



Is There a Path for Healthy and Sustainable Diets for All?

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Department of Nutrition

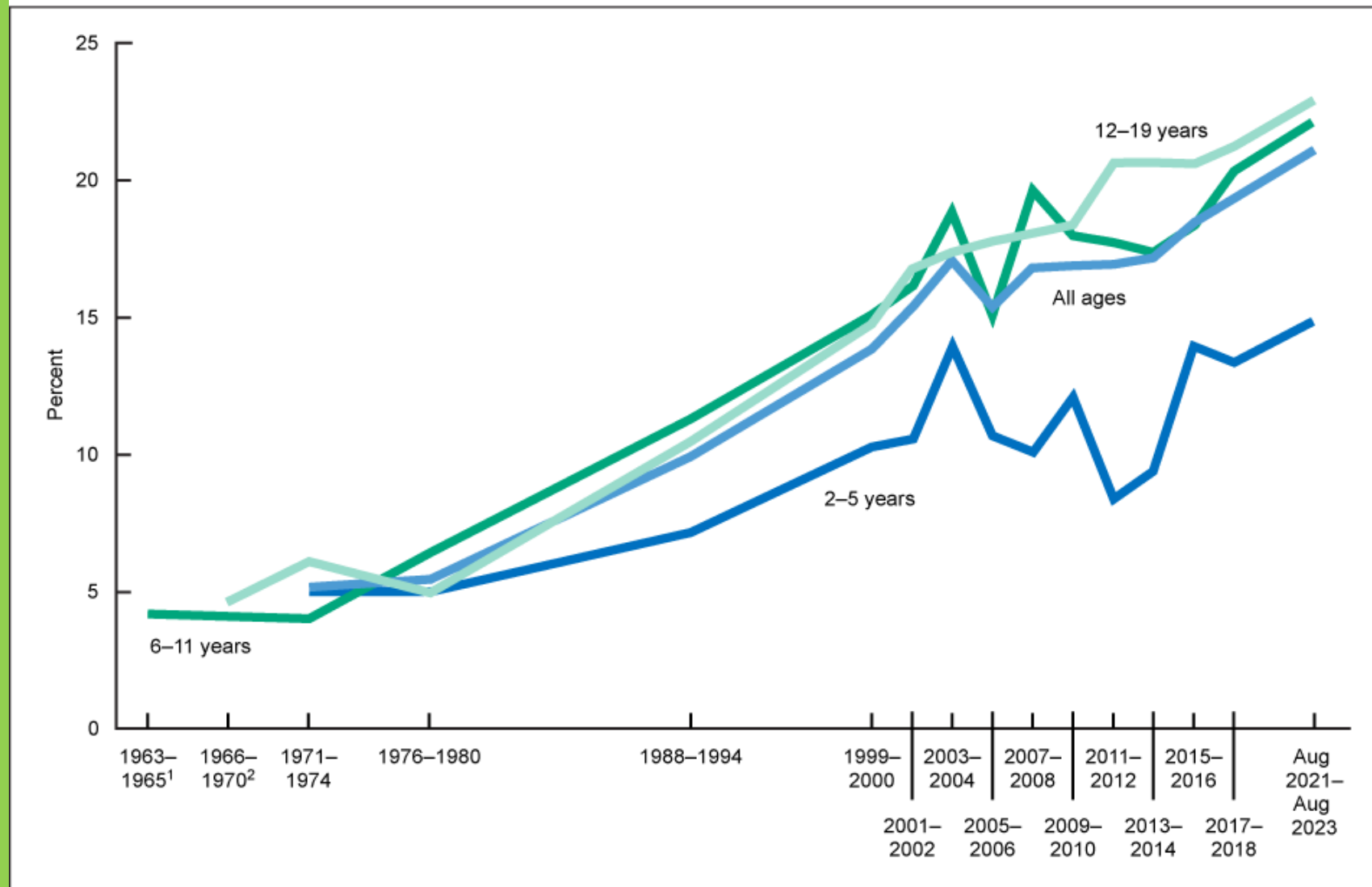
Harvard T. H. Chan School of Public Health

UMass

June 8, 2026



Figure. Trends in obesity among children and adolescents ages 2–19 years, by age group: United States, 1963–1965 through August 2021–August 2023



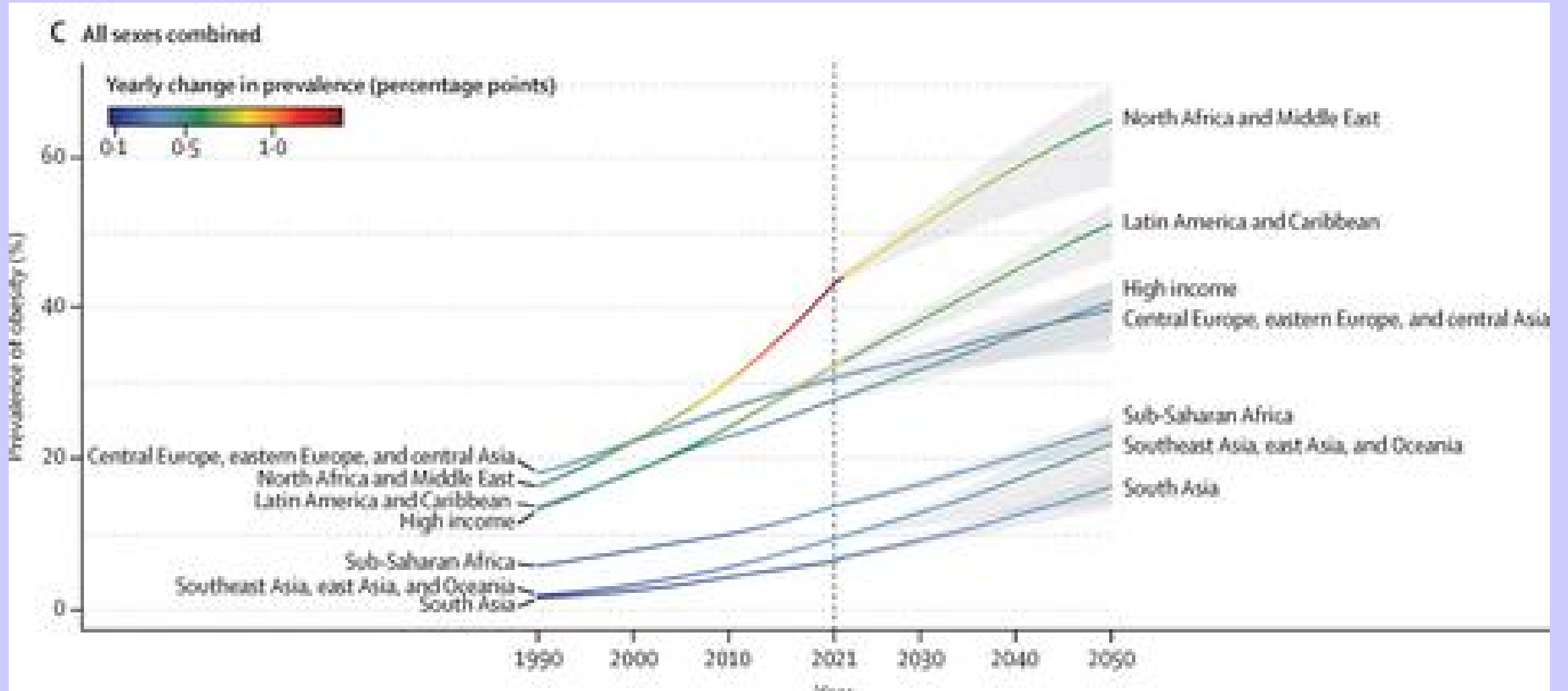
¹Survey did not include ages 2–5 or 12–19.

²Survey did not include ages 2–5 or 6–11; data for adolescents is ages 12–17, not 12–19.

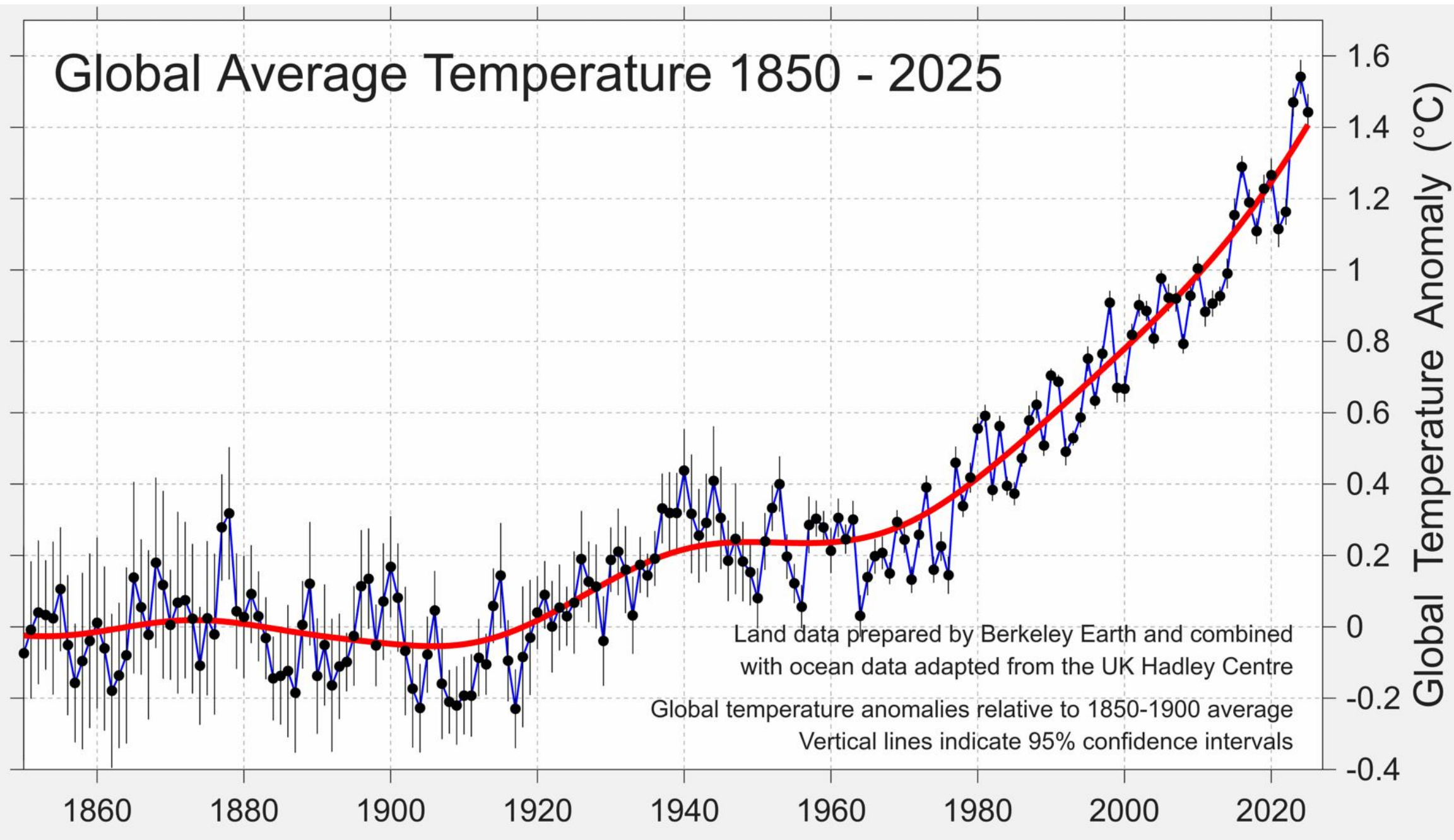
NOTES: Obesity is defined as body mass index (BMI) at or above the 95th percentile from the sex-specific BMI-for-age 2000 CDC Growth Charts.

SOURCE: National Center for Health Statistics, National Health Examination Surveys, 1963–1965 and 1966–1970; and National Health and Nutrition Examination Surveys, 1971–1974, 1976–1980, 1988–1994, 1999–2018, and August 2021–August 2023.

Trends in obesity, globally



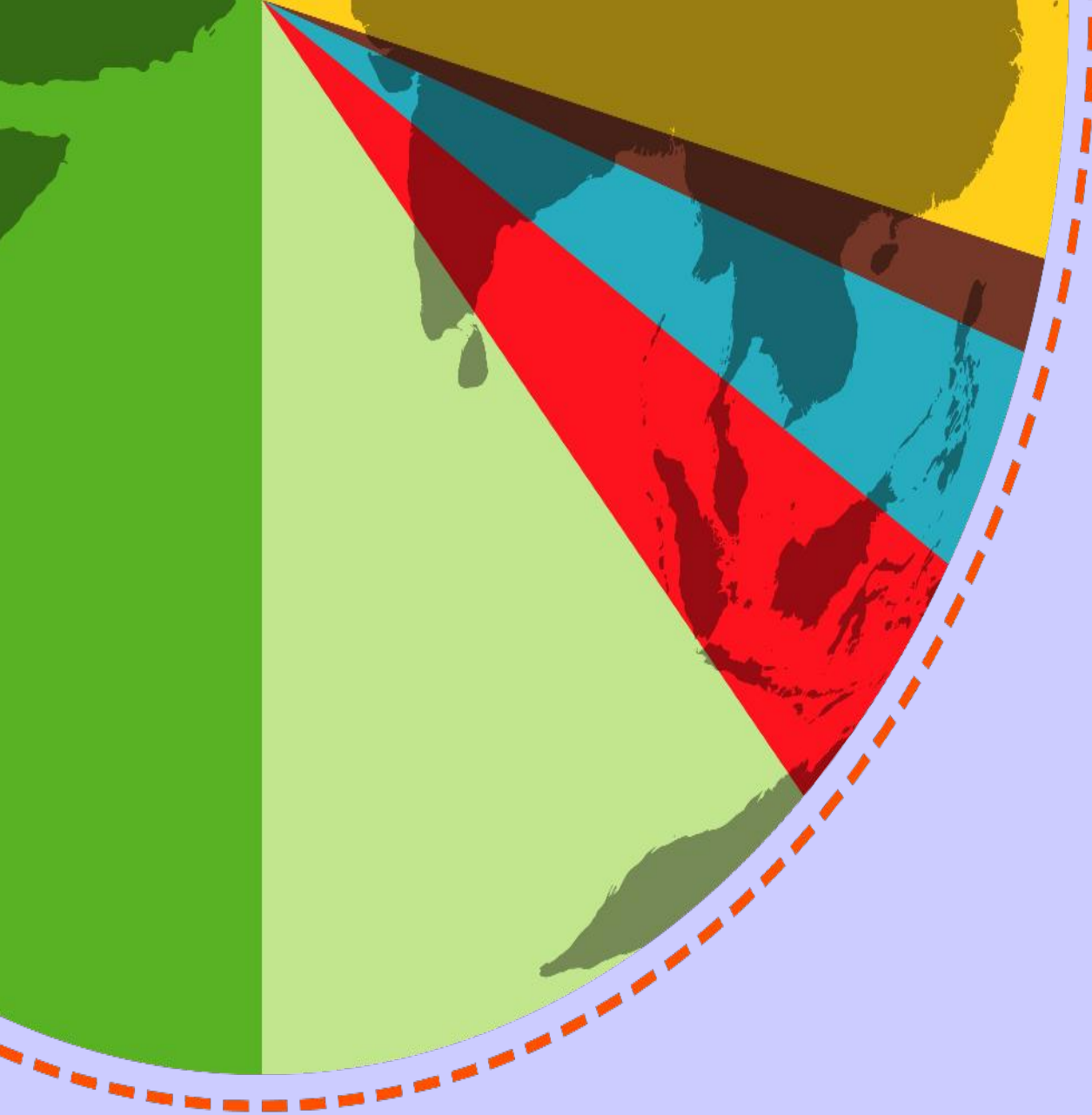
Global Average Temperature 1850 - 2025



EAT/Lancet Commission

The Challenge: How to feed 9.8 billion people in 2050 a diet that is healthy and sustainable

<https://www.thelancet.com/commissions/EAT>



The EAT-Lancet Commission on
Healthy Diets From
Sustainable Food Systems

Food Planet Health

Process of the EAT-Lancet Commission, 2025

1. Defining a healthy diet

2. Defining planetary boundaries

3. Defining just social foundations

4. Modeling fit with a global food system

5. Identifying solutions and actions



Diet-Disease: Layers of Evidence

Effects on Risk Factors

Composition of Food



Diet-Disease: Layers of Evidence

Associations with Disease

Effects on Risk Factors

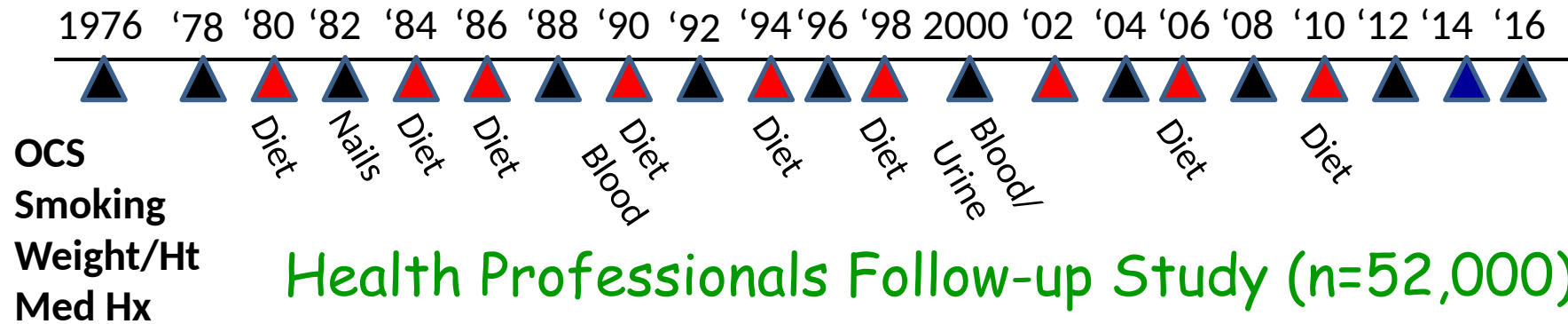
Composition of Food



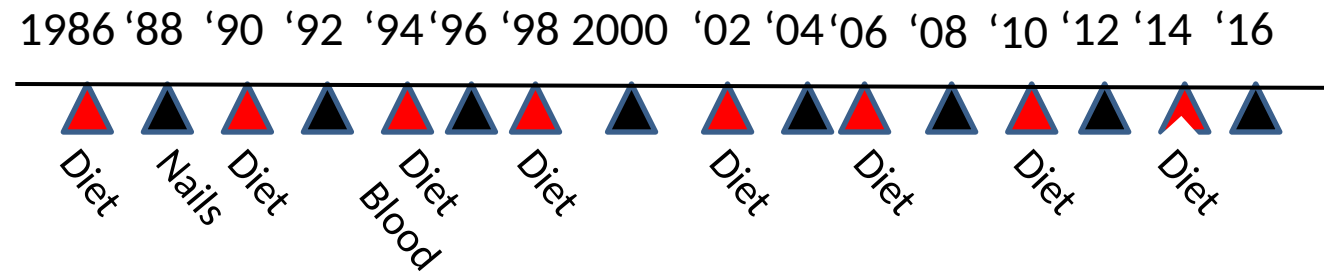
Diet-Disease: Layers of Evidence



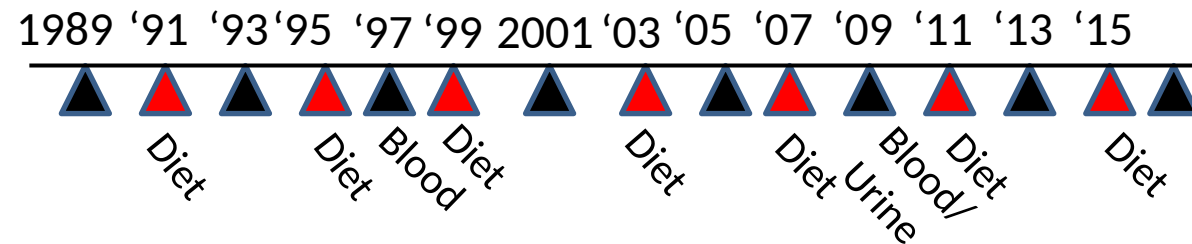
Nurses' Health Study (n=121,700)



Health Professionals Follow-up Study (n=52,000)

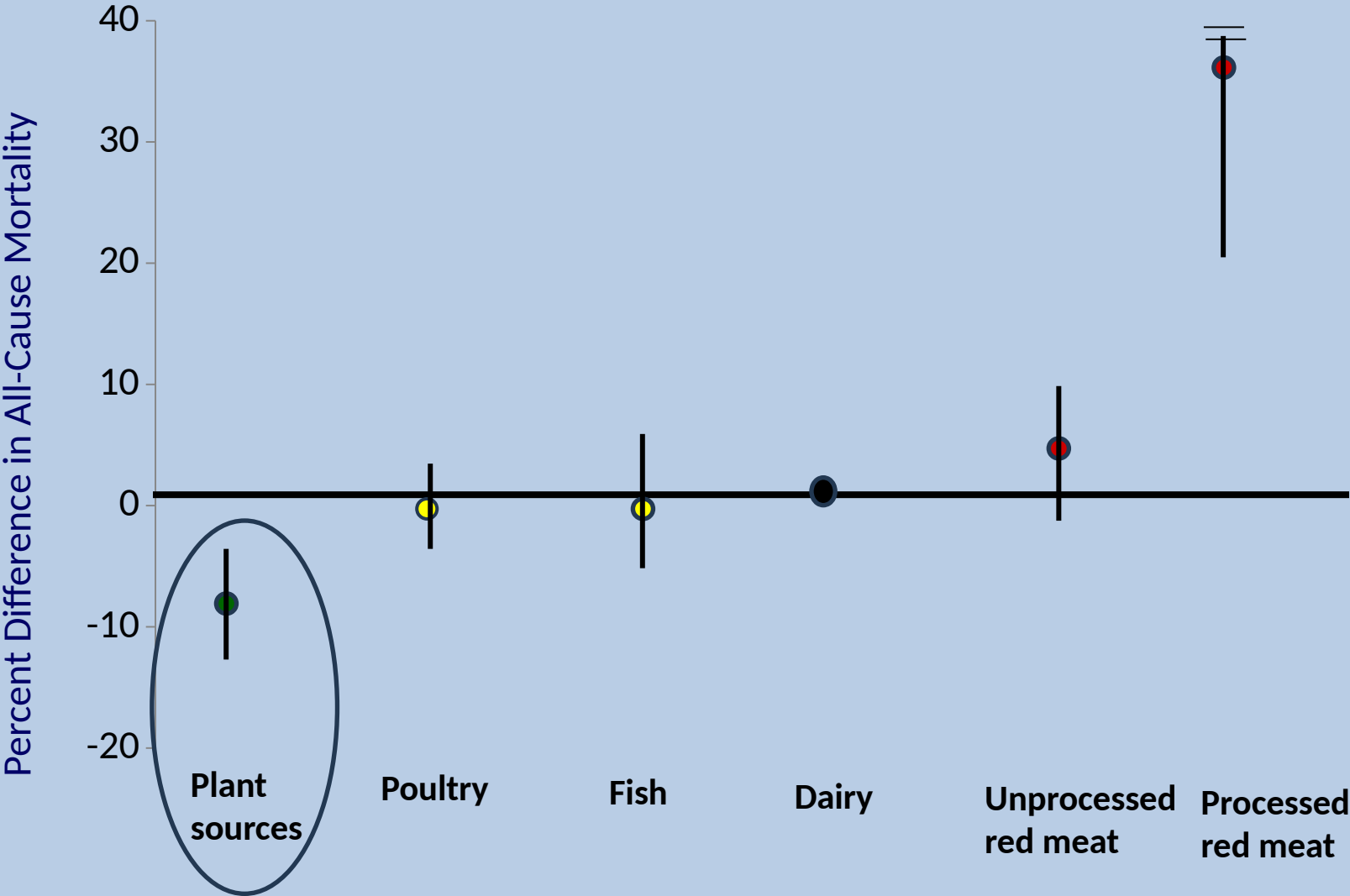


Nurses' Health Study II (n=116,000)



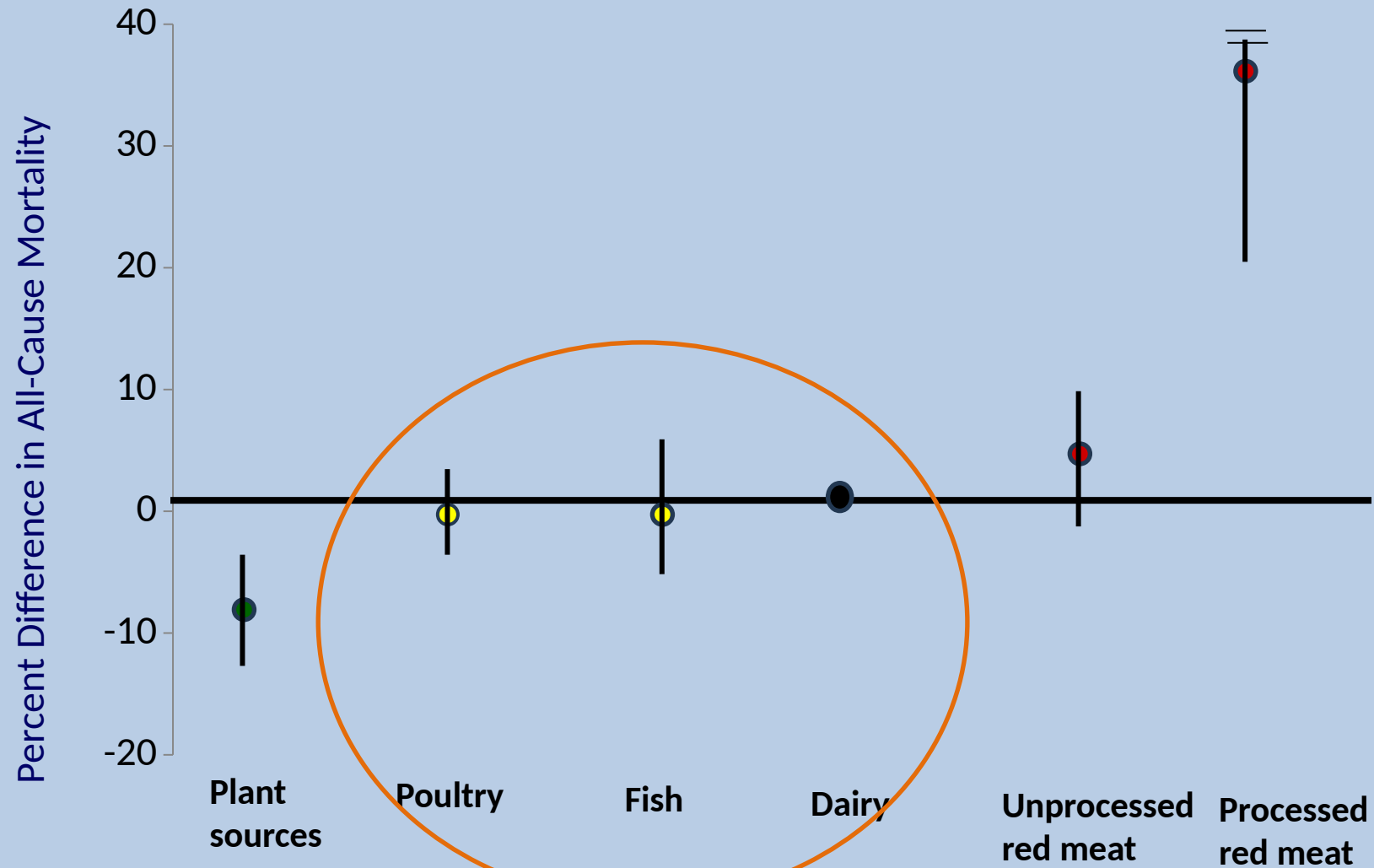
Investigators: Frank Speizer, Bernie Rosner, Meir Stampfer, David Hunter, JoAnn Manson, Eric Rimm, Edward Giovannucci, Alberto Ascherio, Gary Curhan, Michelle Holmes, Frank Hu, Heather Eliassen, Lorelei Mucci, Jae Hee Kang, Jorge Chavarro, Molin Wang, Kana Wu, Andrew Chan, Daniel Wang, Qi Sun

Major Protein Sources and Mortality
(for 3% of energy from protein)



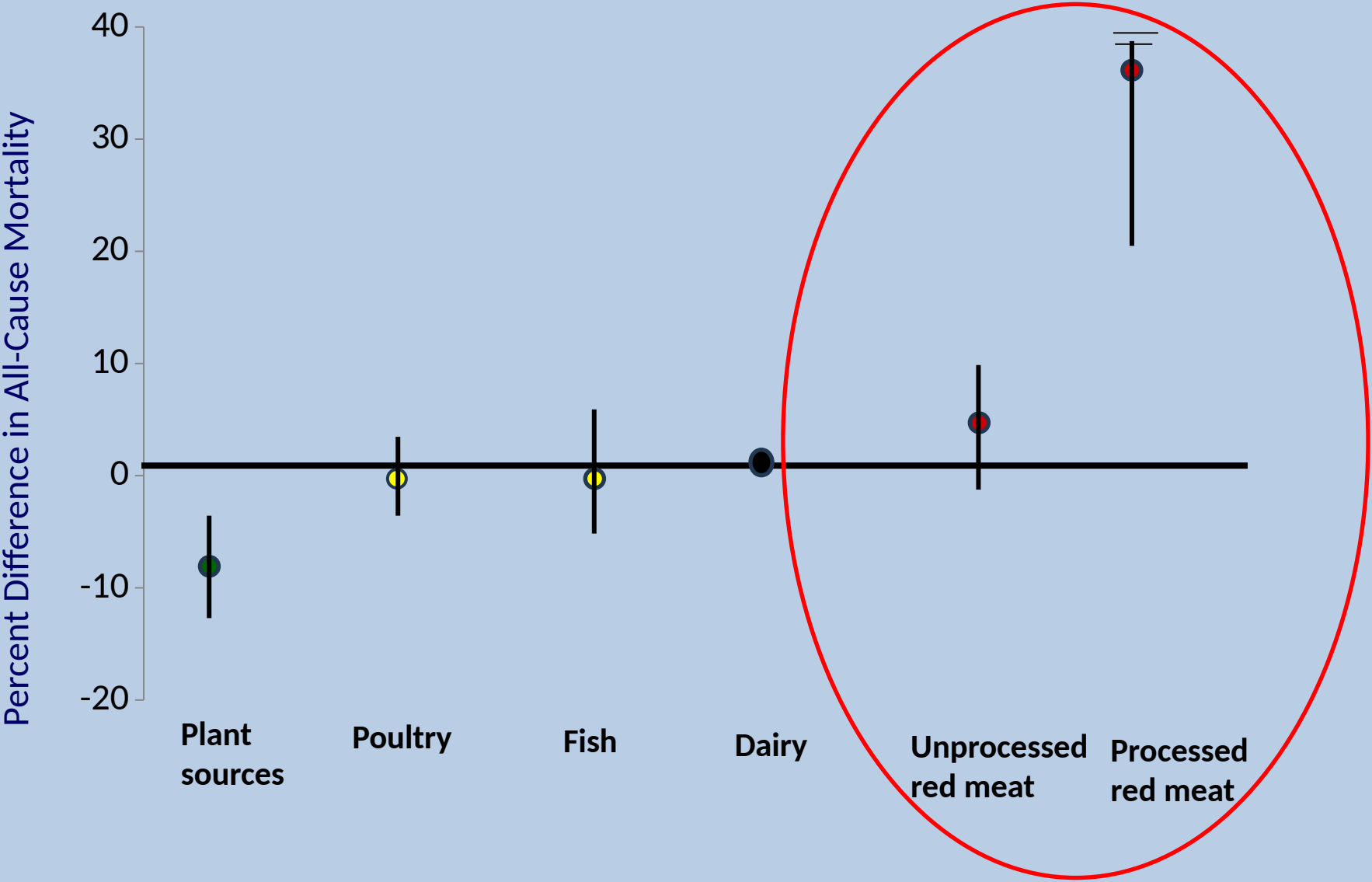
(recalculated from Song M et al. JAMA Intern Med 2016)

Major Protein Sources and Mortality (for 3% of energy from protein)

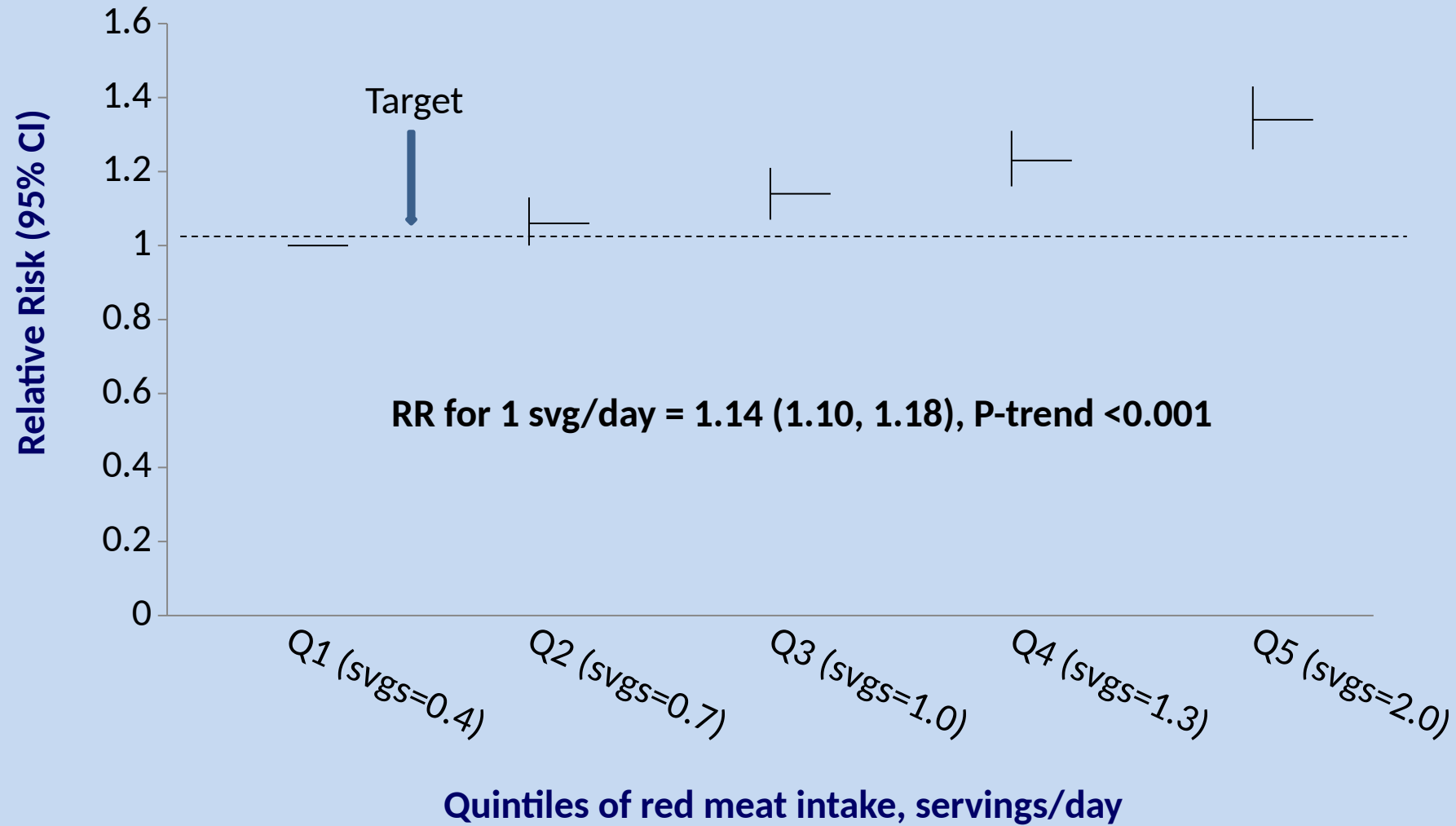


(recalculated from Song M et al. JAMA Intern Med 2016)

Major Protein Sources and Mortality
(for 3% of energy from protein)



Relation of red meat to risk of Type 2 diabetes in NHS, NHSII, and HPFS (204,156 men and women, 13,759 incident cases)

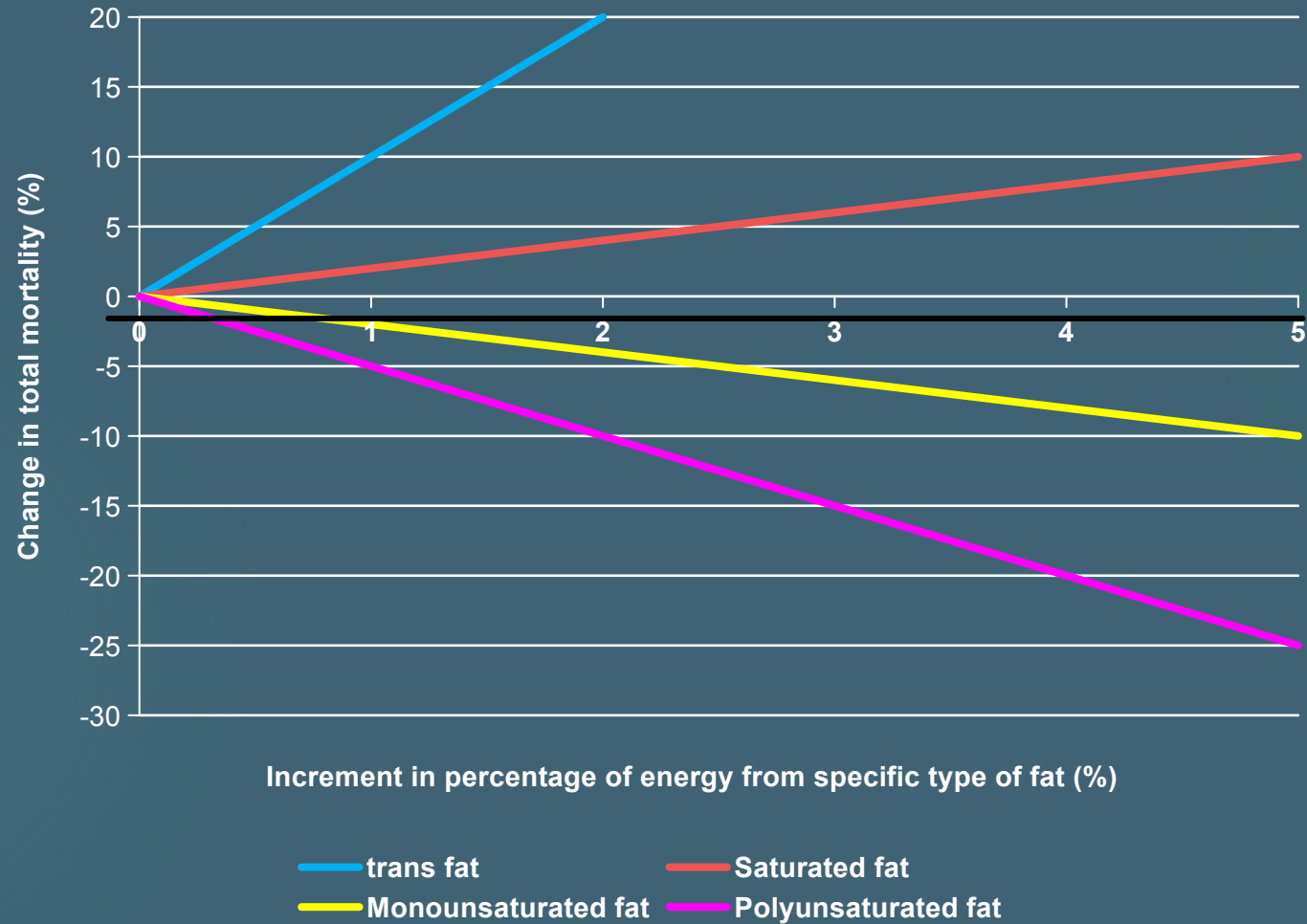


*Servings are average for 3 cohorts, considering 85 g/svg (3%)

**N.B. Intake of red meat in “optimal diet” = 19 g/day (Micha R et al. PLoS One 2017)

Types of Fat and Total Mortality

- ▶ MV-adjusted results, isocaloric comparison is CHO



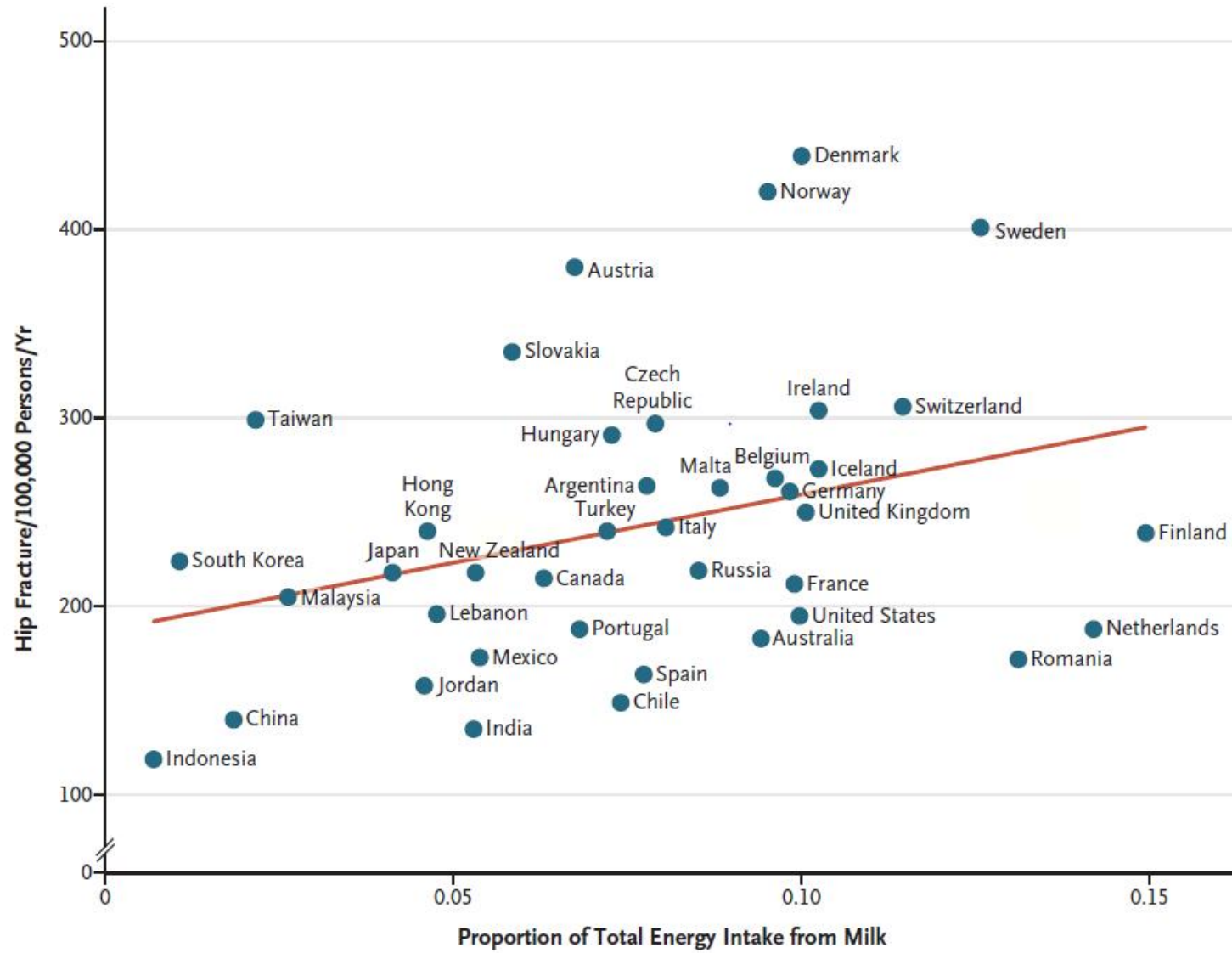


Figure 1. Milk Consumption and Hip Fractures.

Scientific Targets for Healthy Diets (2500 Kcal/day)

Food group	Food subgroup	Reference diet (g/day)	Possible ranges (g/day)
Whole Grains	<u>All grains</u>	232	0 to 60% of energy
Tubers/Starchy Vegetables	<u>Potatoes, cassava</u>	50	0 to 100
Vegetables	All vegetables	300	200 to 600
Fruits	All Fruits	200	100 to 300
Dairy Foods	Dairy Foods	250	0 to 500
Protein Sources	Beef, lamb, pork	14	0 to 28
	Chicken, other poultry	29	0 to 58
	Eggs	13	0 to 25
	Fish	28	0 to 100
	Dry beans, lentils, peas	50	0 to 100
	Soy	25	0 to 50
	Nuts	50	0 to 75
Added fats	Unsaturated oils	40	20-80
	Saturated oils	12	0 to 7
Added sugars	All sweeteners	31	0 to 31

**About 35%E
from carbs**

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	Eggs	13	0 to 25
	Fish	28	0 to 100
	Dry beans, lentils, peas	50	0 to 100
	Soy	25	0 to 50
	Nuts	50	0 to 75
Added fats	Unsaturated oils	40	20-80
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**5+ servings
per day**

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	Soy	25	0 to 50
	Nuts	50	0 to 75
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**1 glass of
milk or
equivalent**

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	Soy	25	0 to 50
	Nuts	50	0 to 75
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**1 hamburger
per week**

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**2 servings
per week**

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	Nuts	50	0 to 75
Added fats	Unsaturated oils	40	20-80
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**About 2 eggs
per week**

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	<u>Nuts</u>	50	0 to 75
Added fats	Unsaturated oils	40	20-80
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2-3 servings
per day

1-2 servings
per day

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**Total fat
about 35%E**

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<u>Added sugars</u>	<u>All sweeteners</u>	31	0 to 31

< one 12-oz
soda

Planetary Health Diet Bottom Line (Flexitarian)

Servings/Day of Animal Source Foods (Optional)

1

Dairy

+

1

Other

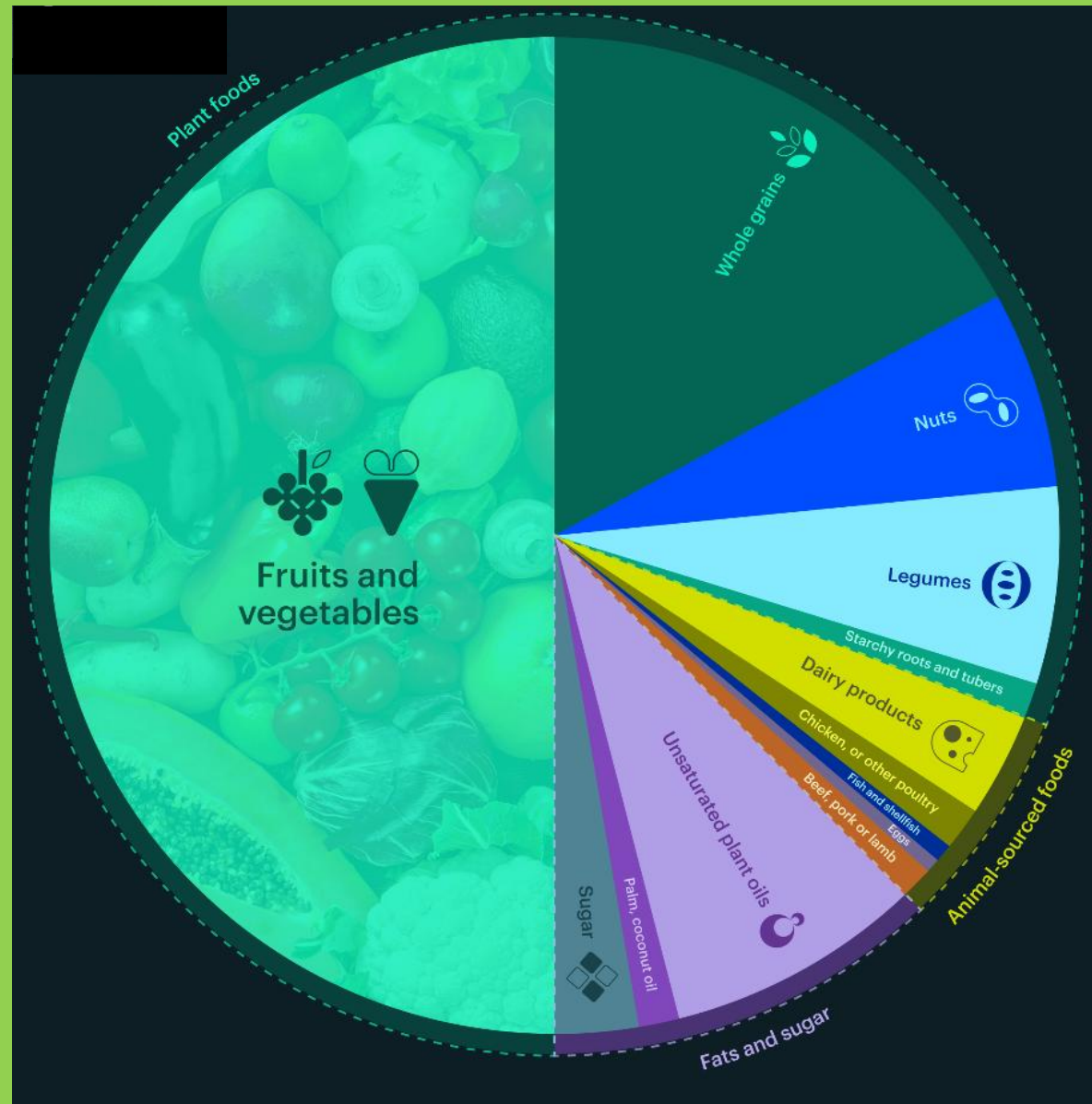
(fish, poultry, eggs, red meat)



Base: Nuts, soy, beans, fruit,
vegetables, whole grains, plant oils



EAT Lancet 2025 plate



Rockström, J. et al (2025). The EAT–Lancet Commission on healthy, sustainable, and just food systems. *The Lancet*.

5 Reasons Robert F. Kennedy Jr. Hates Seed Oils



2026-2030 U. S. Dietary Guidelines for

**Protein, Dairy
& Healthy Fats**

**Vegetables
& Fruits**

**Whole
Grains**

Mediterranean



14.160-TED

Courtesy: A Trichopoulou



14.099

Mai Pham, *STAR GINGER* | *LEMON GRASS KITCHEN*





Sara Baer-Sinnott, Oldways

Thailand



Courtesy of Warangkana (Nadine) Srichamnong, Pattaraporn Morasin, and Rungrat Chamchan

Hearty North American Meal



Courtesy of Ya Xuan Sun

Syria



Courtesy of Amar Laila

Taiwan



Courtesy of Wen-Harn
Pan

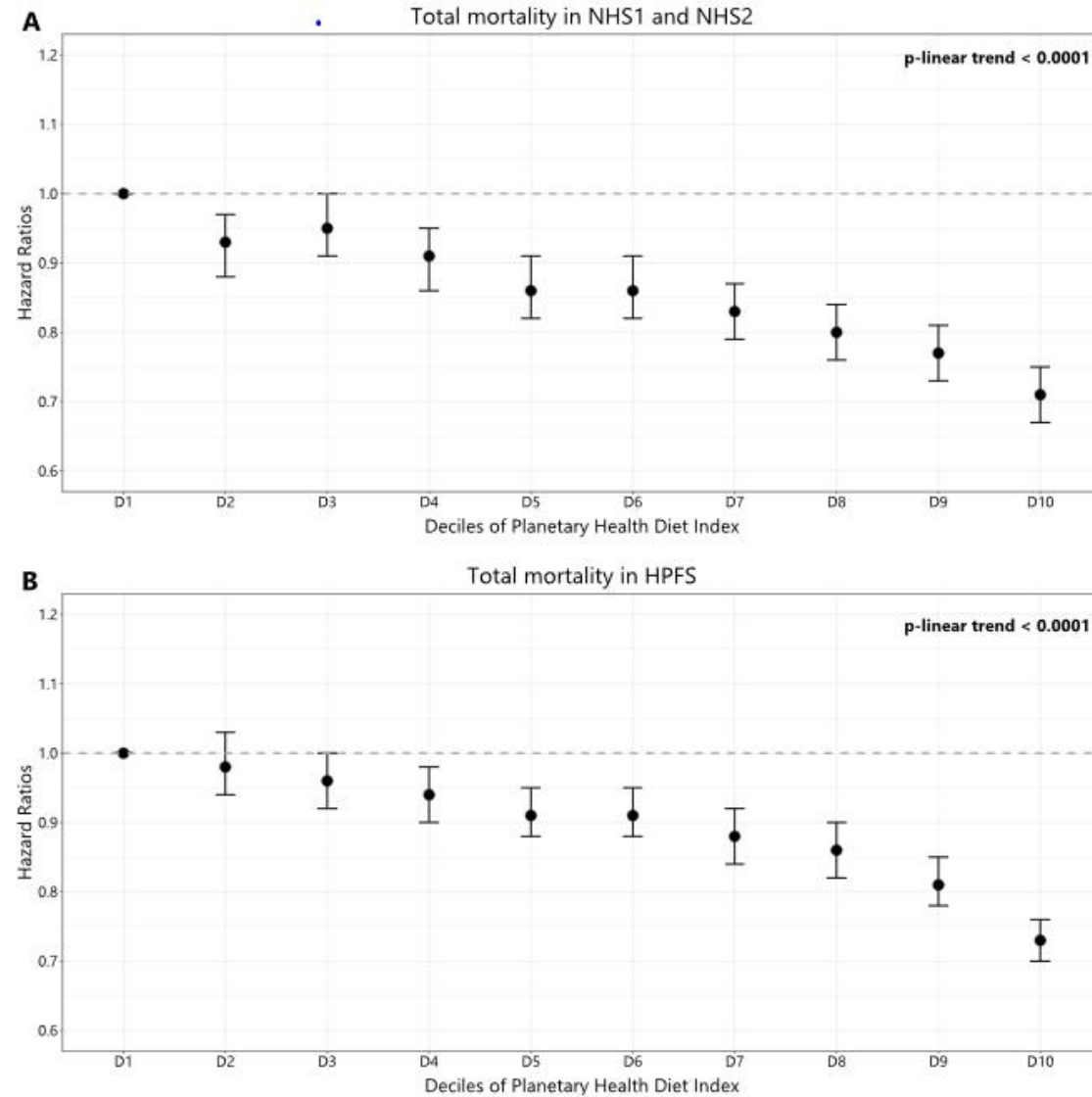
Brazil



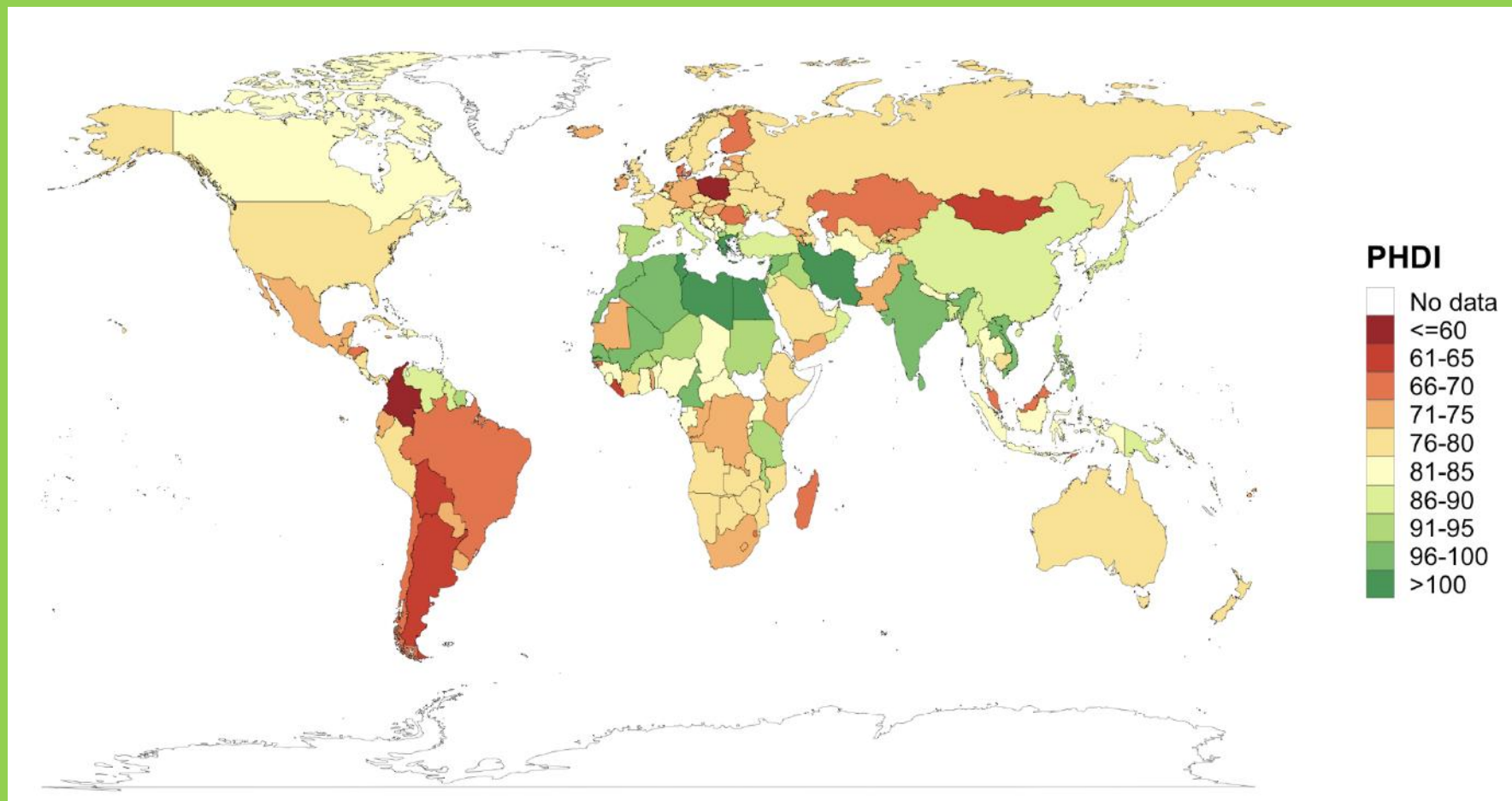
Courtesy of Simone dos Anjos Caivano, Larissa Peres Ribeiro, and Semíramis Martins Álvares Domene

Hazard ratios (95%CI) of deciles of cumulative average PHDI for total mortality in the three prospective cohorts (206,384 adults and 54,536 deaths)

Hazard ratios (95%CI) of deciles of cumulative average PHDI for total mortality in the three prospective cohorts



Geographic distribution of the PHDI for people aged over 20 in 171 countries/territories in 2018



Gu et al., PNAS, 2024

Estimated Percent of Premature Deaths (PAF) With Adoption of the Planetary Health Diet Pattern

For Score of 120/140:

Globally

27% of adult deaths (15 million deaths/yr)

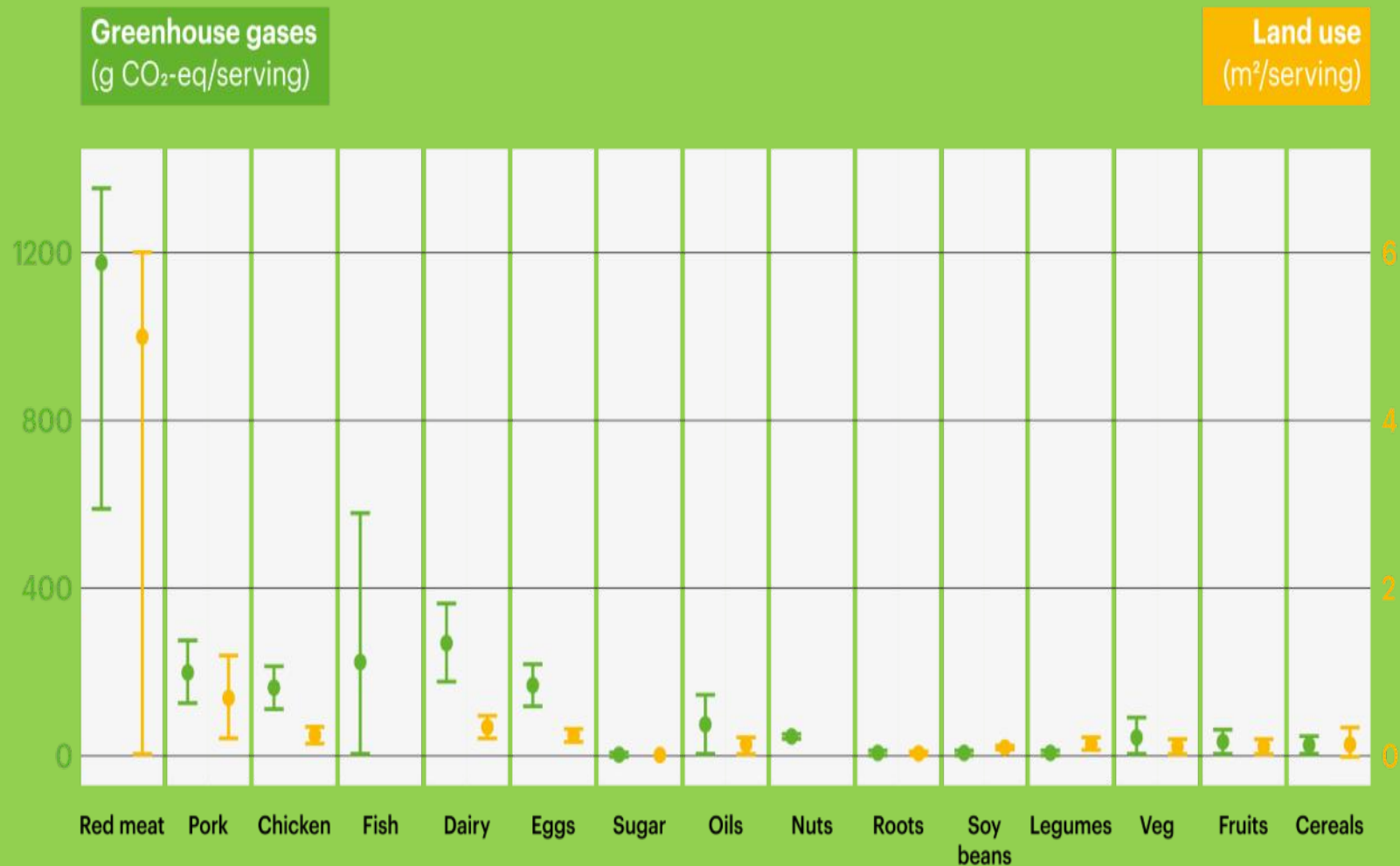
United States

31% of adult deaths (900,000 deaths/yr)

(Gu X et al., Proc Natl Acad Sci, 2024)



Environmental Effects per Serving of Food Produced



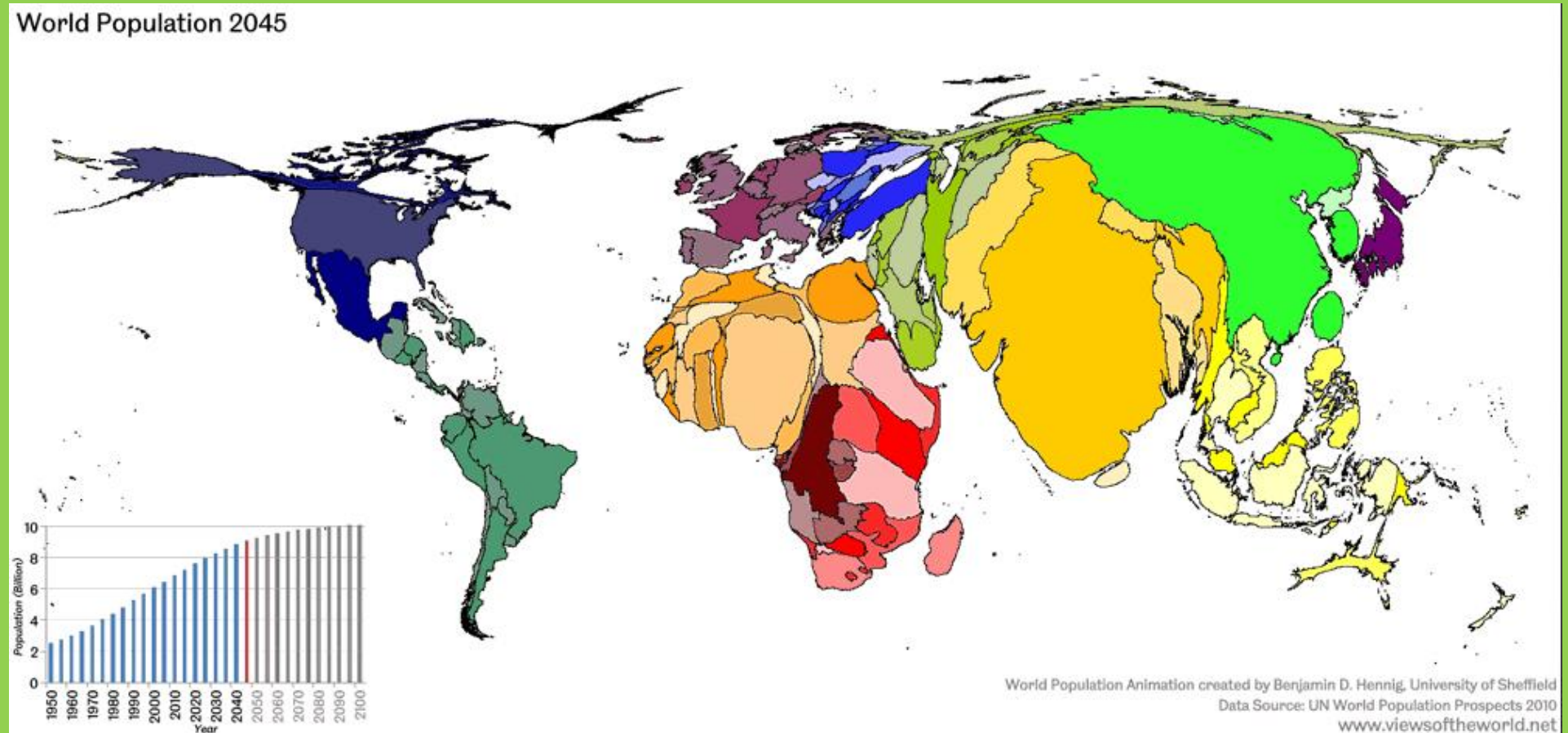
**Decreases in Environmental Impacts
for Quintiles 5 vs 1 of the Planetary
Health Diet Index
(Nurses' Health Study, USA, N = 62,623)**

Green House Gas	↓ 29%
Fertilizer Use	↓ 21%
Cropland Use	↓ 51%
Irrigation Water	↓ 13%

(Bui L et al., Am J Clin Nutr 2024)



Future Context





Feeding 10 billion people a healthy diet within safe planetary boundaries is possible and will improve the health and well being of billions of people. This could allow us to pass onto our children a viable planet.

