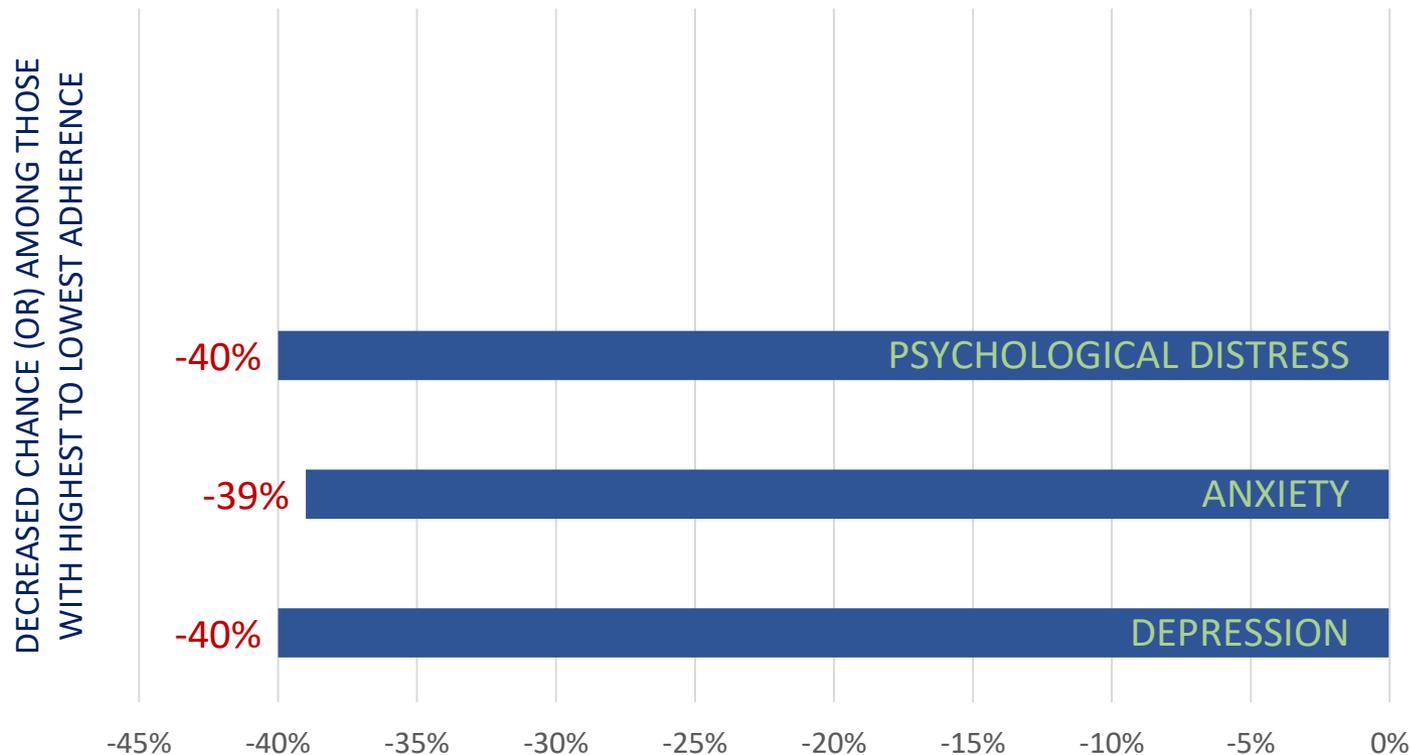
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ADHERENCE TO MEDITERRANEAN DIET AND MENTAL HEALTH



Association between adherence to Mediterranean dietary pattern and prevalence of psychological disorders in over 3000 adults age 18-65 (mean age 37)

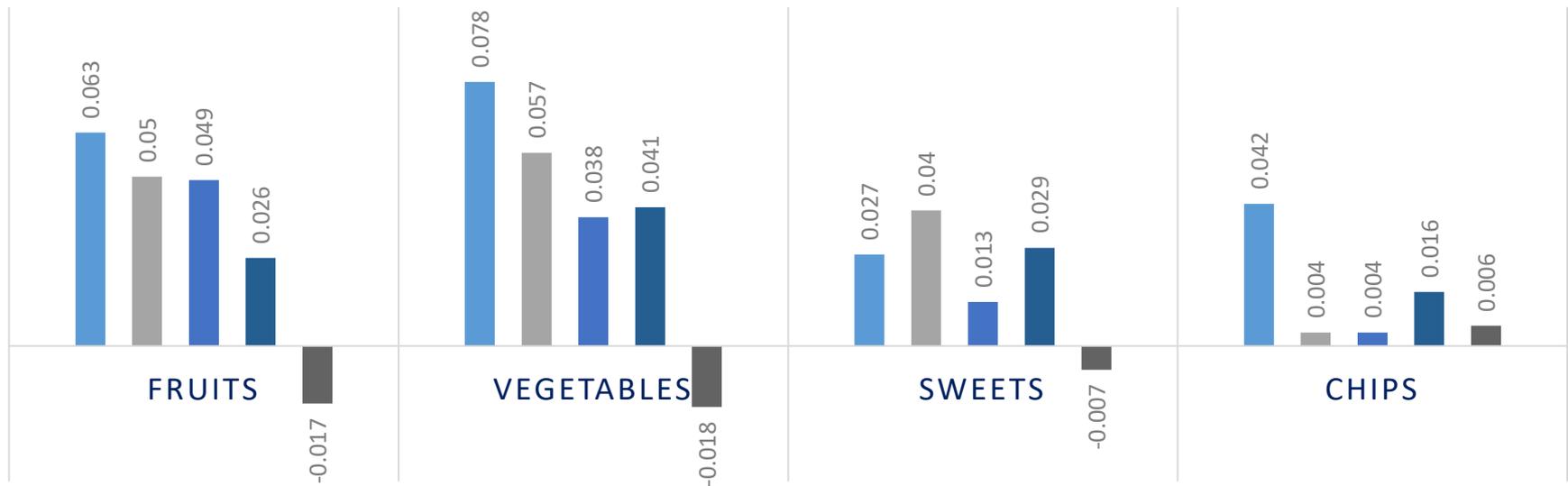


FRUITS, VEGETABLES AND EUDAIMONIA



WITHIN PERSON ASSOCIATION BETWEEN DAILY FOOD CONSUMPTION AND EUDAIMONIC WELLBEING

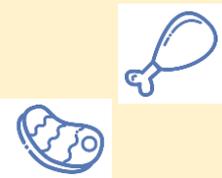
■ Eudamonia ■ Curiosity ■ Creativity ■ Positive affect ■ Negative affect



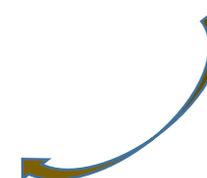
WHAT IS A PLANT-BASED DIETARY PATTERN?



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	BEEF/POULTRY	FISH	DAIRY/EGGS
<p>VEGAN Excludes all animal products</p>	NONE	NONE	NONE
<p>VEGETARIAN Excludes animal products but can include dairy and eggs</p>	NONE	NONE	
<p>PLANT-BASED Encourages plant foods in their whole form, especially vegetables, fruits, legumes, whole grains, seeds and nuts; and limits animal products and processed foods</p>			

Defined by what it includes rather than excludes



NOT ALL PLANT-BASED DIETS ARE EQUAL



PROCESSED PLANT-BASED

- ↑ Cardiovascular disease
- ↑ Diabetes
- ↑ Obesity
- ↑ Cognitive decline
- ↑ Mortality

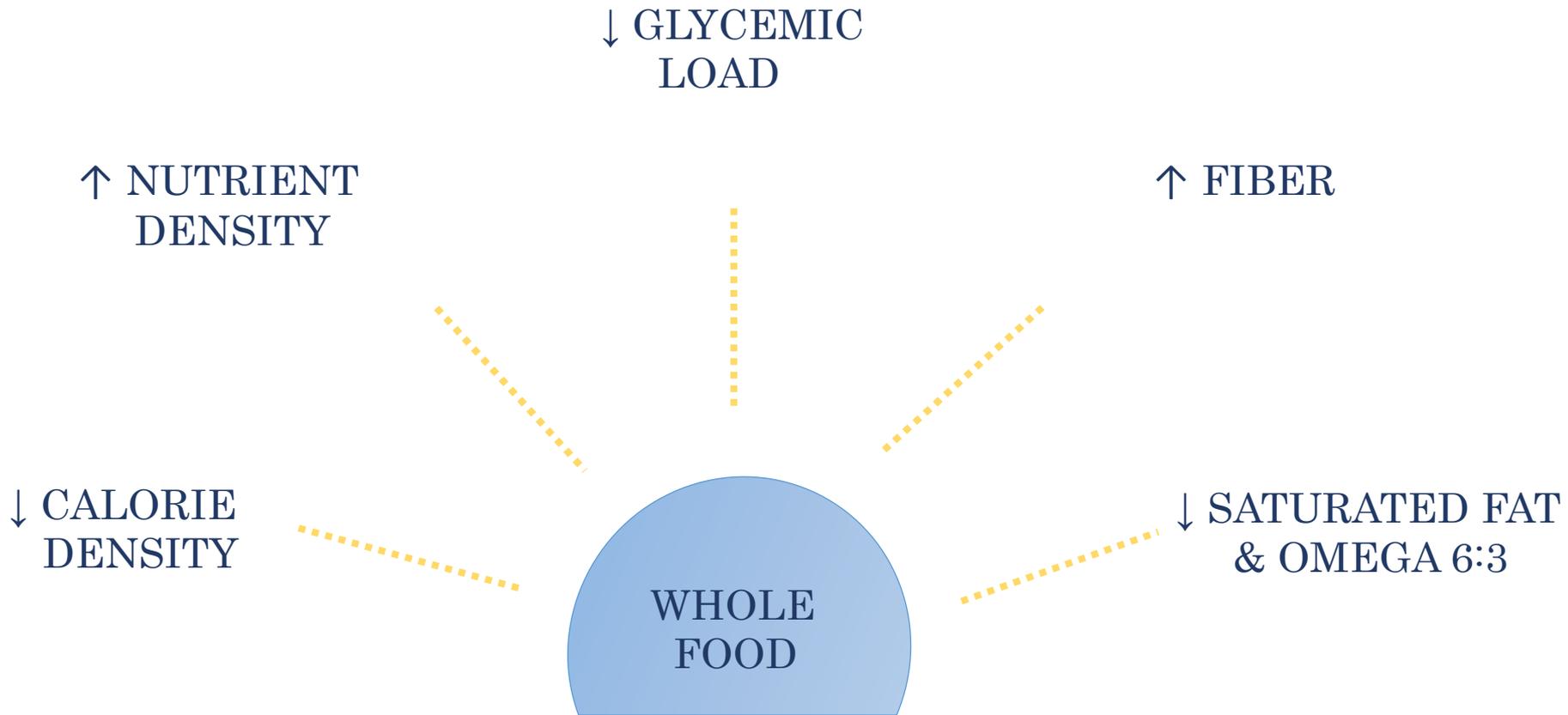


WHOLE FOOD PLANT-BASED

- ↓ Cardiovascular disease
- ↓ Diabetes
- ↓ Obesity
- ↓ Cognitive decline
- ↓ Mortality



WHAT MAKES WHOLE FOOD PLANT-BASED DIETS HEALTHY?



GETTING FROM HERE TO THERE...



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AMERICANS ARE FAILING TO MEET DIETARY GUIDELINES



GRAINS

44%

< 6 oz.



FRUITS

75%

< 2 cups



VEGETABLES

87%

< 2 ½ cups

PERCENT OF AMERICANS GETTING LESS THAN THE AMOUNT RECOMMENDED BY USDA

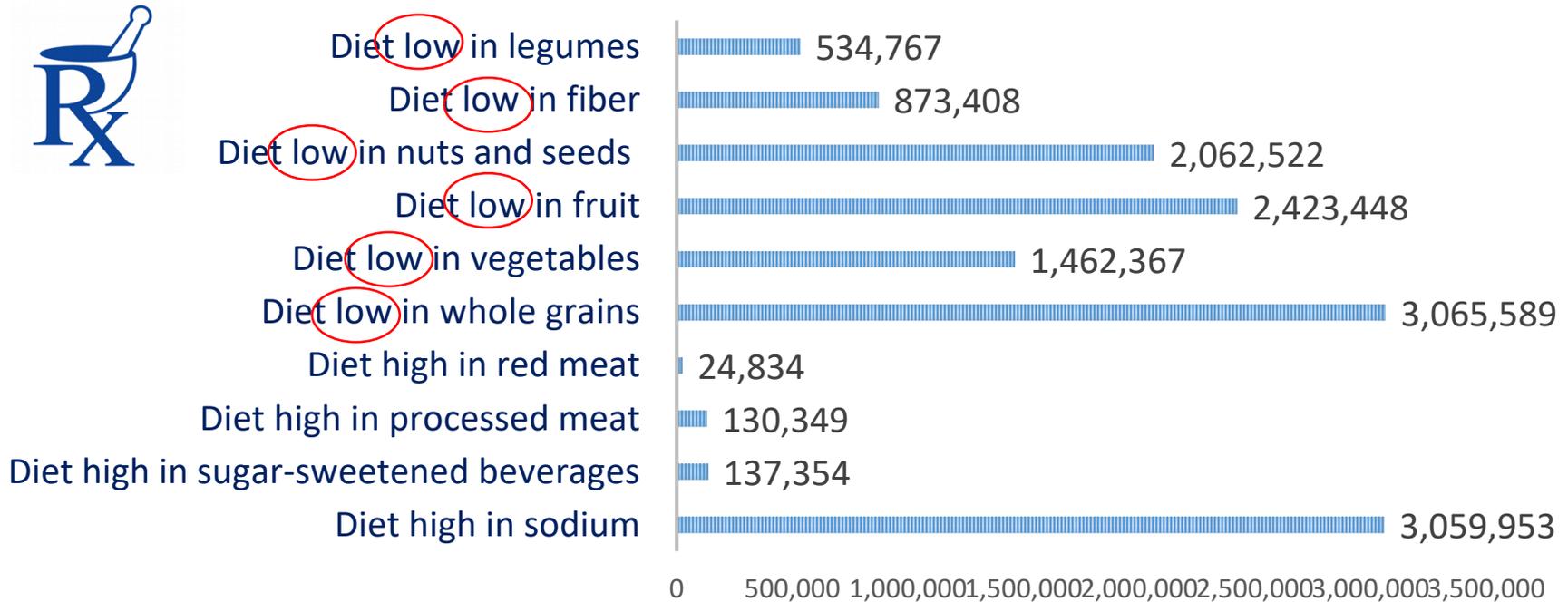
WHAT WE ARE NOT EATING MAY POSE A BIGGER THREAT THAN WHAT WE ARE EATING



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DEATHS GLOBALLY ATTRIBUTABLE TO INDIVIDUAL DIETARY RISKS

■ Number of deaths globally in 2017



Health effects of dietary risks in 195 countries, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet (London, England)*. 2019;393(10184):1958-1972.

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THE PLANT-BASED ADVANTAGE



SUSTAINABILITY



HEALTHY LIVING



HEALTH CARE
COST-CURVE

SUMMARY:



- Nearly a third of deaths in the United States are preventable
- Poor diet is the biggest risk factor for mortality globally
- The common theme among the healthiest diets is that they are predominantly plant-based, contain whole foods, and limit processed foods
- Not eating enough whole grains, fruits, vegetables, beans, lentils, nuts, and seeds causes more deaths and loss of quality of life than avoiding red meat, processed meats, and sugar-sweetened sodas
- **What's good for human health is good for the health of our planet!**

AN OPPORTUNITY AND CHALLENGE



Make a
change...

Pass it on...

Thank you!