

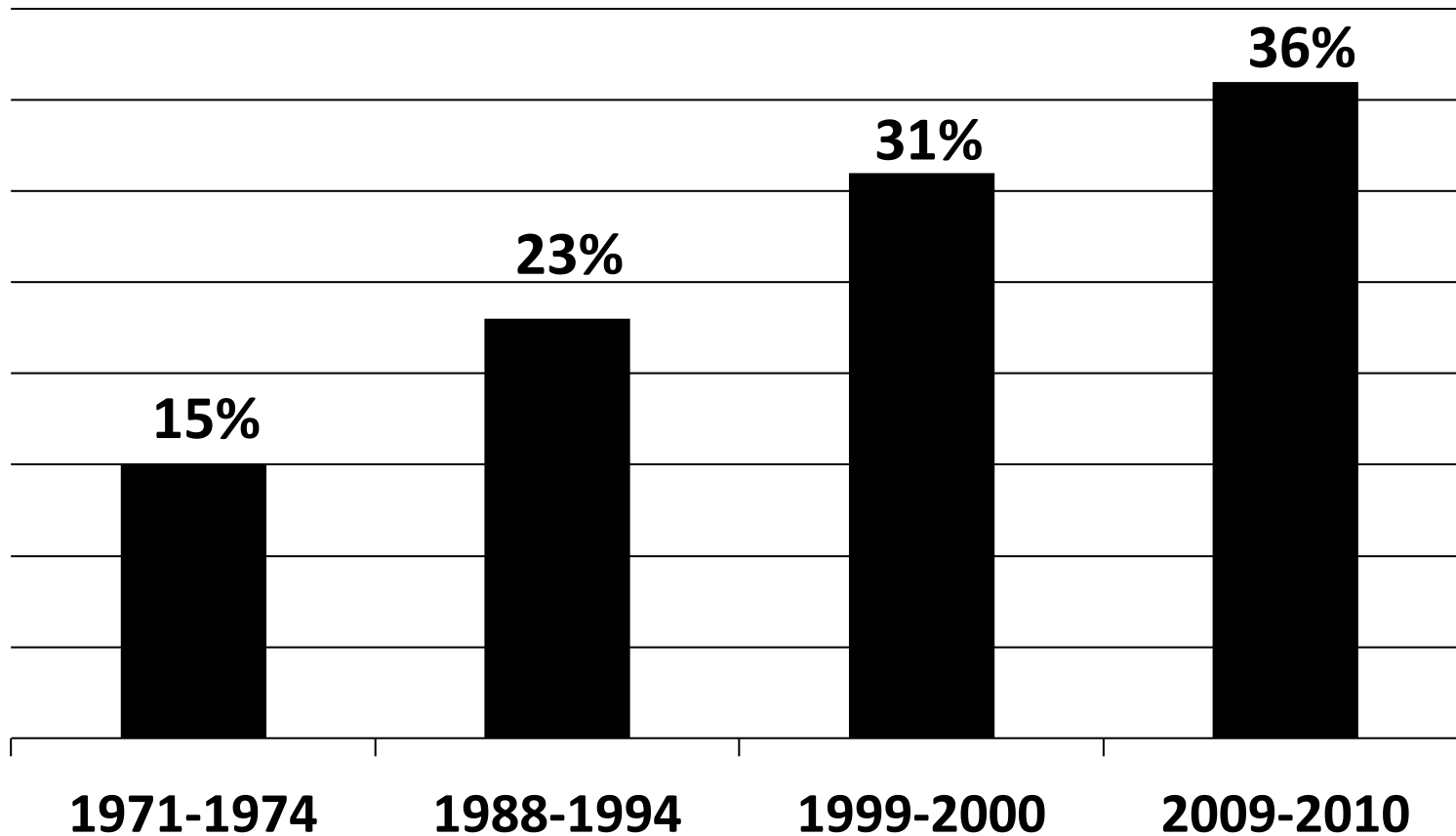
**Low-Carb Animal-Based Diet**  
————— vs. —————  
**90%+ Plant-Based Diet**  
**with No Sugar, Refined Grains or Oils**

John Mackey  
March 5, 2015



# Increasing Obesity in the U.S.

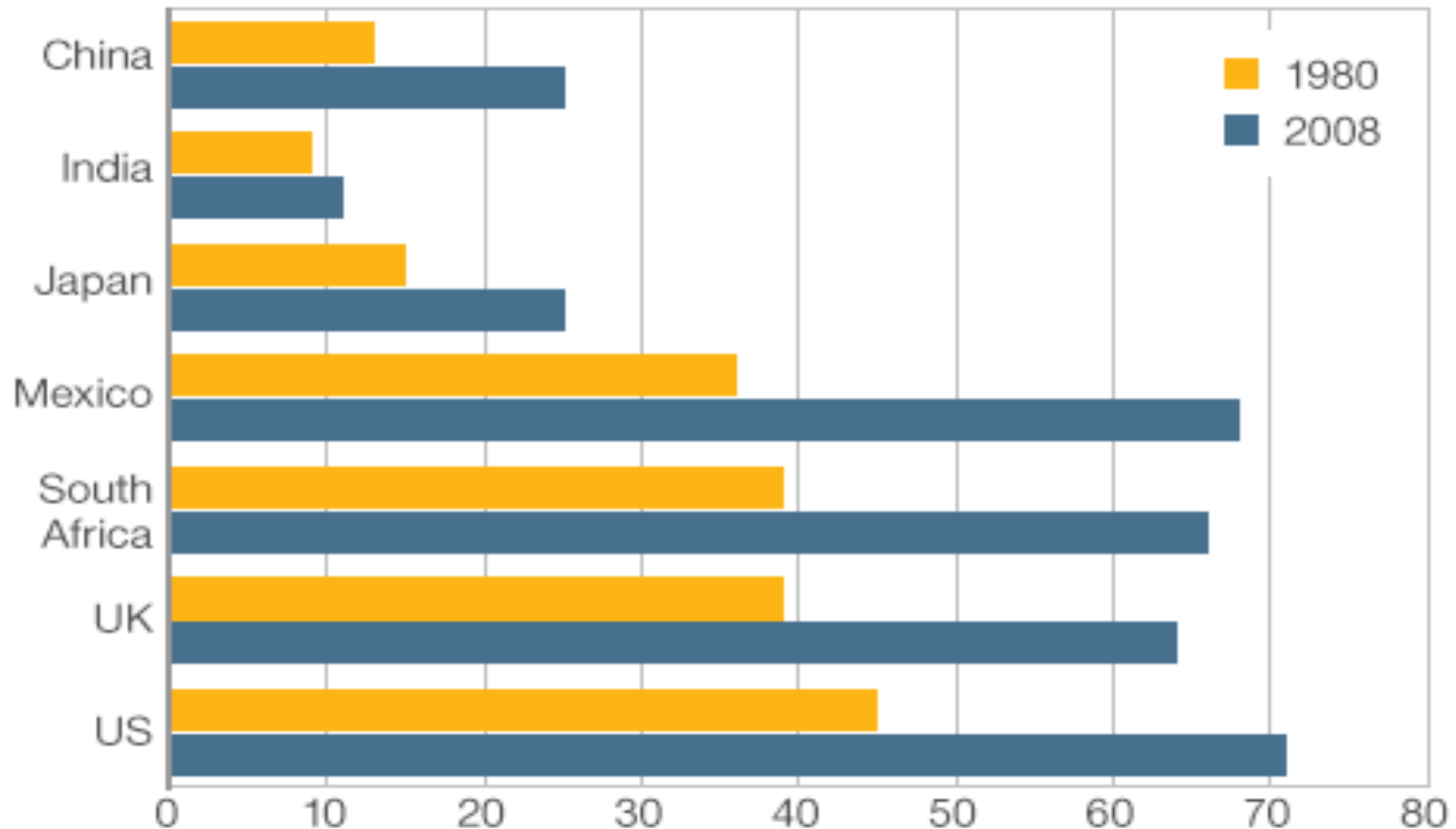
(Adults 20-74 Years Old)



National Health and Nutrition Examination Survey, Prevalence and trends in obesity in U.S. adults (Ogden, Carroll, Flegal), CDC

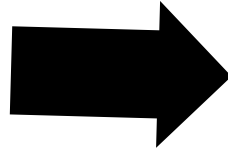
# Obesity Is Rapidly Increasing Across the World

Percentage of overweight and obese adults with BMI greater than 25, by country



Source: Overseas Development Institute

# Genetic Evolution: Programmed for Calorie Density

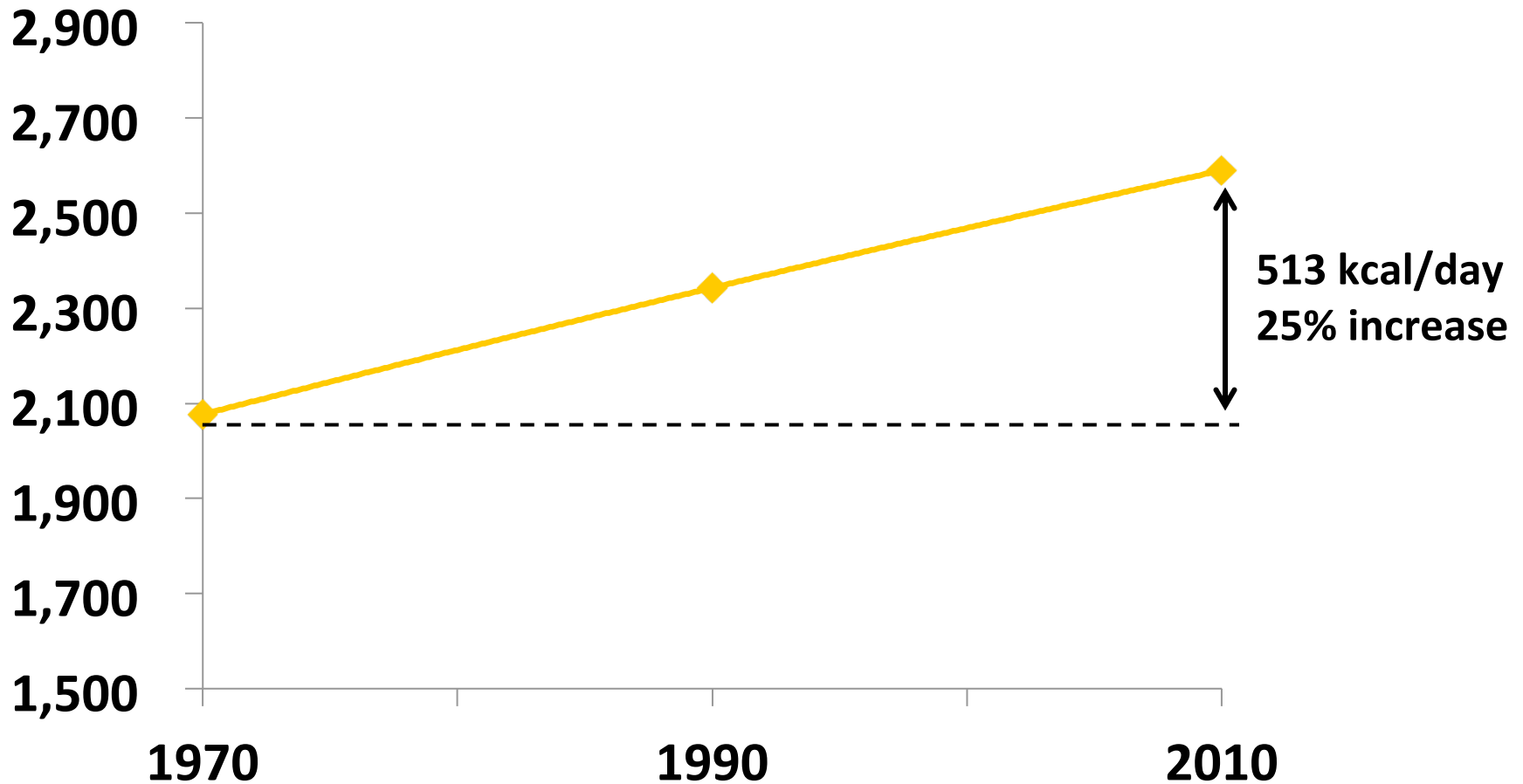


- Calorie density was rare for most of our evolution.
- Salt was also scarce away from sea coasts.

- We genetically evolved to crave calorie density through fat, sugar, refined grains & animal foods.
- Foods today have been genetically altered to maximize calorie density.
- Food addictions are now normal.

# 25% Increase in Calories Since 1970

## Average U.S. Daily Calorie Intake



# Have We Cut Back on Total Fat Consumption?

“The most obvious one today is that the American population slashed its fat and saturated fat consumption by 11% and increased carbohydrates by 25%, according to our nutritional guidelines, but we have clearly not become healthier.”

Nina Teicholz—Interview Medscape February 9, 2015

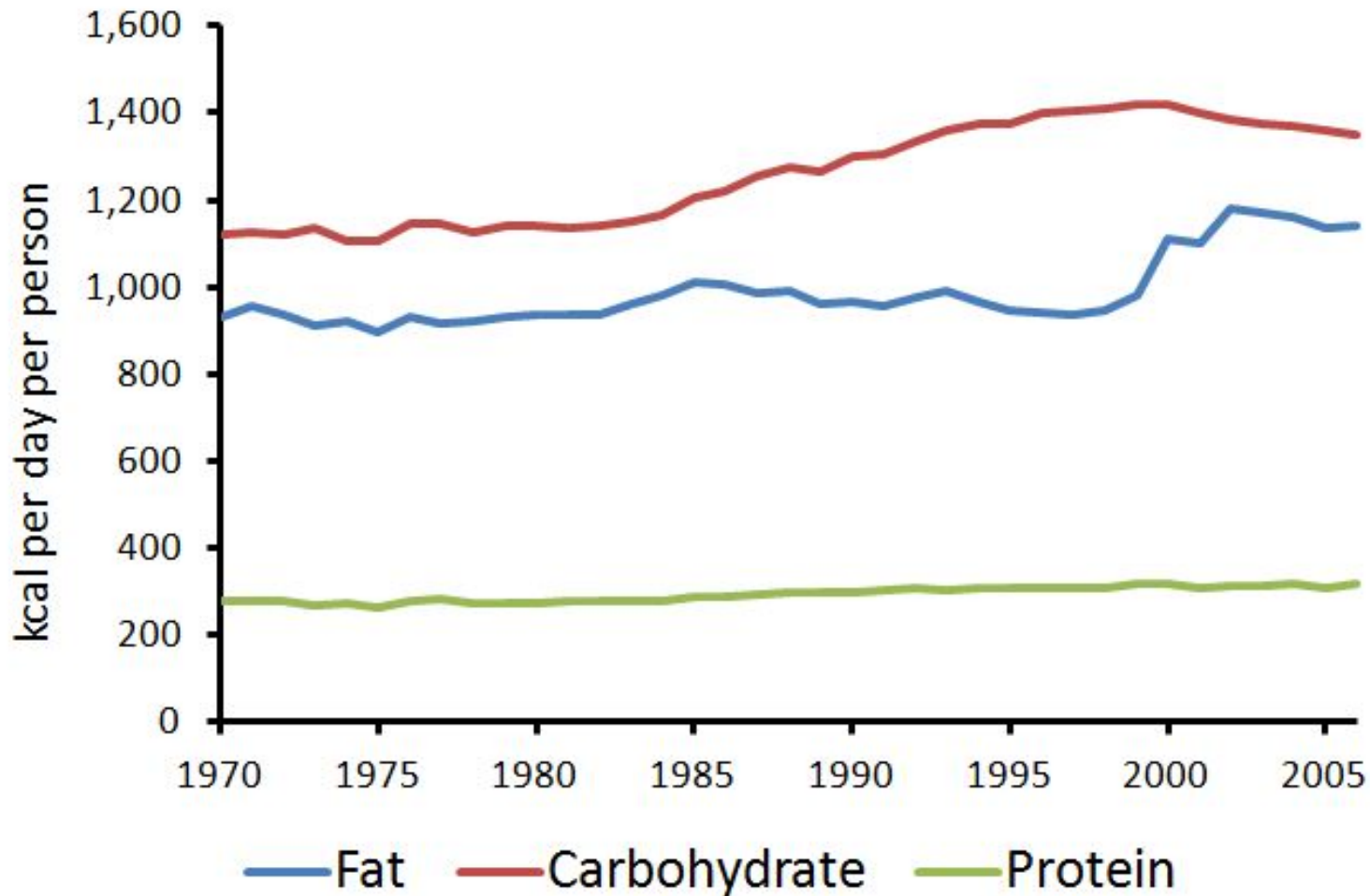
# In the Last 40 Years...

## % Increase

<b>Total calories</b>	<b>+25%</b>
<b>Added sugars</b>	<b>+10%</b>
<b>Flour &amp; cereal products</b>	<b>+42%</b>
<b>Added fats &amp; oils</b>	<b>+66%</b>
<b>Dairy &amp; dairy fats</b>	<b>+18%</b>
<b>Meat, eggs &amp; nuts</b>	<b>+3%</b>
<b>Fruits</b>	<b>+25%</b>
<b>Vegetables</b>	<b>-3%</b>
<b>Total fat from all sources</b>	<b>+20%</b>

# Calories per Macronutrient

## Calories per Macronutrient, 1970-2006





A close-up photograph of a silver stethoscope with a black tubing, resting on a white grid background. A blue ECG (heart rate) line is visible on the grid, with the stethoscope's chest piece positioned over it. The lighting is soft, highlighting the metallic sheen of the stethoscope.

# Cardiovascular Disease

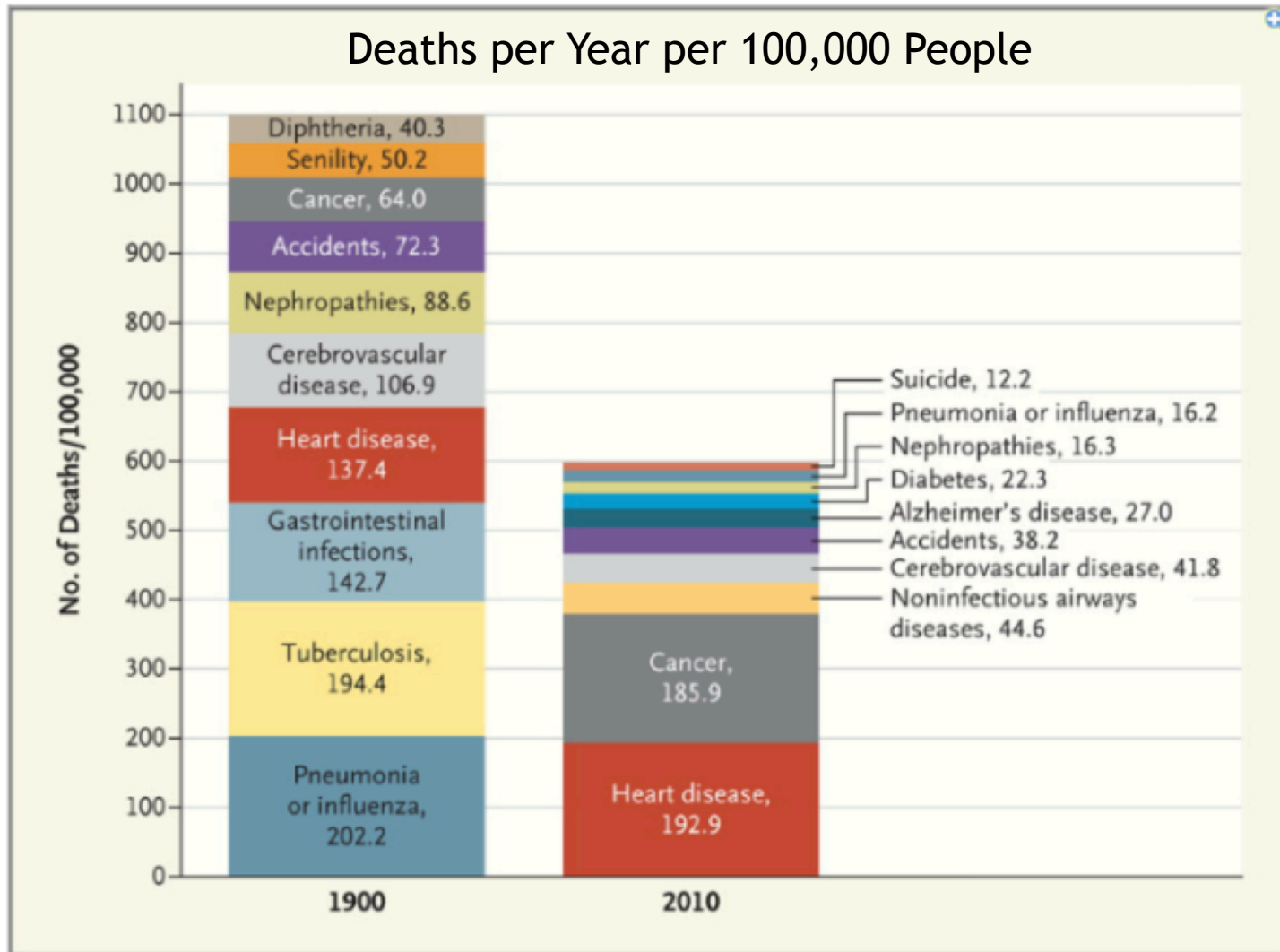
- Every year, more than 1.5 million Americans will have a heart attack or stroke.
- More than 800,000 (2,200 each day) will die from heart disease or stroke.

# Is Cardiovascular Disease in America New?

**“Indeed, the disturbing story of nutrition science over the course of the last half-century looks something like this: scientists responding to the skyrocketing number of heart disease cases, which had gone from a mere handful in 1900 to being the leading cause of death by 1950, hypothesized that dietary fat, especially of the saturated kind (due to its effect on cholesterol), was to blame.”**

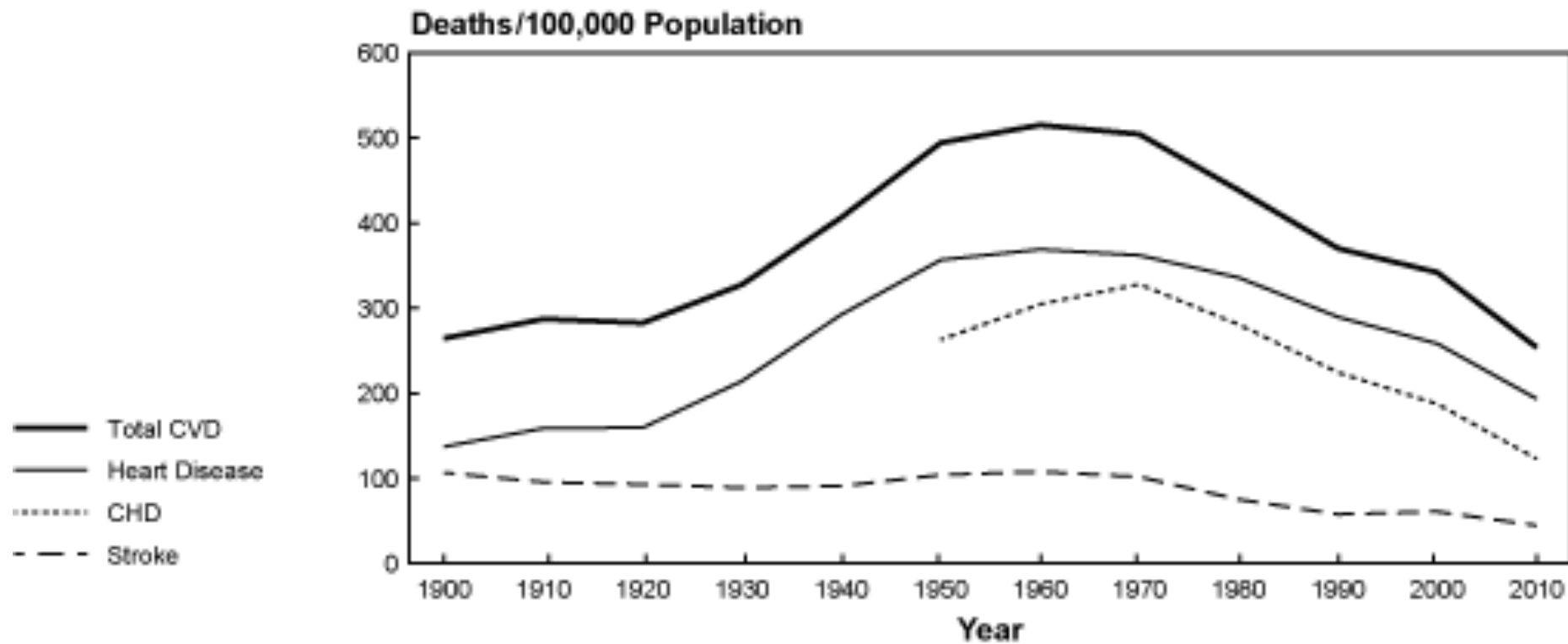
**-Nina Teicholz, “The Big Fat Surprise”**

# Does This Look Like Just a Handful?



# Death Rates for Cardiovascular Disease

## Does This Look Like Just a Handful?





# **The Case Against Low-Carb, High-Animal Foods Diets**

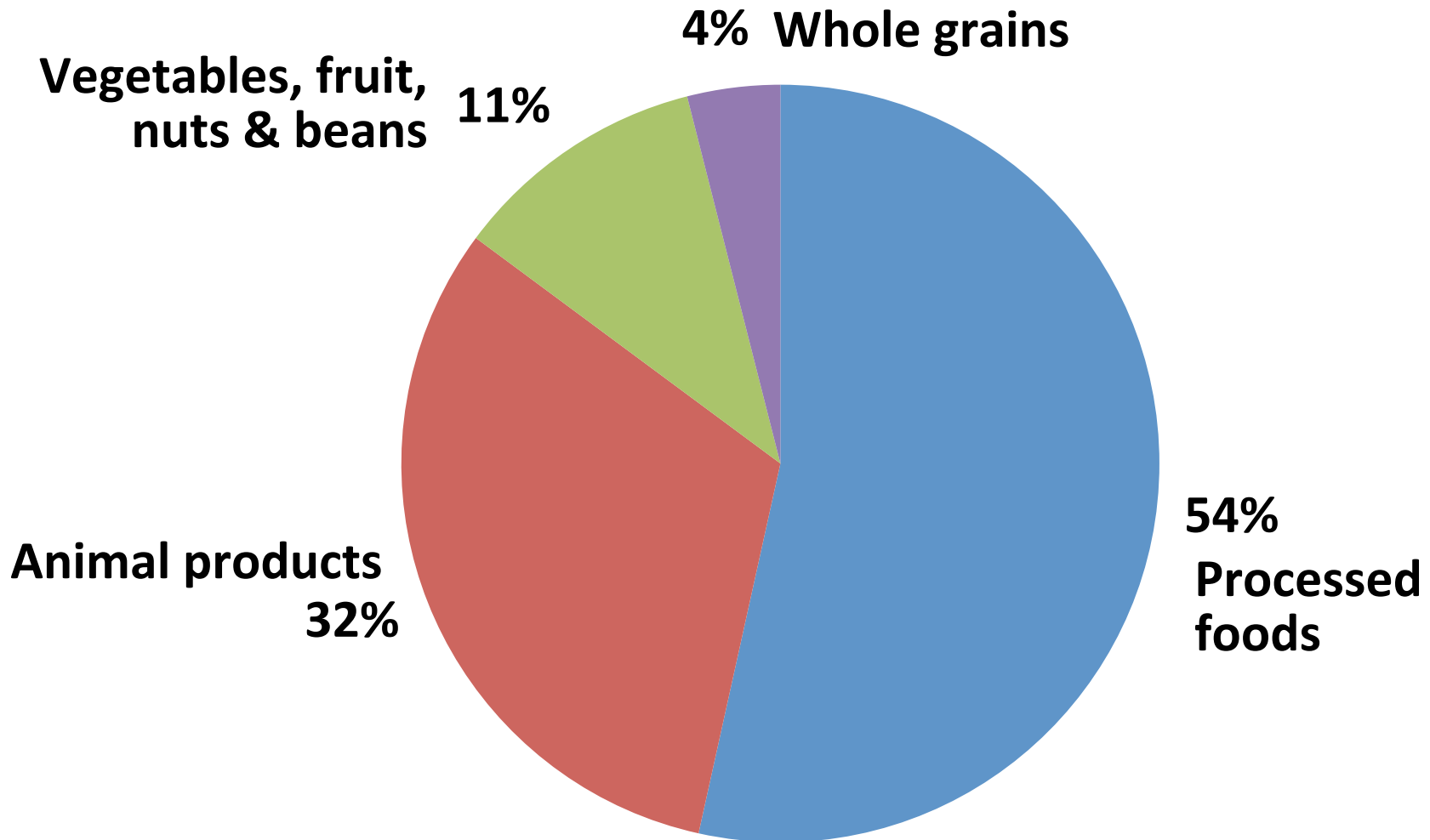


# Have We Been Eating a Low-Fat, Near Vegetarian Diet?

**“It is possible to think of the low-fat, near-vegetarian diet of the past half-century as an uncontrolled experiment on the entire American population, significantly altering our traditional diet with unintended results.”**

-Nina Teicholz, “The Big Fat Surprise”

# The Standard American Diet (SAD): Is This a Near Vegetarian Diet?



# Is the Consumption of Animal Foods Declining?

**“So, what did we eat before the 1940’s? There’s a common misconception that we were primarily a plant-eating people. This theory was based on really bad data. In fact, we ate:**

**3-4 times more red meat**

**3-4 times more butter**

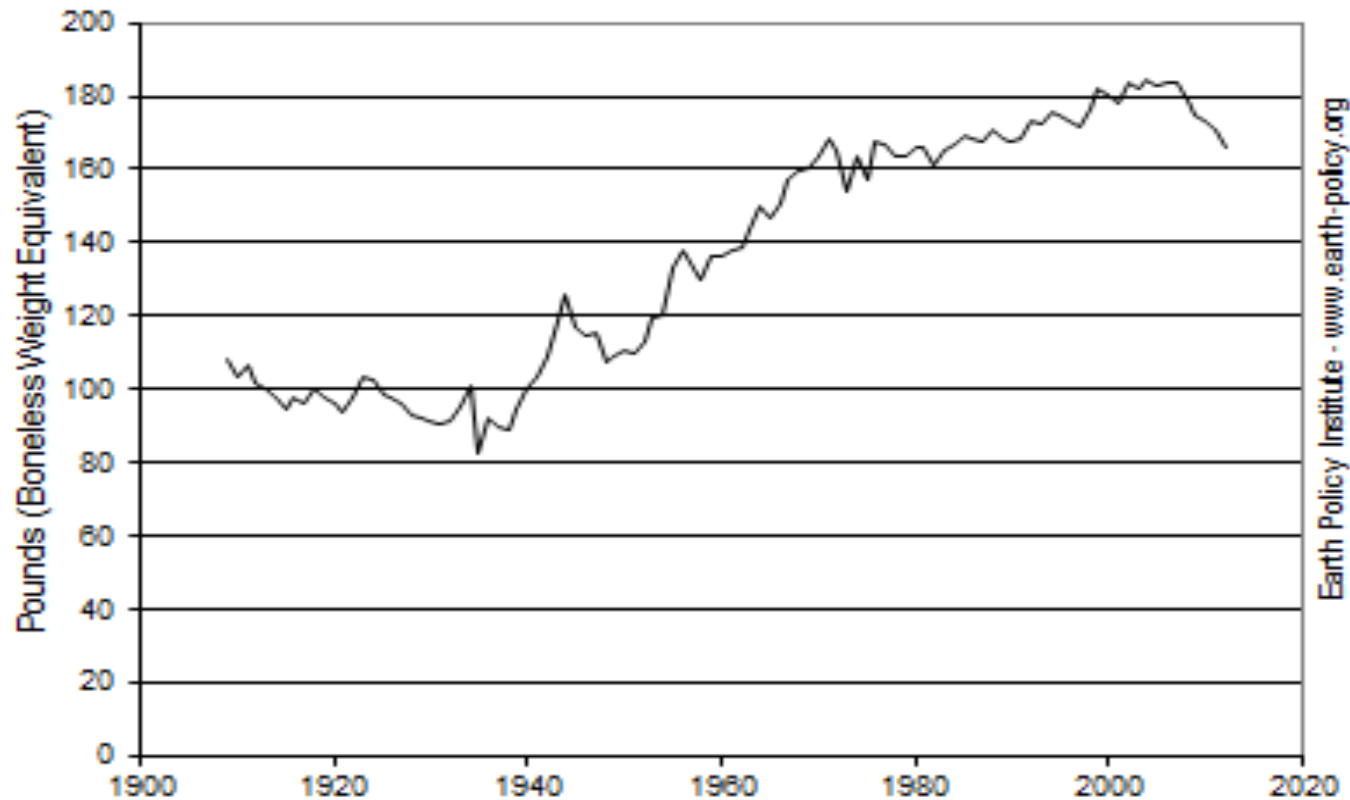
**5-6 times more lard**

-Nina Teicholz, Interview Abel James September 12, 2014



# Per Capita Meat Consumption Has Increased 70% Since 1940!

U.S. Meat Consumption per Person, 1909-2012

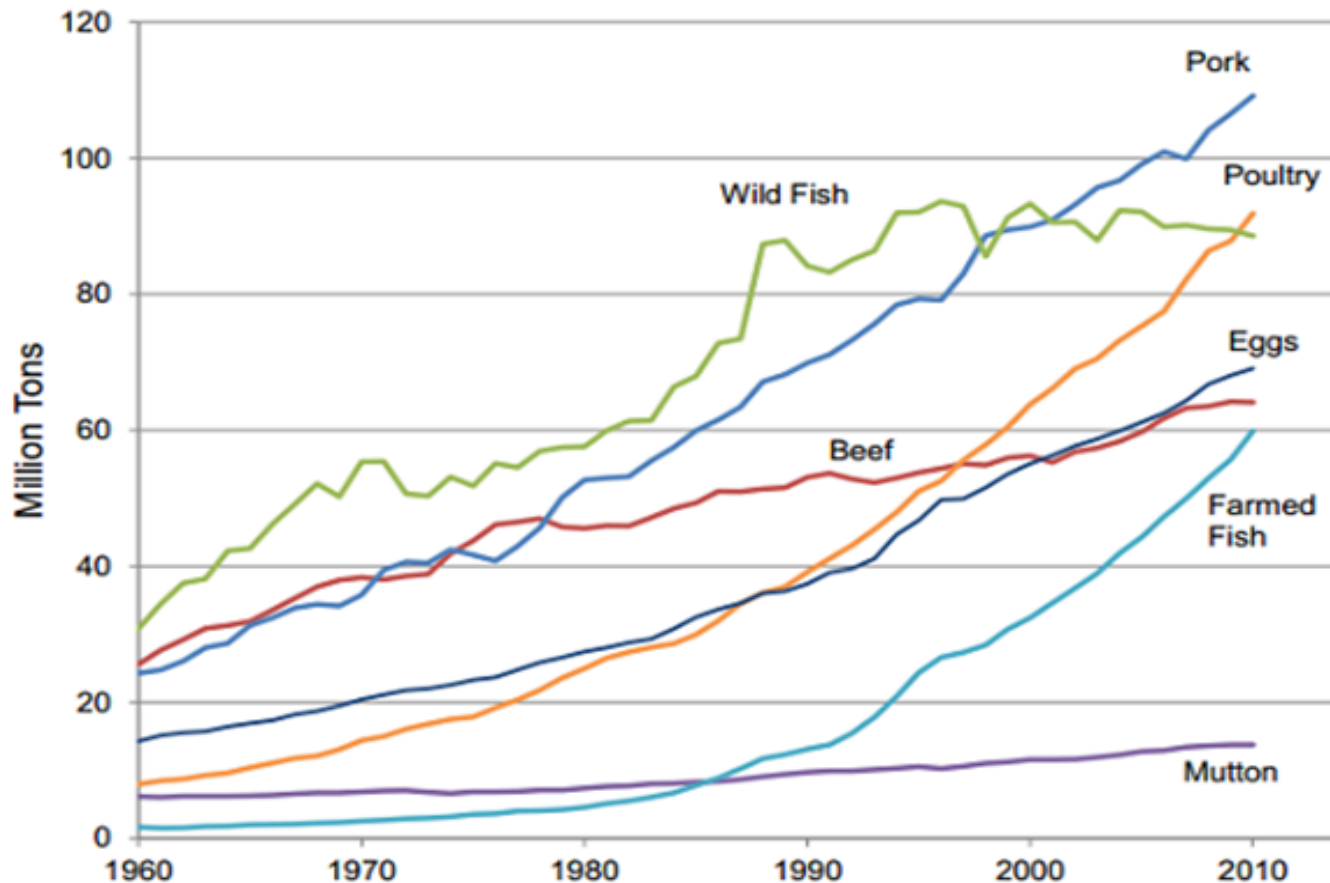


Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

Source: EPI from USDA, U.S. Census

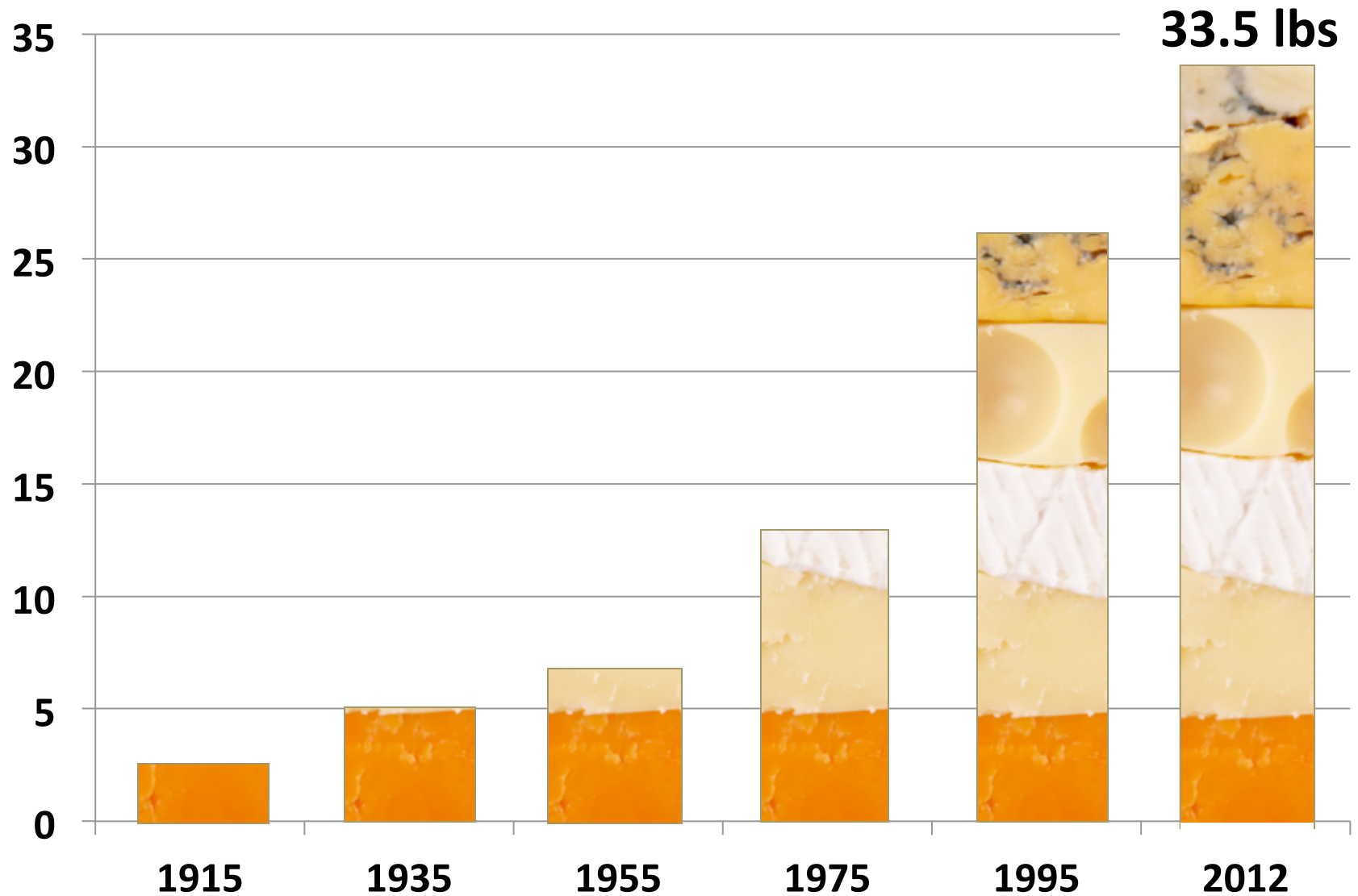
# Worldwide Animal Food Consumption Is Exploding

World Animal Protein Production by Type, 1950-2010



Source: Worldwatch, FAO

# U.S. Annual Cheese Consumption (pounds per person)

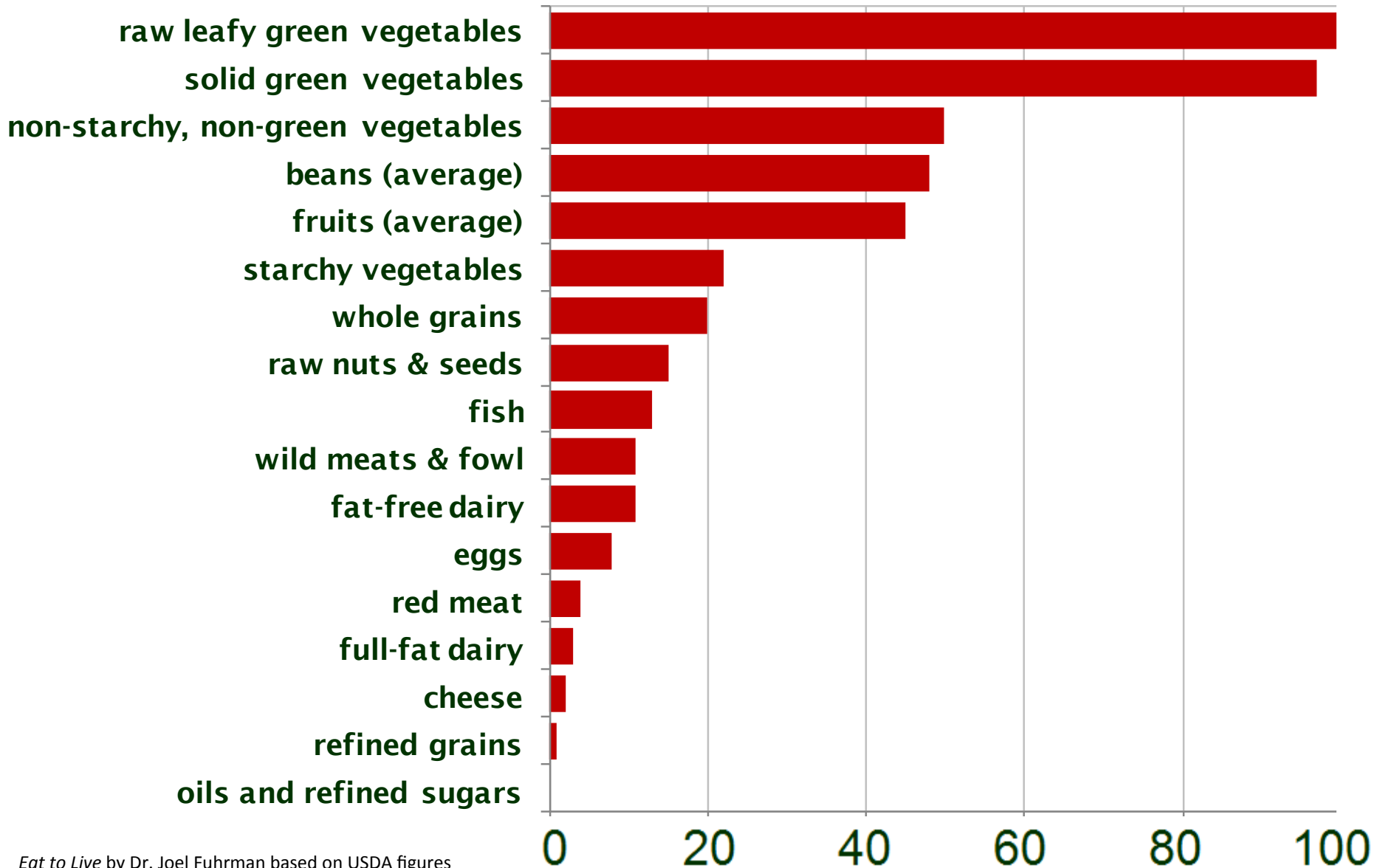


# Are Animal Foods Nutrient Dense?

**“Moreover, we now know that there are many good reasons to eat animal foods like red meat, cheese, eggs, and whole milk: they are particularly dense in nutrients – far more so than fruits and vegetables.”**

-Nina Teicholz, “The Big Fat Surprise”

# Micro Nutrient Density per Calorie



**All Major Studies Show an  
Increase in All Cause Disease  
and Death from  
Low-Carbohydrate Diets**

**No Studies of  
High-Carbohydrate Diets  
Show Similar Effects**

# Low-Carbohydrate Diets and All-Cause Mortality: A Systematic Review and Meta-Analysis of Observational Studies

Hiroshi Noto<sup>1,2\*</sup>, Atsushi Goto<sup>1,2</sup>, Tetsuro Tsujimoto<sup>1,2</sup>, Mitsuhiro Noda<sup>1,2</sup>

**17 studies with over 700,000 people**

**Low carbohydrate diets associated with a 31% increase in deaths from all causes**

“Our systematic review and meta-analyses of worldwide reports suggested that low-carbohydrate diets were associated with a significantly higher risk of all-cause mortality in the long run. These findings support the hypothesis that the short-term benefits of low carbohydrate diets for weight loss are potentially irrelevant.”

*PLoS One*. 2013;8(1):e55030.



# Low Carb Diets with Increased Amounts of Animal Products Associated with Premature Death

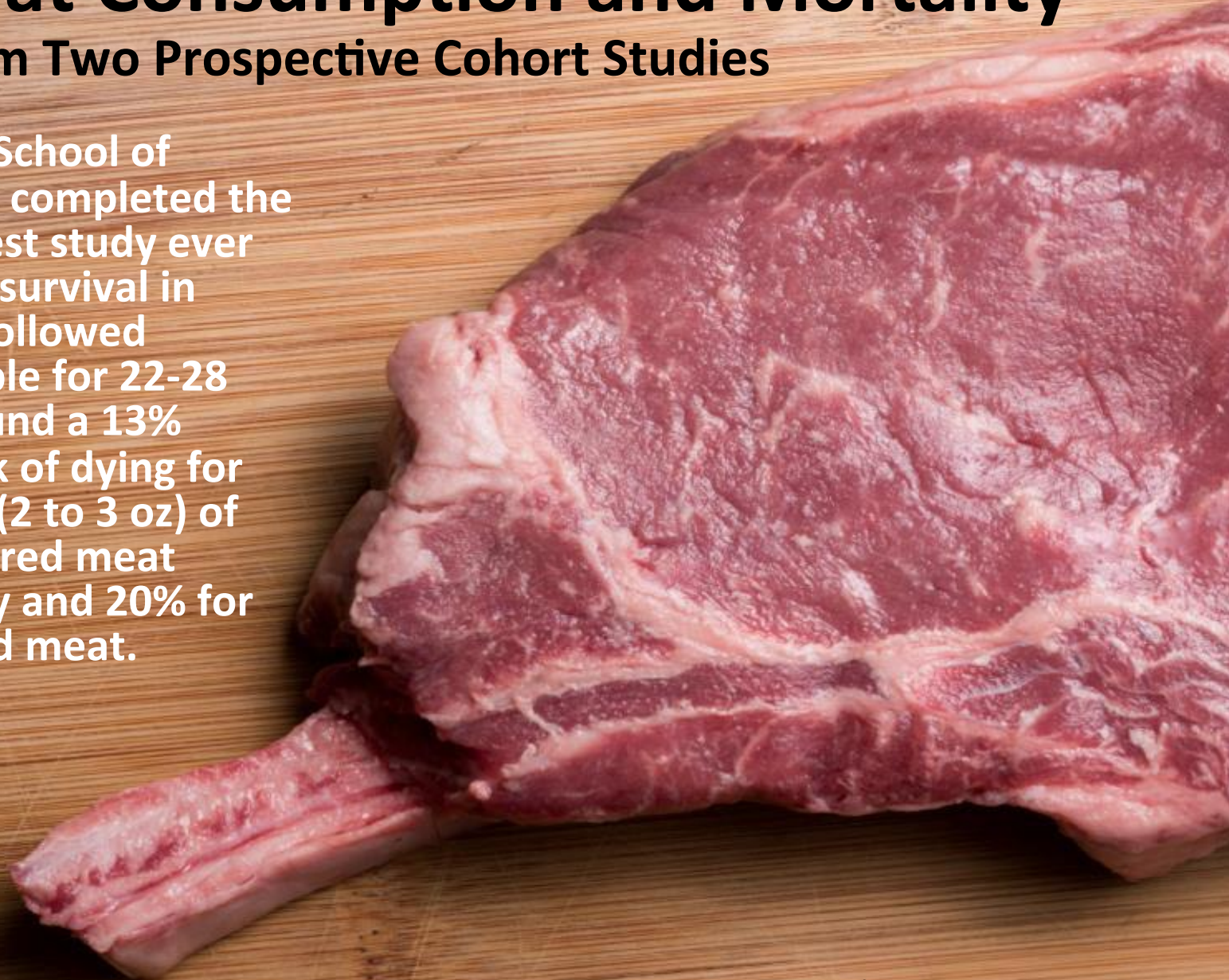
- Scientists followed over 85,000 women and 44,000 men for more than 20 years, none with prior diabetes, heart disease or cancer. Over 12,500 deaths were recorded.
- **Low-carbohydrate, animal-based: 23% increased death rate from all causes**
- **Low-carbohydrate, high-vegetable: 20% lower death rate from all causes**



# Red Meat Consumption and Mortality

## Results from Two Prospective Cohort Studies

The Harvard School of Public Health completed the largest, longest study ever on meat and survival in 2012. They followed 120,000 people for 22-28 years and found a 13% increased risk of dying for each serving (2 to 3 oz) of unprocessed red meat eaten per day and 20% for processed red meat.



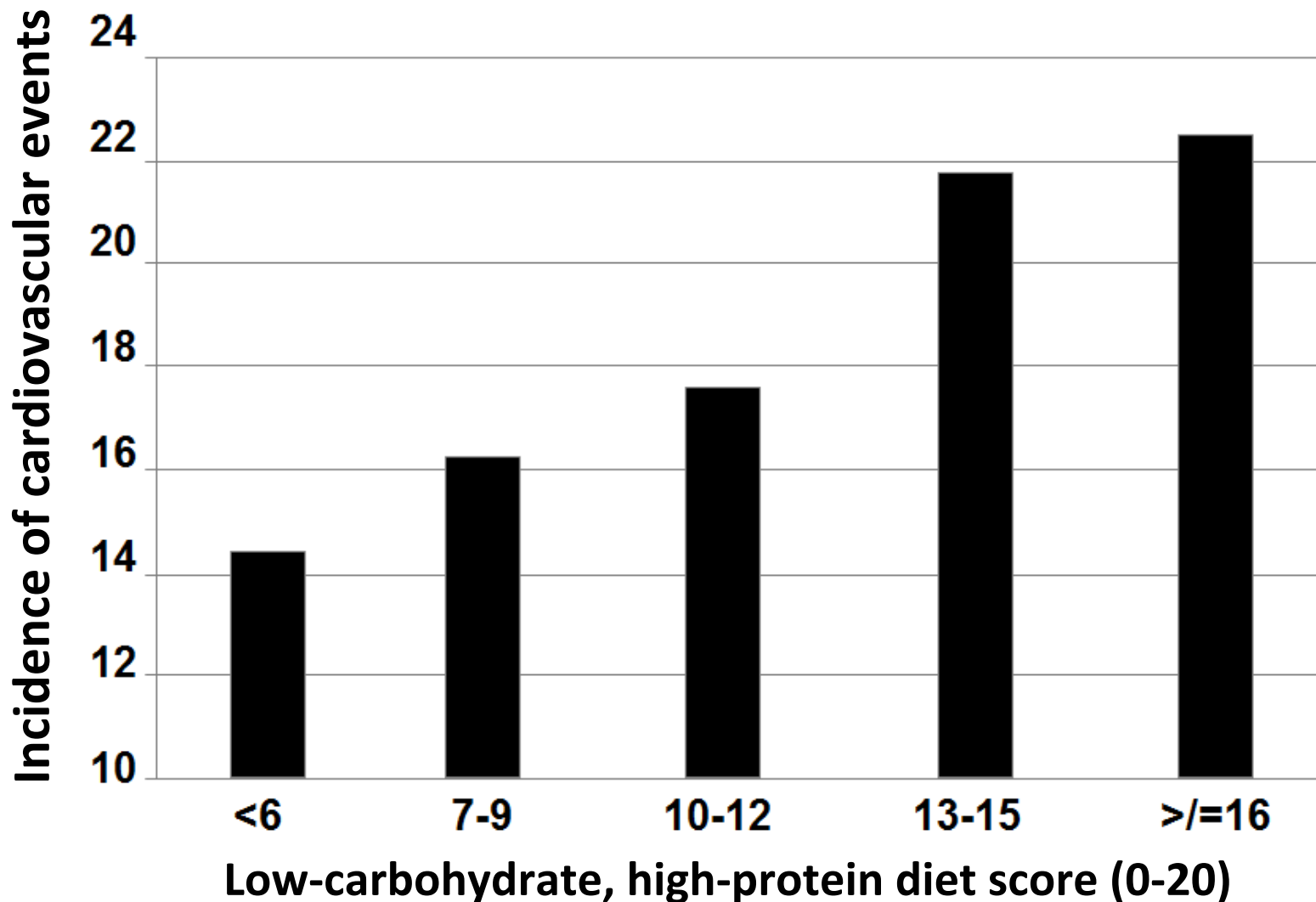


## RESEARCH

### Low carbohydrate-high protein diet and incidence of cardiovascular diseases in Swedish women: prospective cohort study

- Over 43,000 women, 30 - 49 years old were followed for more than 15 years. The researchers gave the subjects a diet score from 1 to 20 based on how closely they adhered to a low carb, high protein dietary pattern.
- Researchers tracked cardiovascular events (per 10,000 woman-years) and found a dose-dependent increase in risk: 5% increase in risk of cardiovascular events per 2 point increase in the low-carb, high-protein diet score. **Overall a 60 percent increased risk of cardiovascular events occurred in those adhering better (score above 16) to a low carb, high protein diet.**
- The results showed a gradual and consistent increased risk of developing cardiovascular disease and cardiovascular death the higher the consumption of animal products and reduction in carbohydrates.
- **Their conclusion: Low-carbohydrate, high-protein diets, are associated with increased risk of cardiovascular disease.**

# Low-carb, High-protein Diet: Cardiovascular Disease Risk



## Low Carbohydrate Diet From Plant or Animal Sources and Mortality Among Myocardial Infarction Survivors

Shanshan Li, MD, Msc, ScD; Alan Flint, MD, DrPH; Jennifer K. Pai, ScD; John P. Forman, MD, Msc; Frank B. Hu, MD, PhD; Walter C. Willett, MD, DrPH; Kathryn M. Rexrode, MD, MPH; Kenneth J. Mukamal, MD, MPH; Eric B. Rimm, ScD

Adherence to an LCD high in animal sources of protein and fat was associated with 33% higher all-cause mortality and 51% higher cardiovascular mortality among this cohort.

*J Am Heart Assoc.* 2014 Sep 22;3(5)

# 1000+

## Studies Confirm:

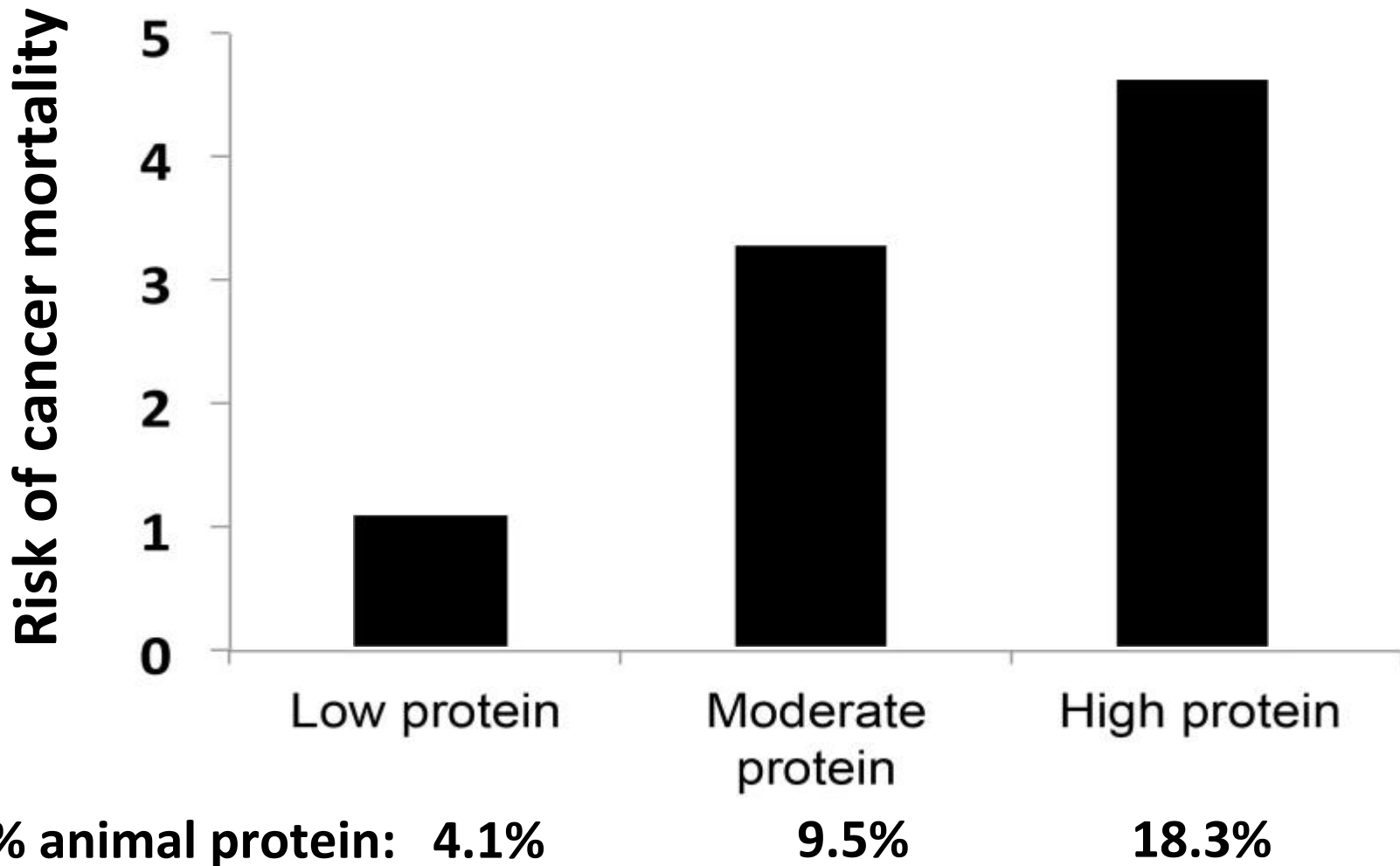
- Red meat & processed meat increases risk of colon cancer
- Plant-based diet consisting of whole grains, fruits, vegetables and beans decreases risk of colon cancer
- As a result, the World Cancer Research Fund/American Institute for Cancer Research recommend eating a plant-based diet



# High Protein Diets Low in Sugar

- 6000 people in the 50-65 age range followed for 18 years
- 4-fold increased risk in cancer deaths, compared to those with lower animal protein intake
- 75% increase in overall mortality over the 18-year period
- 73-fold increased risk of developing diabetes in the higher protein group, and 23-fold increased risk in the moderate protein group compared to the lower protein. This increased risk of diabetes with higher protein held consistent at all ages.

# Animal Protein Intake and Risk of Cancer Mortality



# Animal Protein and Breast Cancer Relationship Confirmed by IARC

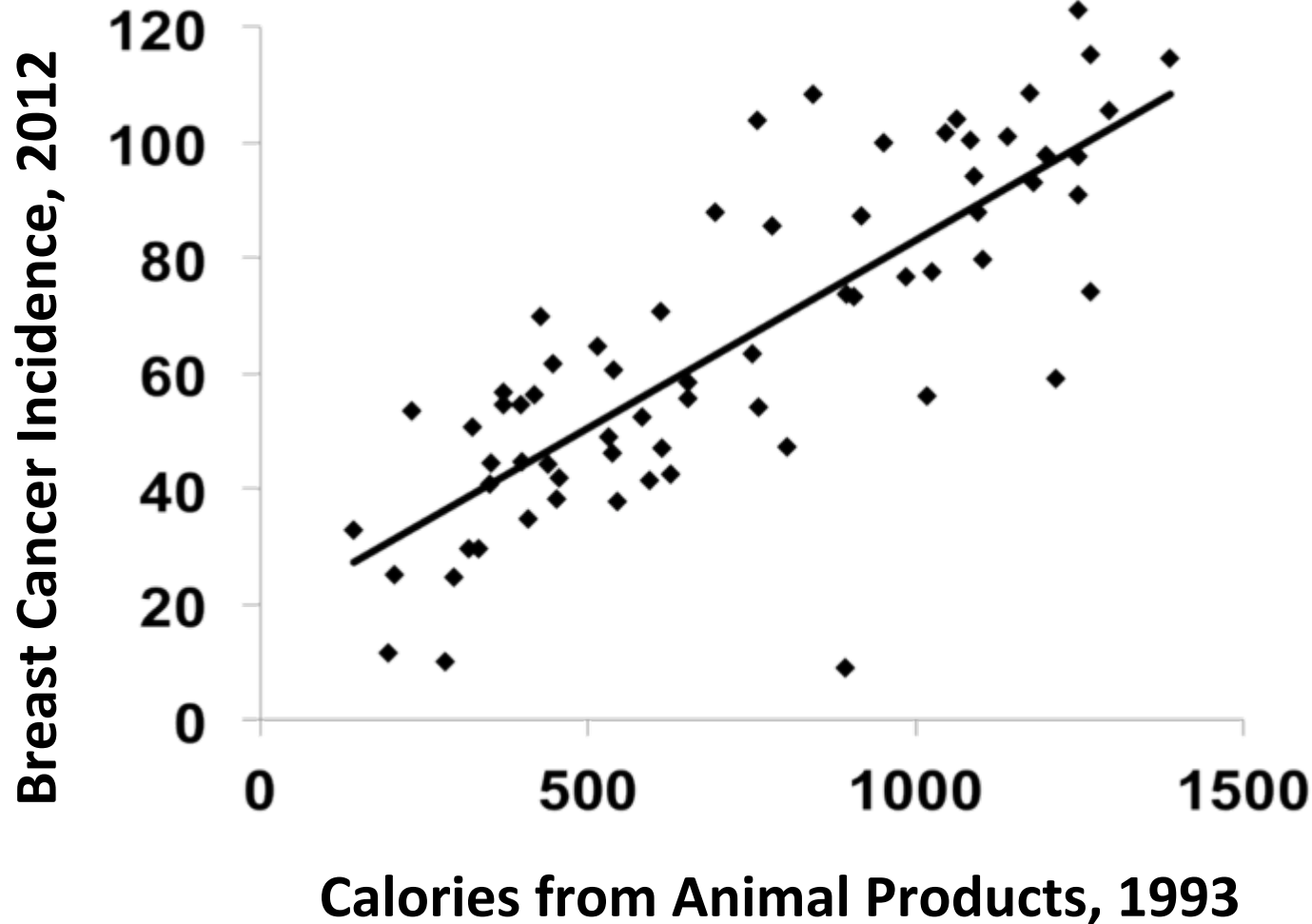


87 countries with high quality data from the GLOBOCAN project of the International Agency for Research on Cancer:

Animal product consumption was correlated with 12 types of cancer with a lag of 15-25 years. The overwhelming majority of countries used pasture-raised, not feedlot animal products.



# Animal Product Consumption: Breast Cancer Rates Years Later





# **The Case for Whole Foods**

## **90%+ Plant-Based Diets**





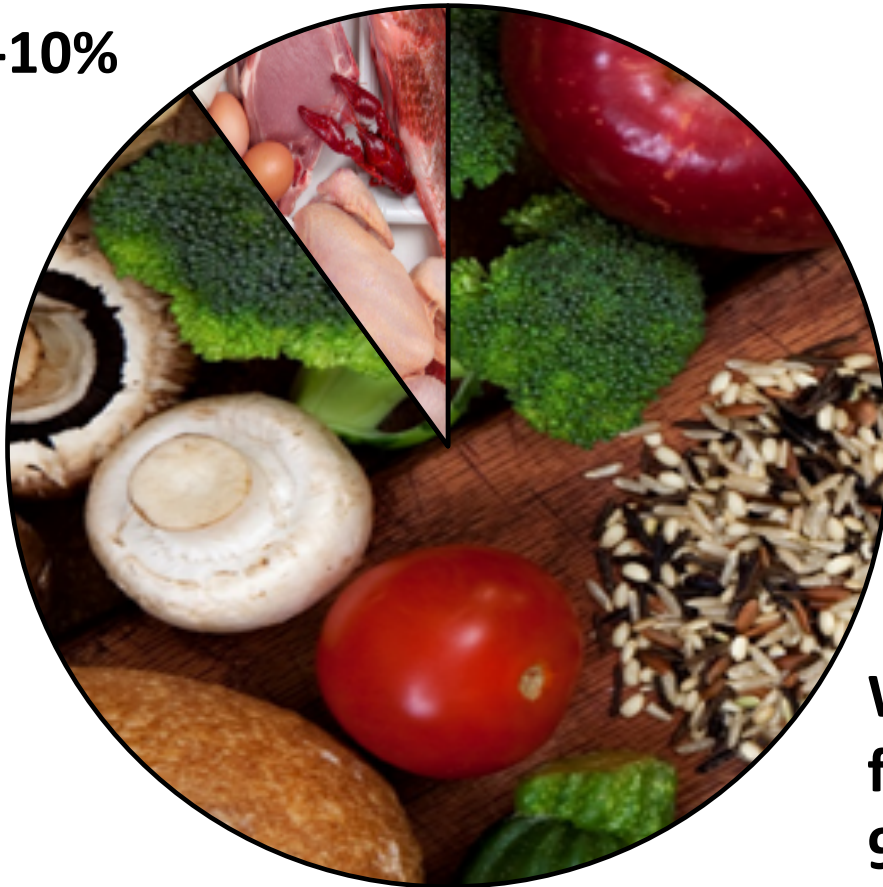
# The Whole Foods Plant-Based Diet

- 100% whole foods
- 90% to 100% plant-based
- Whole food starches are the main calorie source
- No refined sugars, grains or oils
- Nutrient density--unlimited vegetables & fruits
- Healthy fats primarily from nuts, seeds & avocados



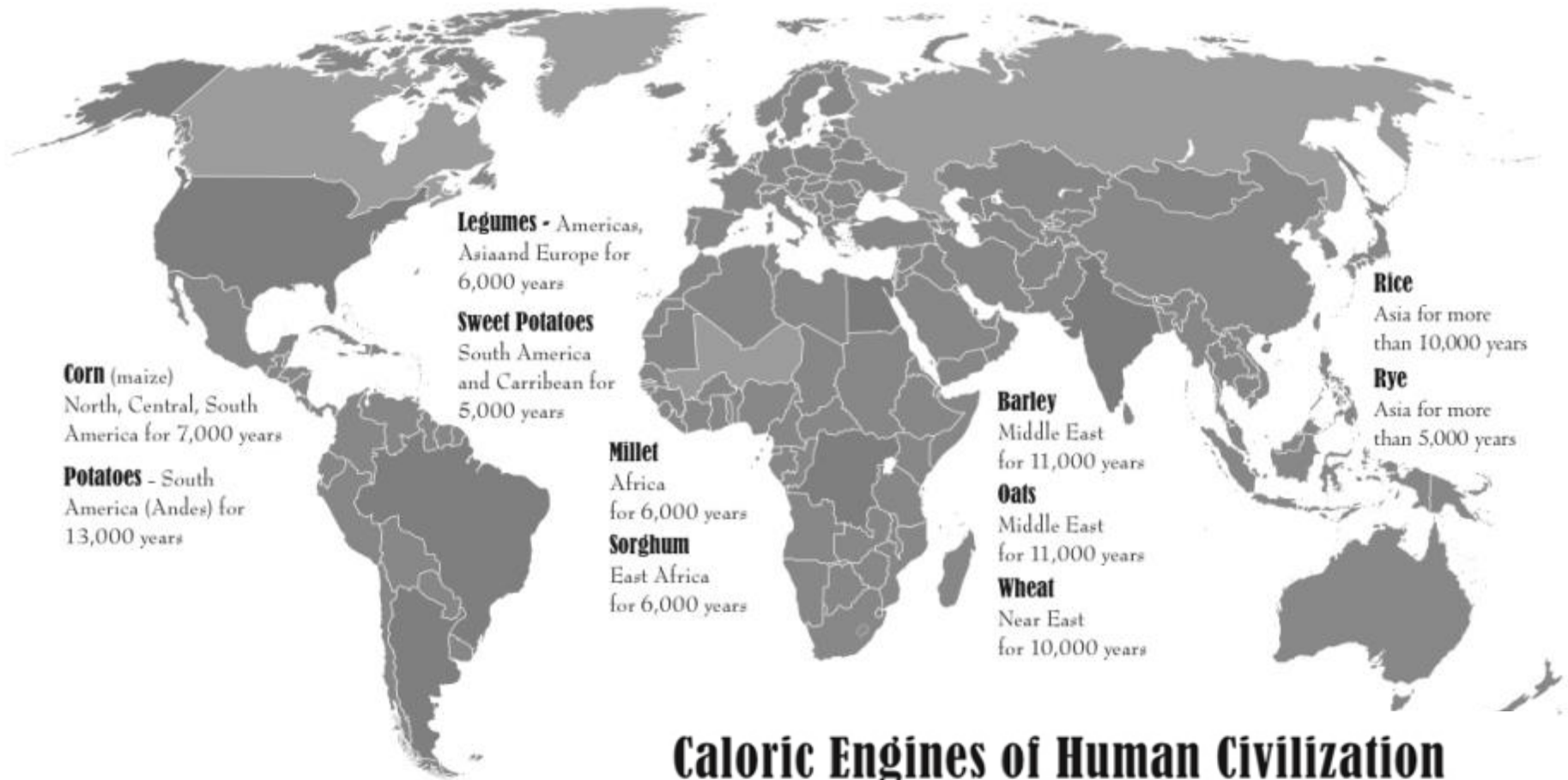
# The Whole Foods Plant-Based Diet

Animal foods  
0-10%



Whole grains, vegetables,  
fruit, beans, nuts, seeds  
90-100%

# Starches – Not Animal Foods – Have Been the Main Calorie Source for Humanity for Over 10,000 Years and Probably Much Longer



# Societies with No Coronary Artery Disease Are 90%+ Plant-Based

**Tarahumara  
Indians**

90% of calories from corn and beans; average cholesterol 125

**Rural China**

90% of calories from rice, vegetables and soybeans; average cholesterol 125

**Uganda**

90% of calories come from sweet potatoes, plantains, corn, millet, vegetables and legumes

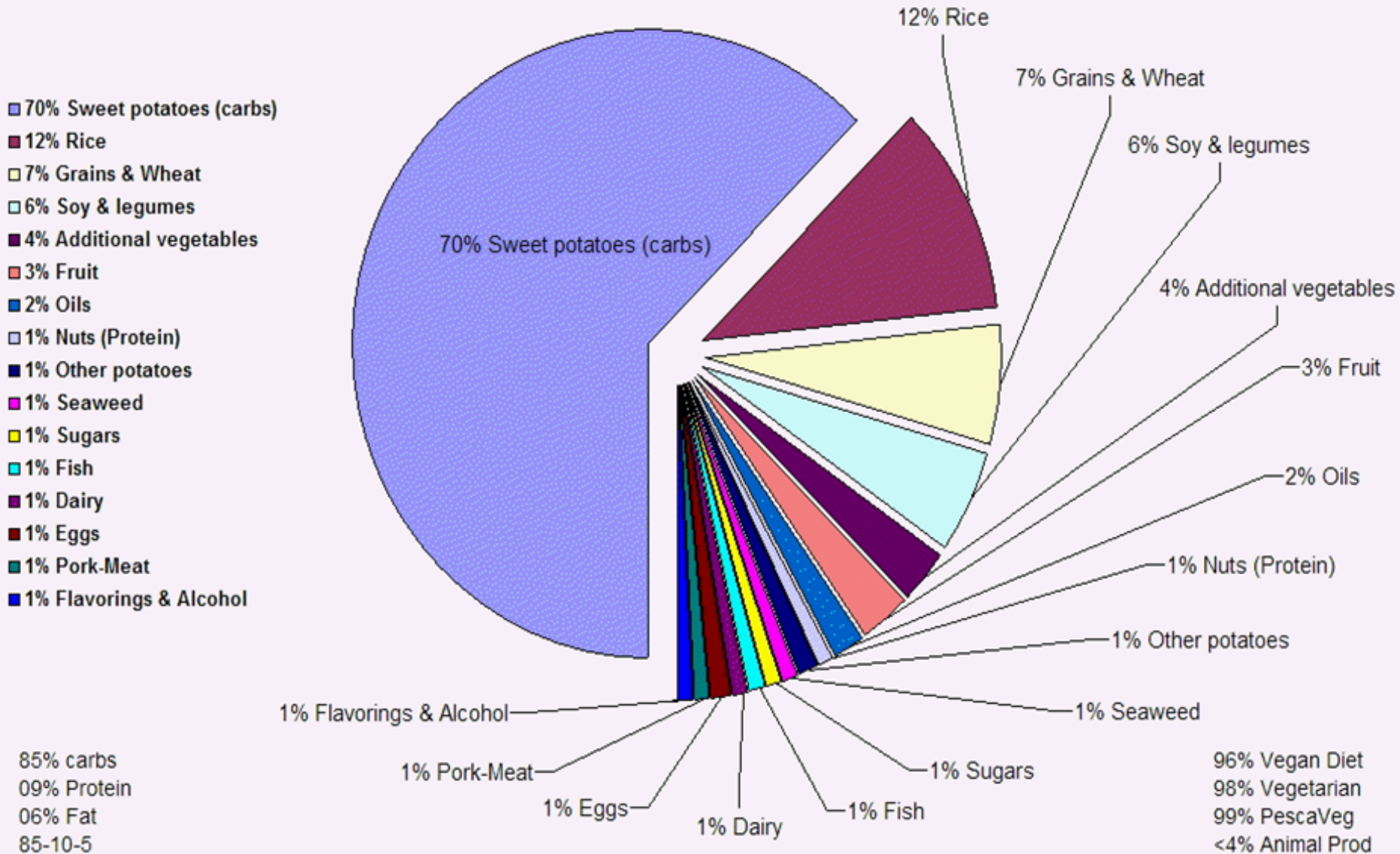
**Papua New Guinea  
Highlanders**

90% of calories from sweet potatoes, vegetables and legumes

# All Documented Longest-Lived Societies Have Been Whole Foods 90%+ Plant-Based



# Okinawa Longevity Diet



1785 Calories

SCIENTIFIC STUDY: "The Diet of the World's Longest-Lived People and Its Potential Impact on Morbidity and Life Span"  
JOURNAL: Annals of the Academy of Sciences - Volume 1114: 434-455 (2007).



**“I think it’s very hard to be healthy on a vegan diet—it just doesn’t have the nutrients that you need to sustain human health”**

**Nina Teicholz—Interview with Tricia Ward on Feb. 9, 2015**

# Seventh Day Adventist Health Study

12-year study, 34,000 people



- ✓ BMI: Vegan 23.6, vegetarians 25.7, omnivores 28.8
- ✓ Vegan Adventists who ate nuts and seeds, exercised and did not smoke were the longest lived cohort ever discovered in modern times
- ✓ Males lived 14 years longer than average Caucasian American
- ✓ Females lived 10 years longer than average Caucasian American
- ✓ Men: 60% lower risk of cancer, 76% lower risk of heart disease
- ✓ Women: 66% lower risk of cancer 98% lower risk of heart disease

# Dean Ornish Lifestyle Heart Trial



- ✓ Patients all had Coronary Heart Disease
- ✓ Experimental group followed a vegetarian diet: 10% of calories from fat, 15-20% protein, 70-75% starches
- ✓ Total cholesterol fell 24.3%; LDL cholesterol fell 37.4%; HDL did not change
- ✓ After one year, 82% of patients in the experimental group showed significant reversal of heart disease

# Reversing Coronary Artery Disease

Caldwell Esselstyn



- ✓ 198 patients with CAD were tracked for 3+ years.
- ✓ Diet was 100% whole foods, plant-based with no oils, sugars or refined carbohydrates. Total fat was under 10%.
- ✓ 89% of patients adhered to the diet, and only 0.6% (one person) experienced a coronary event.
- ✓ 11% of patients were non-adherent, and 62% experienced a coronary event.

# Other Plant-Based Medical Doctors Reversing Diseases

**Pritikin Center**

90%+ plant-based reversing obesity, diabetes, and heart disease

**John McDougall**

100% plant-based reversing obesity, diabetes, heart disease, and autoimmune diseases

**Joel Fuhrman**

95%+ plant based reversing obesity, diabetes, heart disease, and autoimmune diseases

**Neal Barnard**

100% plant-based reversing obesity, diabetes, and heart disease

**Where are the studies and who are the doctors curing heart disease, diabetes, and autoimmune diseases on low-carb meat-centered diets?**

# Total Health Immersion Program

- Available for free to all unhealthy Whole Foods team members
- One week of medically supervised healthy eating transformation
- Over 3,000 team members have participated
- Obesity, diabetes, heart disease all reversed quickly
- Saving Whole Foods Market many millions of dollars in health care costs each year

Biometrics	End of Immersion Results
Weight	-3.5 lbs
Blood Pressure	-10.1 mmHg
BMI	-1.5 kg/m <sup>2</sup>
Cholesterol	-24.3 mg/dL
Triclycerides	-24.6 mg/dL

# Immersion Success Stories



“I am the same happy man I was before, just much healthier and in control of my life. I was a Type 2 diabetic when I began the Immersion. In only 6 months, I’ve lost over 70 pounds, my blood pressure dropped from 156/96 to 115/75, and I’m no longer diabetic with my blood sugar regularly testing between 70-80.”

-Marty Jenkins,  
Roseville, CA Store Team Leader



# Immersion Success Stories



“The immersion has not only changed my life, it has changed the lives of everyone I come in contact with. When I arrived, my BP was on average 145/95. It is now 100/65. My weight was 315lbs. It’s now 240. I have lost a total of 75 pounds in only 4 months. My waist went from a 58 inches to 40 inches. Today at 42 years old, I am healthier than I have been in 20 years. I have not felt this amazing in decades.”



**10-month update:**  
“I have lost well over 100 pounds in the past 10 months. I am not on any medication!”

Milan Ross,  
Highlands Ranch, CO Front End Supervisor

# 2015 Immersions - Now Accepting Applications

[patricia.petty@wholefoods.com](mailto:patricia.petty@wholefoods.com)

**Dr. McDougall**  
October 3-10  
Santa Rosa, CA



**Dr. Stoll**  
October 26-November 1  
Naples, FL




**Dr. Fuhrman**  
April 26-May 2  
Basking Ridge, NJ



**Engine 2**  
May 16-22  
Sedona, AZ





**Low-Carb Animal-Based Diet**  
————— vs. —————  
**90%+ Plant-Based Diet**  
**with No Sugar, Refined Grains or Oils**

John Mackey  
March 5, 2015

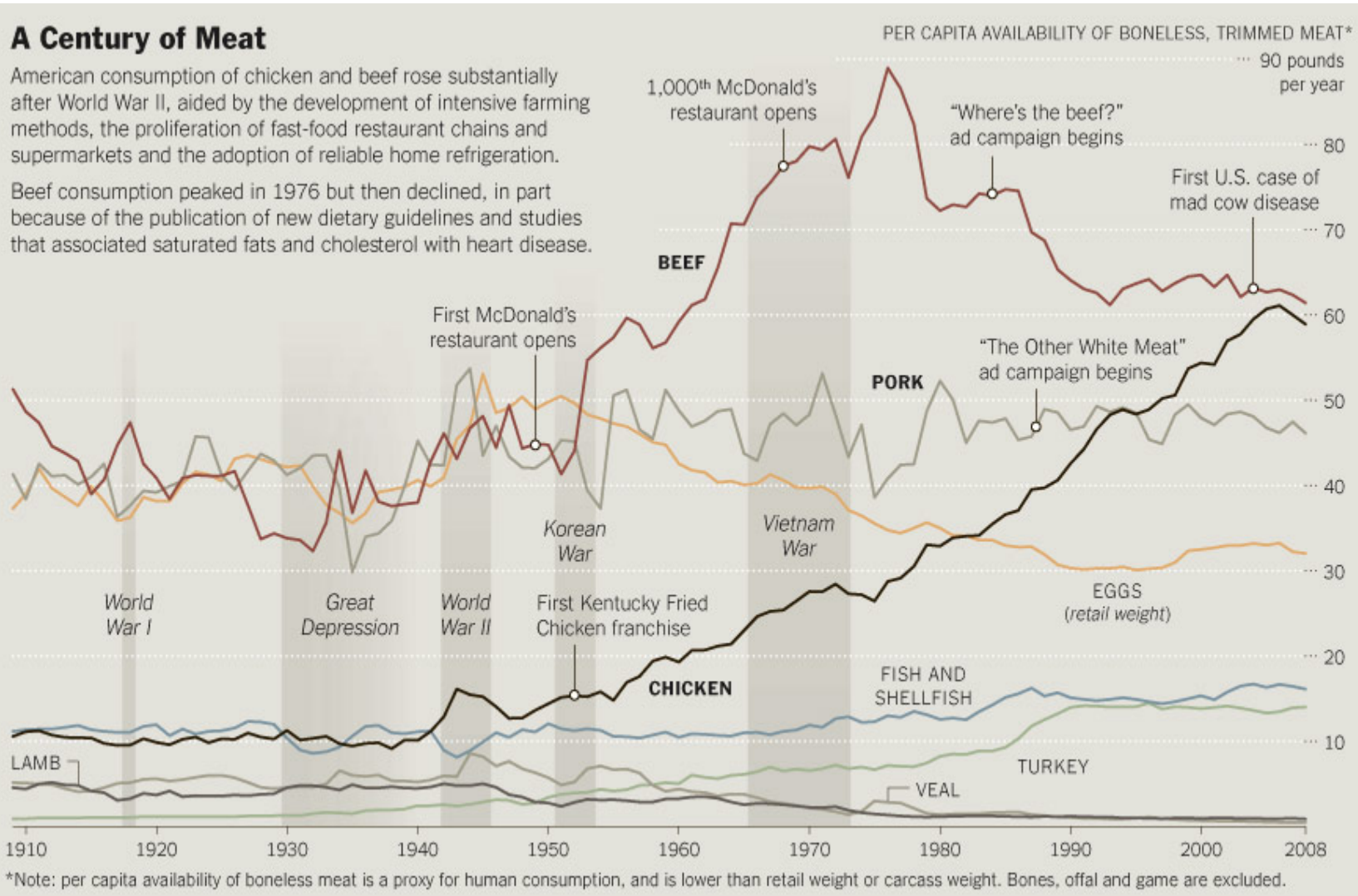


# Meat Consumption Past 100 Years

## A Century of Meat

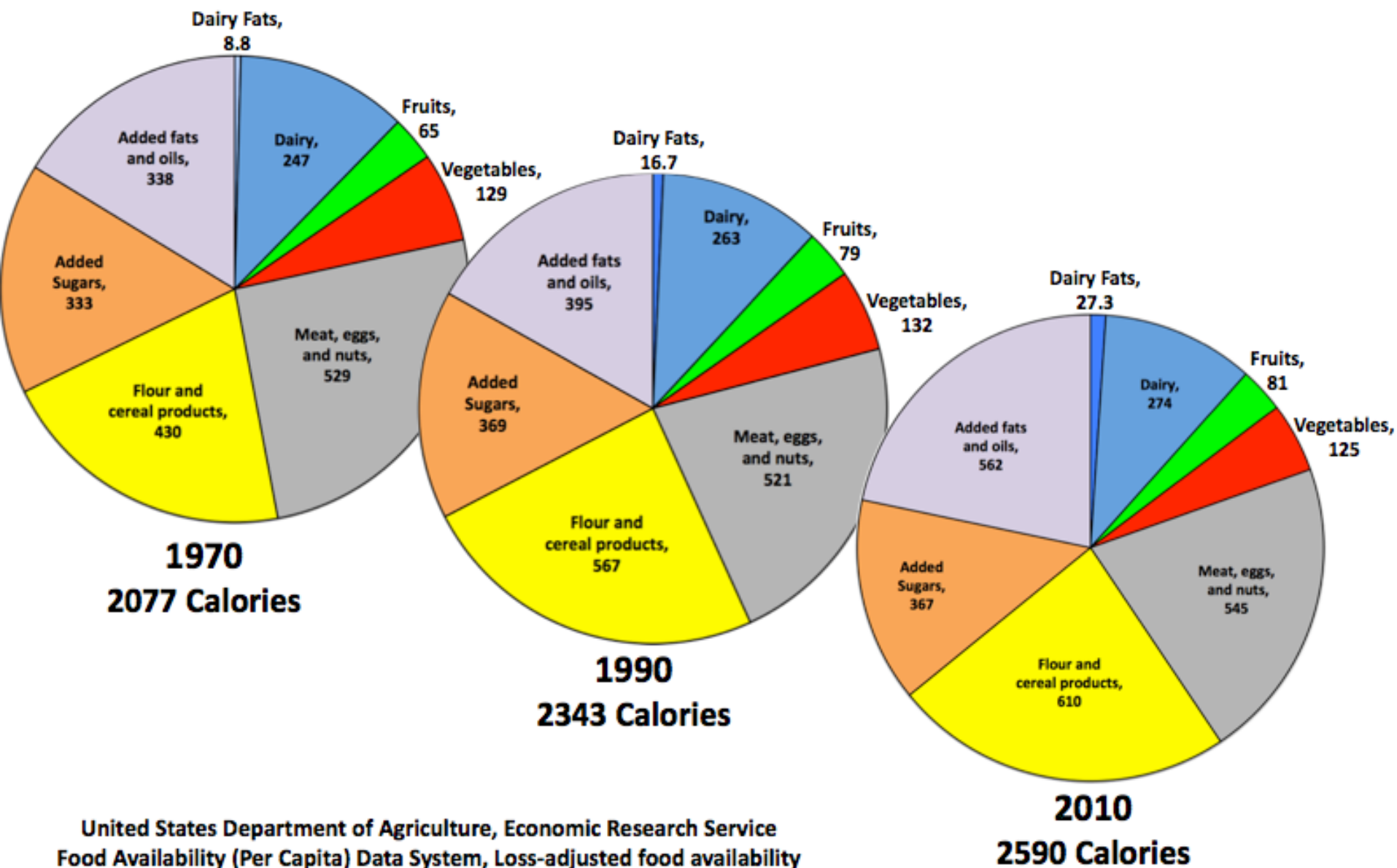
American consumption of chicken and beef rose substantially after World War II, aided by the development of intensive farming methods, the proliferation of fast-food restaurant chains and supermarkets and the adoption of reliable home refrigeration.

Beef consumption peaked in 1976 but then declined, in part because of the publication of new dietary guidelines and studies that associated saturated fats and cholesterol with heart disease.



\*Note: per capita availability of boneless meat is a proxy for human consumption, and is lower than retail weight or carcass weight. Bones, offal and game are excluded.

# The Standard American Diet



United States Department of Agriculture, Economic Research Service  
Food Availability (Per Capita) Data System, Loss-adjusted food availability