Take the ‘DIE’ out of Diet…

Harvey S. Hahn, MD, FACC

KMC Grand Rounds Feb 2018

Keep an open mind, think…

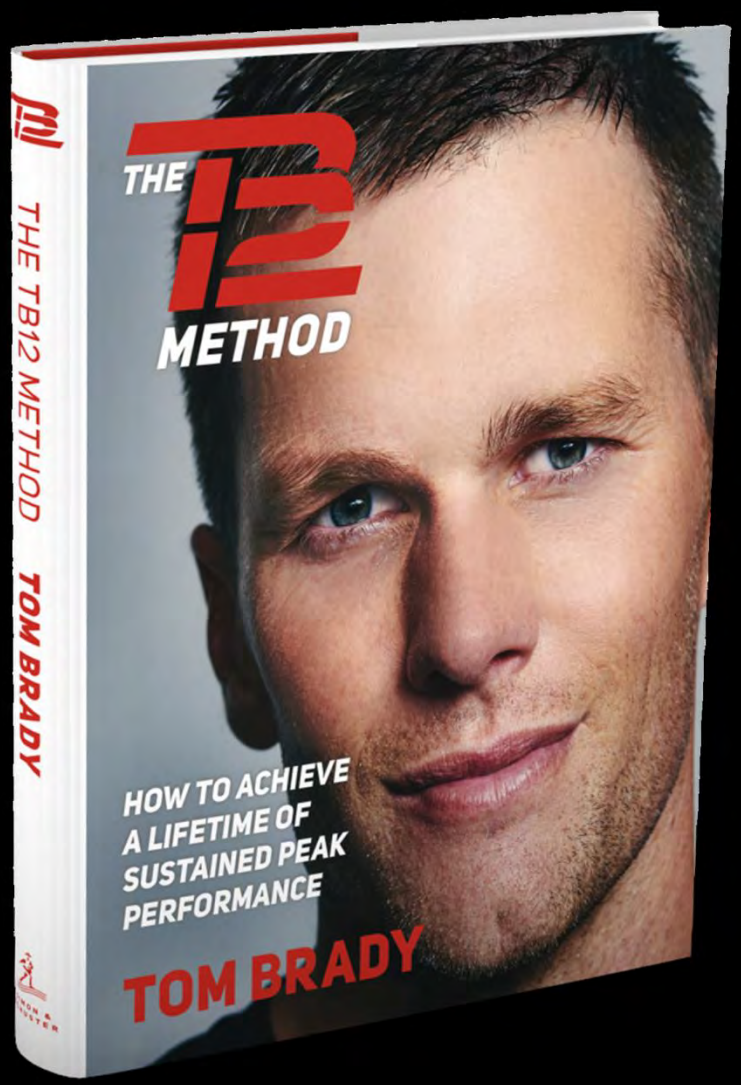
Don’t be married to your hypothesis…

The world has gone INSANE!

“Dovorey, no provorey”

“Trust, but verify”

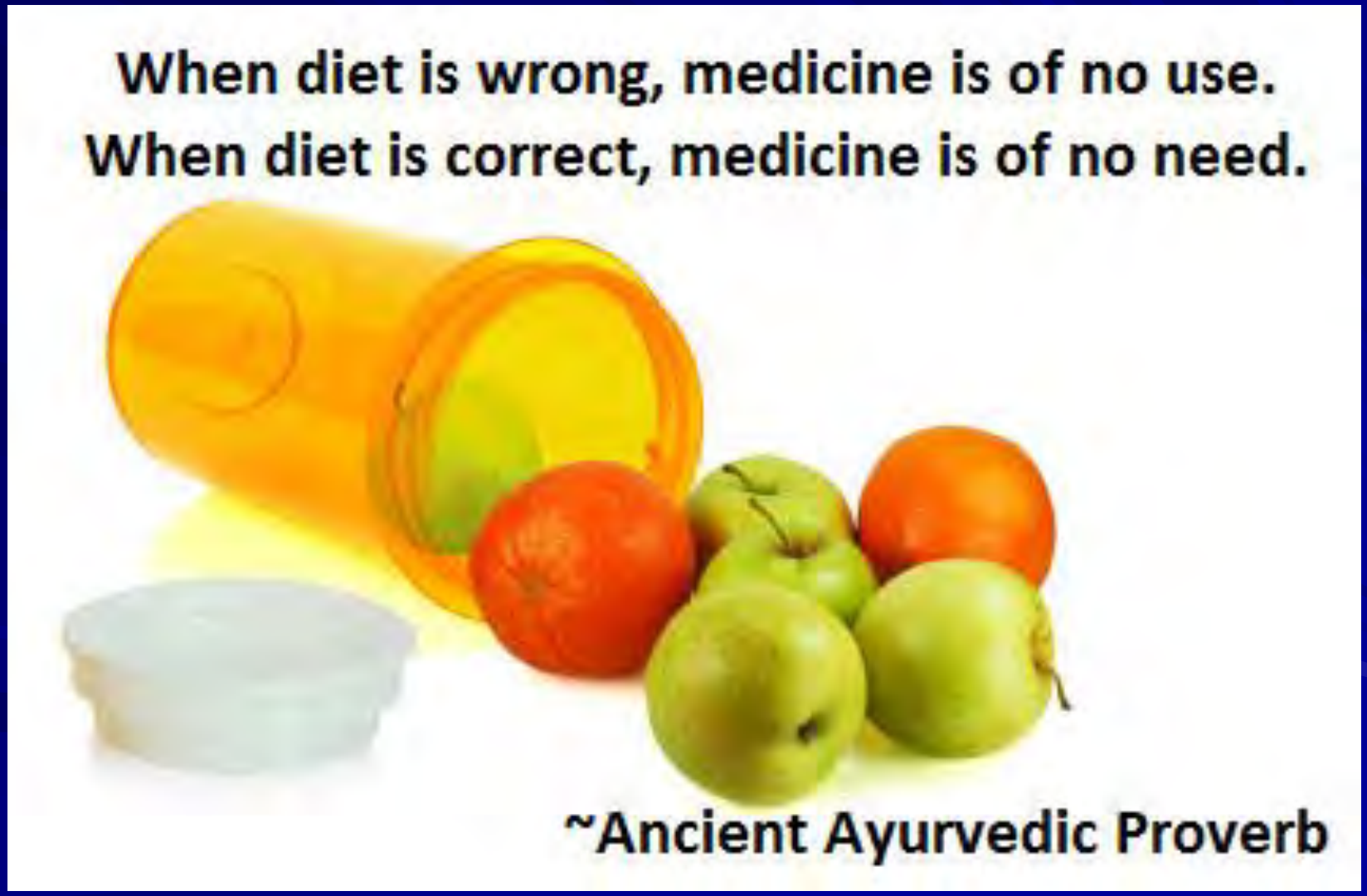
Eat like a G.O.A.T?



Treatment vs prevention…

The River…

The 80% rule!


When diet is wrong, medicine is of no use.
When diet is correct, medicine is of no need.
~Ancient Ayurvedic Proverb

CLINICAL RESEARCH STUDY

THE AMERICAN JOURNAL of MEDICINE®

A Deficiency of Nutrition Education and Practice in Cardiology

Stephen Devries, MD,[a,b] Arthur Agatston, MD,[c,d] Monica Aggarwal, MD,[e] Karen E. Aspry, MD,[f] Caldwell B. Esselstyn, MD,[g] Penny Kris-Etherton, PhD,[h] Michael Miller, MD,[i] James H. O'Keefe, MD,[j] Emilio Ros, MD,[k] Anne K. Rzeszut, MA,[l] Beth A. White, DNP,[m] Kim A. Williams, MD,[n] Andrew M. Freeman, MD[o]

[a]Gaples Institute for Integrative Cardiology, Deerfield, Ill; [b]Northwestern University Feinberg School of Medicine, Chicago, Ill; [c]Herbert Wertheim College of Medicine, Florida International University, Miami; [d]Baptist Health of South Florida, Miami Beach; [e]Division of Cardiology, University of Florida, Gainesville; [f]Lifespan Cardiovascular Institute, Alpert Medical School of Brown University, Providence, RI; [g]Cleveland Clinic Wellness Institute, Ohio; [h]Department of Nutritional Sciences, Penn State University, University Park; [i]University of Maryland School of Medicine, Baltimore; [j]Saint Luke's Mid America Heart Institute, Kansas City, Mo; [k]Lipid Clinic, Endocrinology and Nutrition Service, Institut d'Investigacions Biomèdiques August Pi i Sunyer, Hospital Clínic, Barcelona and Ciber Fisiopatología de la Obesidad y Nutrición, Instituto de Salud Carlos III, Spain; [l]American College of Cardiology, Washington, DC; [m]Marshall Health, Joan C. Edwards School of Medicine, Huntington, WV; [n]Rush University Medical Center, Chicago, Ill; [o]Division of Cardiology, Department of Medicine, National Jewish Health, Denver, Colo.

The American Journal of Medicine
Volume 130, Issue 11, Pages 1298-1305 (November 2017)
DOI: 10.1016/j.amjmed.2017.04.043

Nutrition Education From Medical School to Fellowship

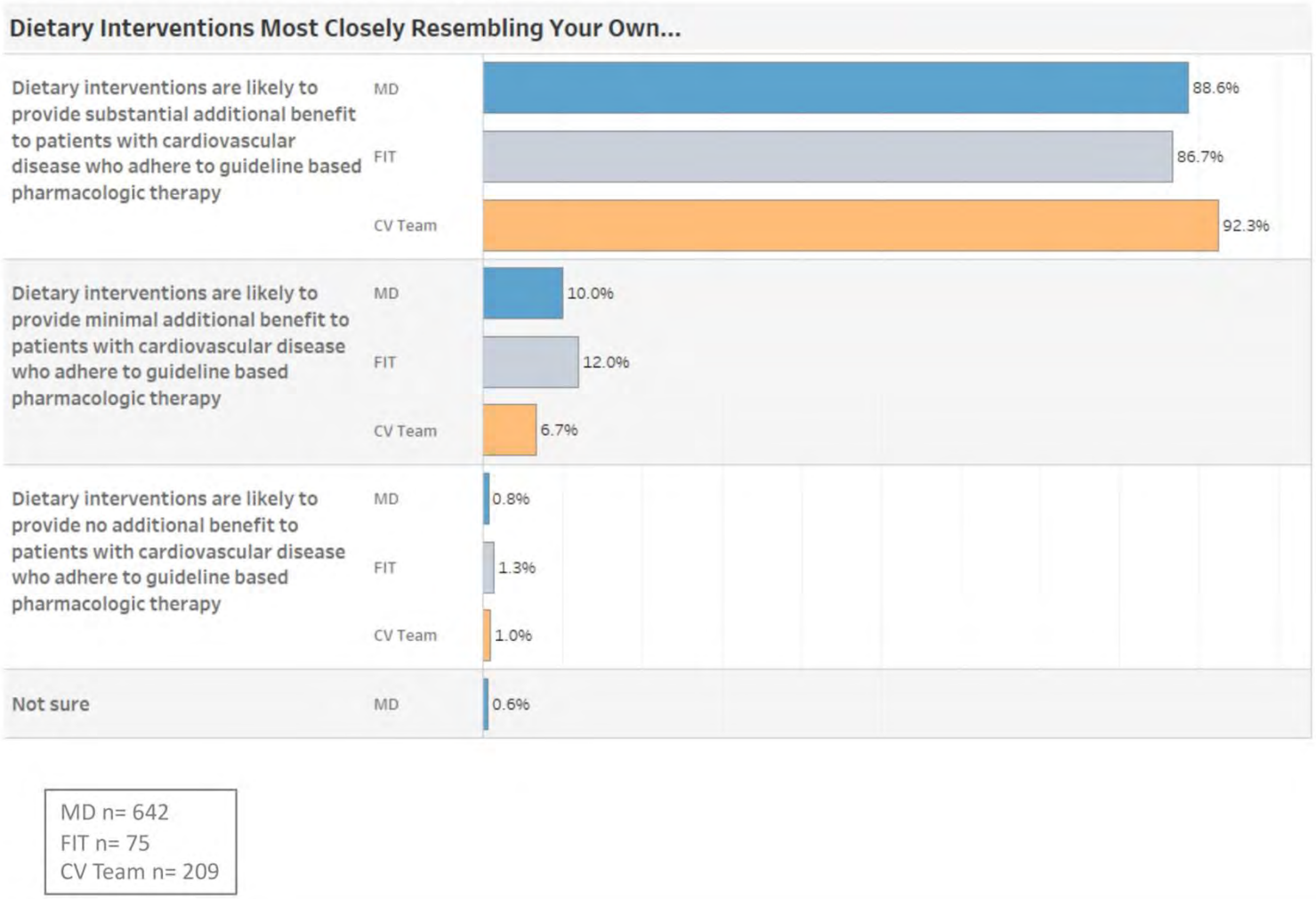
Receive a formal, practical lecture, series, or discussion on the role of nutrition and diet in overall health	During Medical / Professional School		During Residency	
	FIT	MD	FIT	MD
Yes, part of one lecture	0%	4%	7%	2%
Yes, one lecture	24%	17%	21%	9%
Yes, a series of lectures	39%	21%	5%	6%
Yes, a bedside discussion on teaching rounds	0%	3%	11%	7%
No	21%	31%	43%	59%
Don't recall	16%	24%	13%	17%

During Fellowship Training…	FIT	MD
I recall receiving a high level of nutrition education that gave me excellent skills for counseling patients.	0%	1%
I recall receiving a solid nutrition education during my fellowship training that adequately prepared me for counseling patients.	9%	8%
I recall receiving minimal nutrition education during my fellowship training that did not adequately prepare me for counseling patients.	35%	33%
I do not recall receiving any nutrition education during my fellowship training.	56%	57%

MD n= 646
FIT n= 75

The American Journal of Medicine 2017 130, 1298-1305DOI: (10.1016/j.amjmed.2017.04.043)

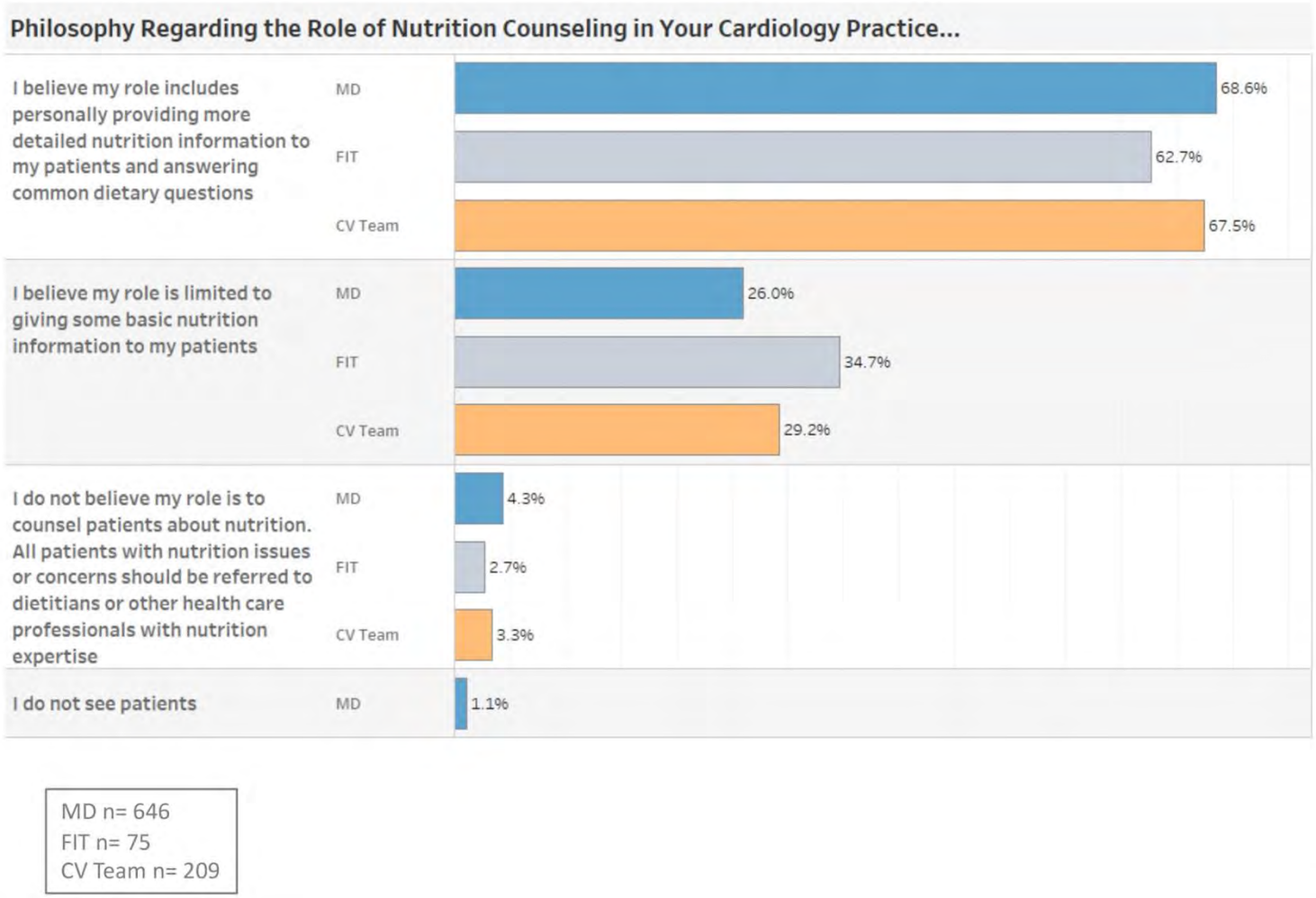
Attitudes Regarding Dietary Interventions



MD n= 642
FIT n= 75
CV Team n= 209

The American Journal of Medicine 2017 130, 1298-1305DOI: (10.1016/j.amjmed.2017.04.043)

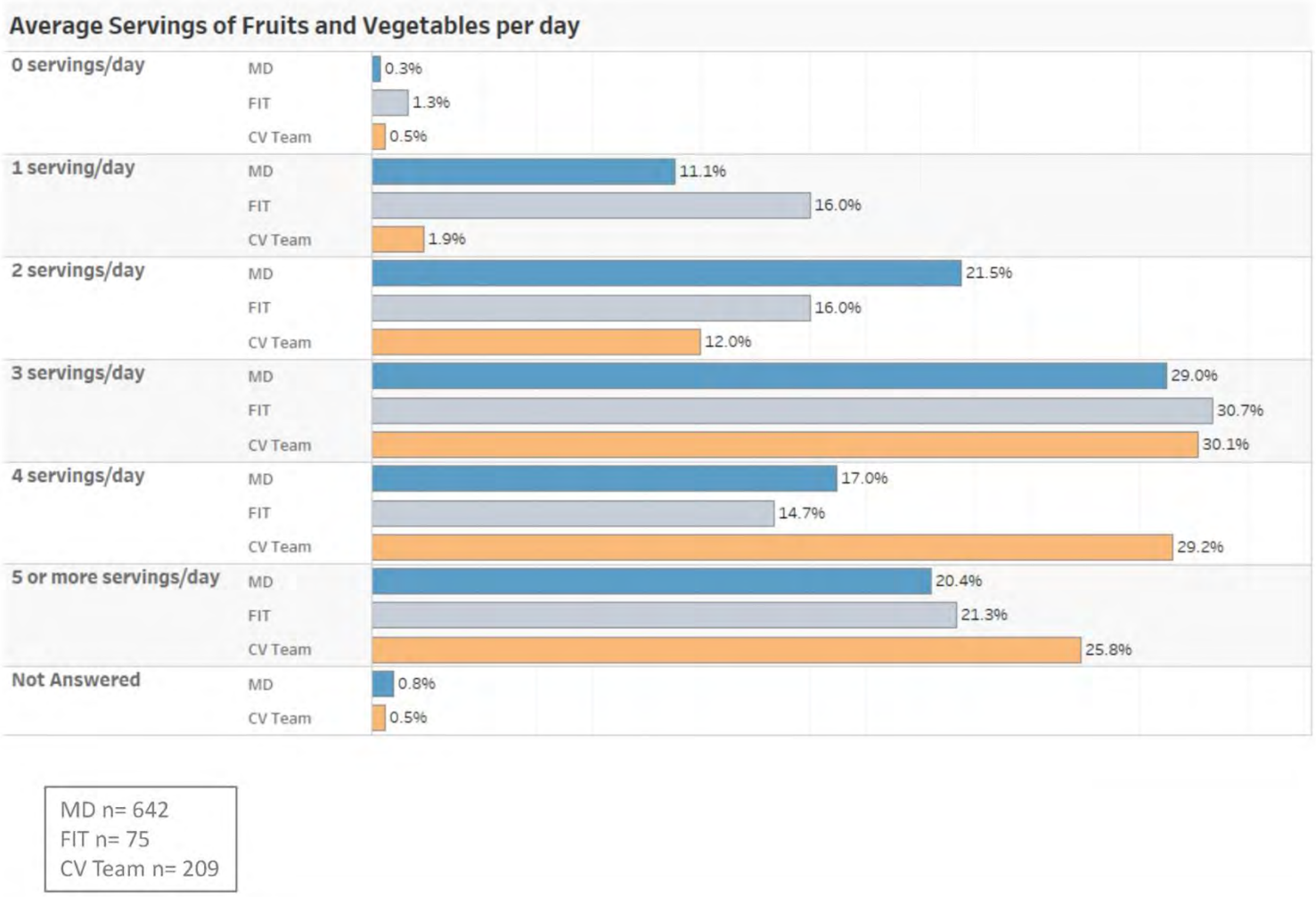
Perceived Role in Delivering Nutrition Information



MD n= 646
FIT n= 75
CV Team n= 209

The American Journal of Medicine 2017 130, 1298-1305DOI: (10.1016/j.amjmed.2017.04.043)

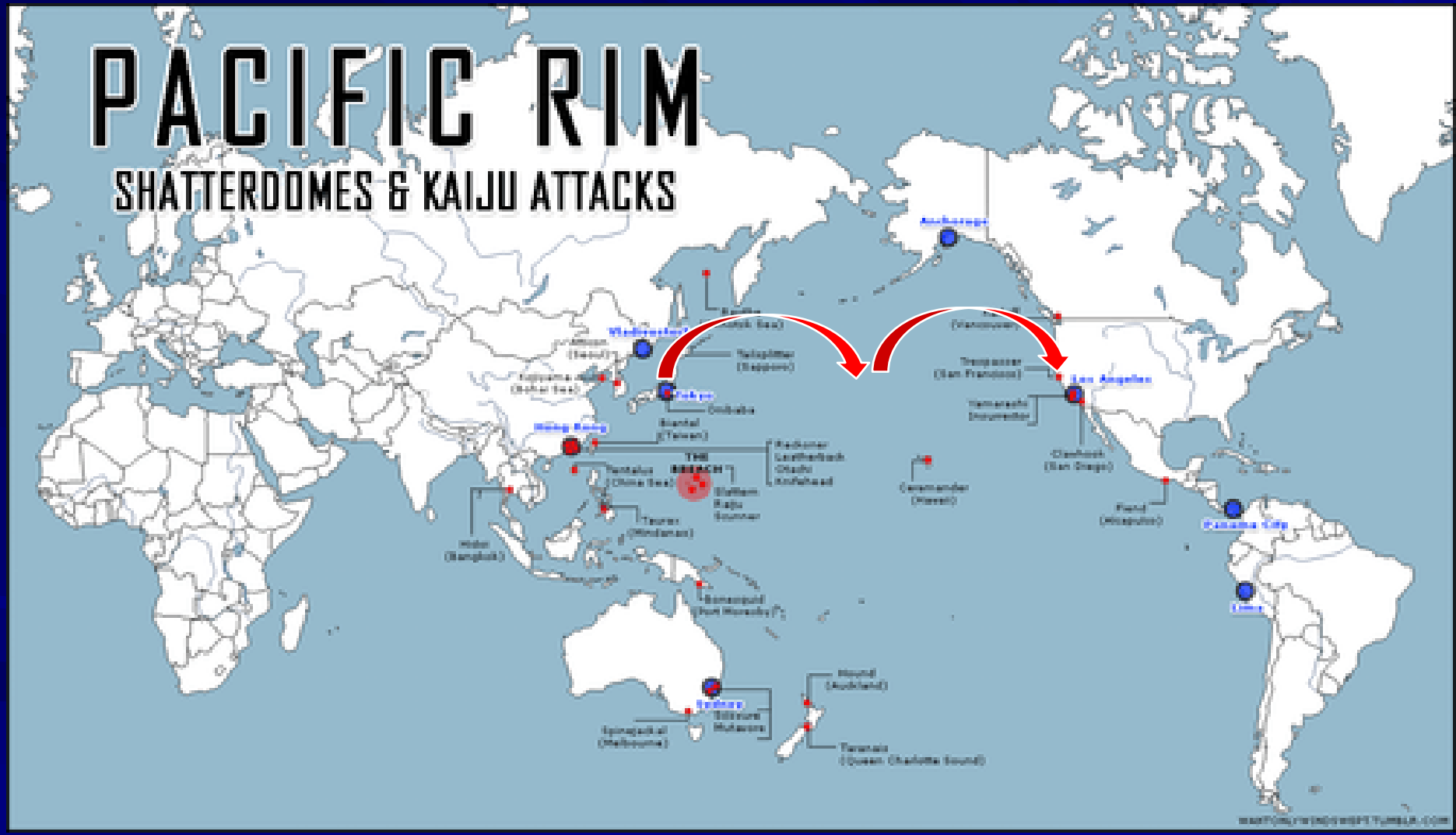
Dietary Habits of Cardiovascular Professionals



MD n= 642
FIT n= 75
CV Team n= 209

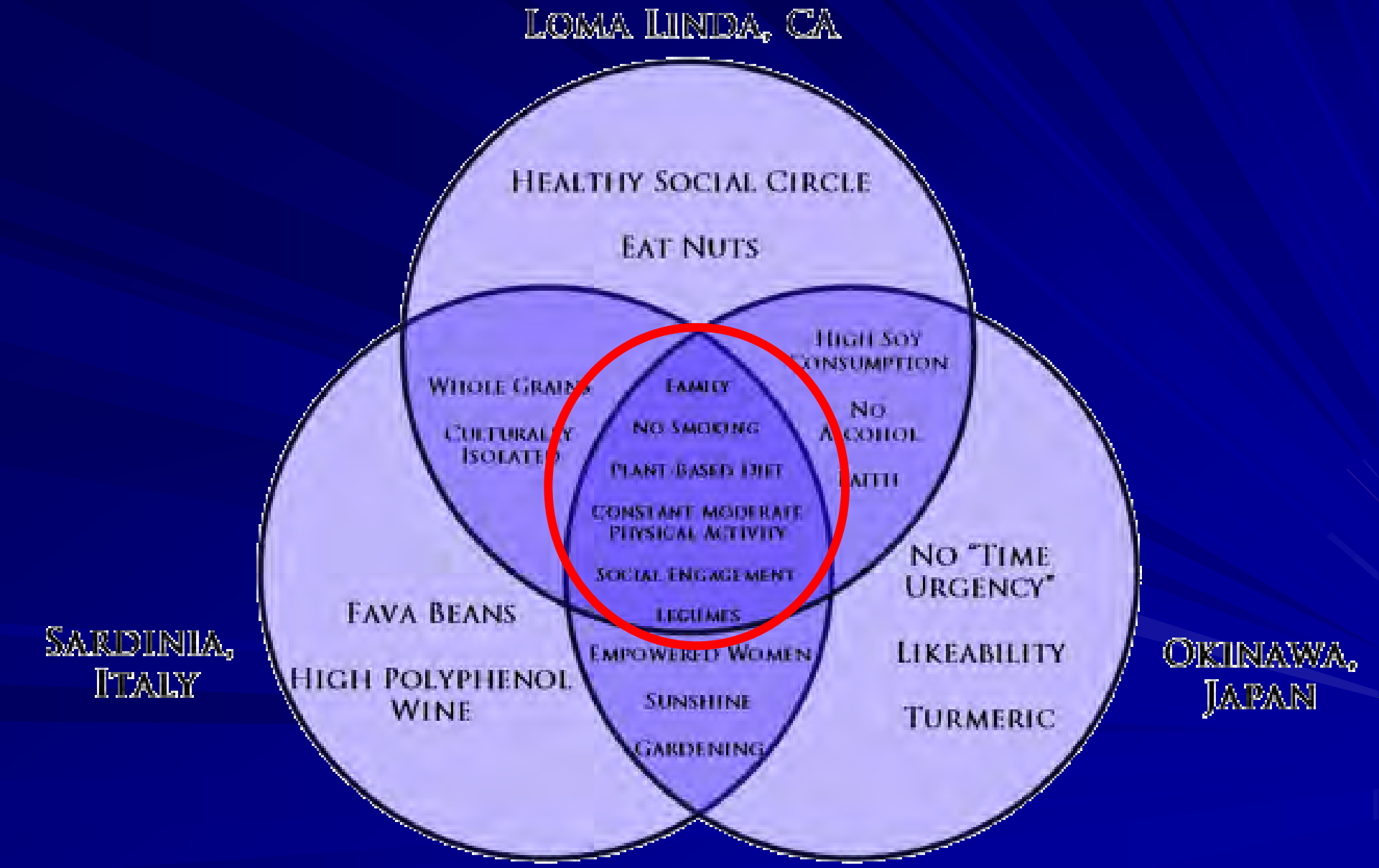
The American Journal of Medicine 2017 130, 1298-1305DOI: (10.1016/j.amjmed.2017.04.043)

Honolulu Heart Study




LOMA LINDA
CALIFORNIA
SARDINIA
ITALY
ICARIA
GREECE
OKINAWA
JAPAN
NICOYA
COSTA RICA
BLUE ZONES
LONGEVITY HOTSPOTS
BLUE ZONE LIFE LESSONS
MOVE NATURALLY
RIGHT TRIBE
RIGHT OUTLOOK
EAT WISELY

What do some Blue Spots have in common?



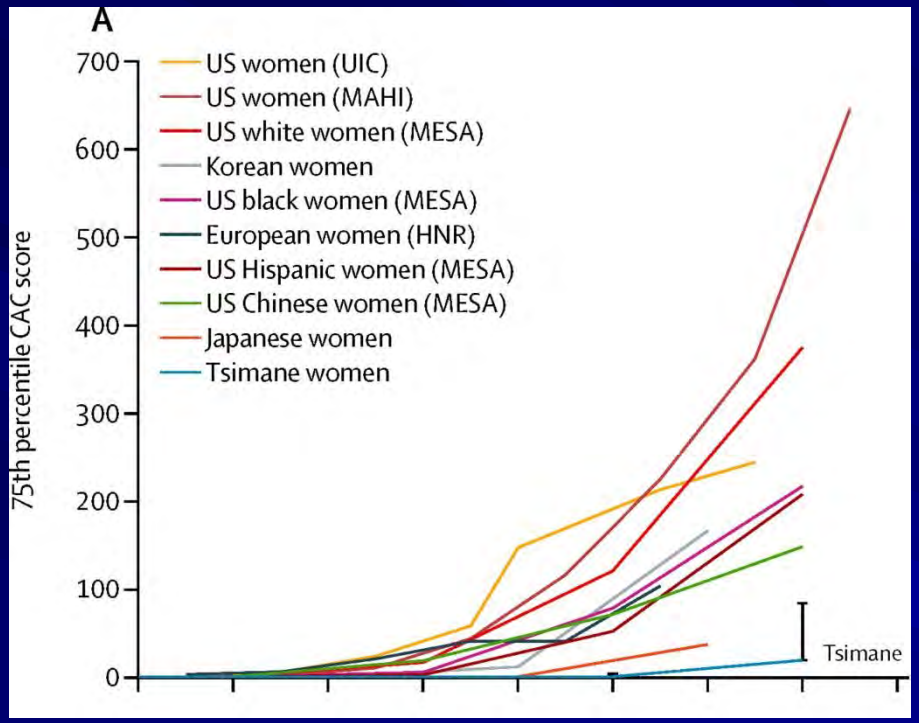
Coronary atherosclerosis in indigenous South American Tsimane: a cross-sectional cohort study

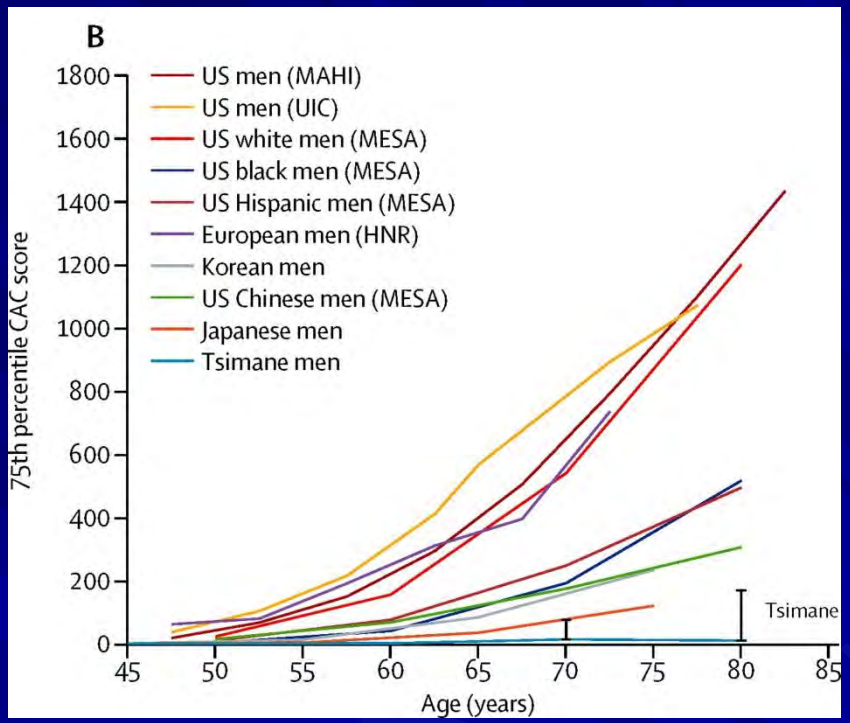
Hillard Kaplan, Randall C Thompson, Benjamin C Trumble, L Samuel Wann, Adel H Allam, Bret Beheim, Bruno Frohlich, M Linda Sutherland, James D Sutherland, Jonathan Stieglitz, Daniel Eid Rodriguez, David E Michalik, Chris J Rowan, Guido P Lombardi, Ram Bedi, Angela R Garcia, James K Min, Jagat Narula, Caleb E Finch, Michael Gurven, Gregory S Thomas

Vascular age was ~28 years YOUNGER than USA!

Volume 389, Issue 10080, Pages 1730-1739 (April 2017)
DOI: 10.1016/S0140-6736(17)30752-3

CAC distribution is flat!





The Lancet 2017 389, 1730-1739DOI: (10.1016/S0140-6736(17)30752-3)

	40–44 years (n=31)	45–54 years (n=298)	55–64 years (n=204)	65–74 years (n=124)	75+ years (n=48)	Total (n=705)	p value
Anthropometry							
Proportion of men (%)	50 (0·5)	50 (0·5)	50 (0·5)	50 (0·5)	40 (0·5)	50 (0·5)	0·6301
Mean weight (kg)	58·8 (9·0)	60·3 (9·0)	58·5 (10·9)	56·2 (9·5	52·1 (9·5)	58·4 (9·9)	<0·0001
Height (cm)	157·4 (7·5)	157·2 (7·0)	154·9 (8·0)	154·5 (8·3)	151·2 (8·3)	155·7 (7·8)	<0·0001
Body-mass index (kg/m²)	23·7 (3·0)	24·4 (3·1)	24·4 (4·1)	23·5 (3·3)	22·6 (2·8)	24·1 (3·5)	0·0220
Body fat (%)	21·8% (8·3)	21·9% (8·2)	22·8% (8·3)	21·7% (8·4)	21·7% (6·5)	22·1% (8·2)	0·6726
Leucocyte count (cells per µL)	9642 (2222)	9013 (2307)	9316 (2284)	9280 (2681)	9325 (2375)	9199 (2368)	0·4800
Lymphocyte count (cells per µL)	2673 (922)	2357 (718)	2497 (707)	2343 (770)	2415 (657)	2414 (733)	0·0690
Eosinophil count (cells per µL)	1648 (1101)	1497 (1057)	1228 (884)	1371 (946)	1143 (870)	1278 (987)	0·0110
Proportions above high-risk cutoffs							
Body-mass index >30 kg/m²	0·03 (0·03)	0·05 (0·01)	0·10 (0·02)	0·03 (0·02)	0·02 (0·02)	0·06 (0·01)	0·0670
Hypertensive*	0·10 (0·05)	0·04 (0·01)	0·05 (0·02)	0·06 (0·02)	0·08 (0·04)	0·05 (0·01)	0·5306
Total cholesterol >6·2 mmol/L	0·00 (0·00)	0·00 (0·00)	0·01 (0·01)	0·01 (0·01)	0·00 (0·00)	0·00 (0·00)	0·4710
LDL cholesterol >3·4 mmol/L	0·11 (0·06)	0·09 (0·02)	0·10 (0·02)	0·11 (0·03)	0·02 (0·02)	0·09 (0·01)	0·4875
Triglycerides >2·3 mmol/L	0·03 (0·03)	0·05 (0·01)	0·05 (0·02)	0·03 (0·02)	0·00 (0·00)	0·04 (0·01)	0·6010
HDL cholesterol <1·0 mmol/L	0·61 (0·09)	0·57 (0·03)	0·55 (0·03)	0·53 (0·04)	0·57 (0·07)	0·56 (0·02)	0·9460
Glucose >6·9 mmol/L	0·00 (0·00)	0·00 (0·00)	0·01 (0·01)	0·01 (0·01)	0·00 (0·00)	0·00 (0·00)	0·6330
Leucocytes >10 700 cells per µL	0·32 (0·08)	0·21 (0·02)	0·24 (0·03)	0·25 (0·04)	0·22 (0·06)	0·23 (0·02)	0·5780
Elevated ESR†	0·30 (0·08)	0·27 (0·03)	0·25 (0·03)	0·25 (0·04)	0·41 (0·07)	0·27 (0·02)	0·3390
hs-CRP >3·0 mg/L	0·43 (0·09)	0·48 (0·03)	0·46 (0·03)	0·55 (0·04)	0·45 (0·07)	0·48 (0·02)	0·5100

Data are mean (SD) or proportion (SE), unless otherwise specified. ApoA=apolipoprotein A. ApoB=apolipoprotein B. ESR=erythrocyte sedimentation rate. hs-CRP=high sensitivity C-reactive protein. Conversion factors from mmol/L to mg/dL: for total cholesterol, LDL, and HDL, multiply mmol/L by 38·67; for triglycerides, multiply mmol/L by 88·57; and for glucose, multiply mmol/L by 18·02. *Hypertension was defined as a systolic blood pressure of more than 140 mm Hg or a diastolic blood pressure of more than 90 mm Hg. †Elevated ESR was considered as higher than 22 mm/h for men and higher than 29 mm/h for women.

Table 1: Baseline characteristics by age

70%+ carbs!

Original Article

Long-Term Effects of 4 Popular Diets on Weight Loss and Cardiovascular Risk Factors

A Systematic Review of Randomized Controlled Trials

Renée Atallah, MSc; Kristian B. Filion, PhD; Susan M. Wakil, MD; Jacques Genest, MD; Lawrence Joseph, PhD; Paul Poirier, MD, PhD; Stéphane Rinfret, MD, SM; Ernesto L. Schiffrin, MD, PhD; Mark J. Eisenberg, MD, MPH

Circ CV Qual Outcomes. 2014.

Typical wt loss is ~10 lbs in 1 yr…

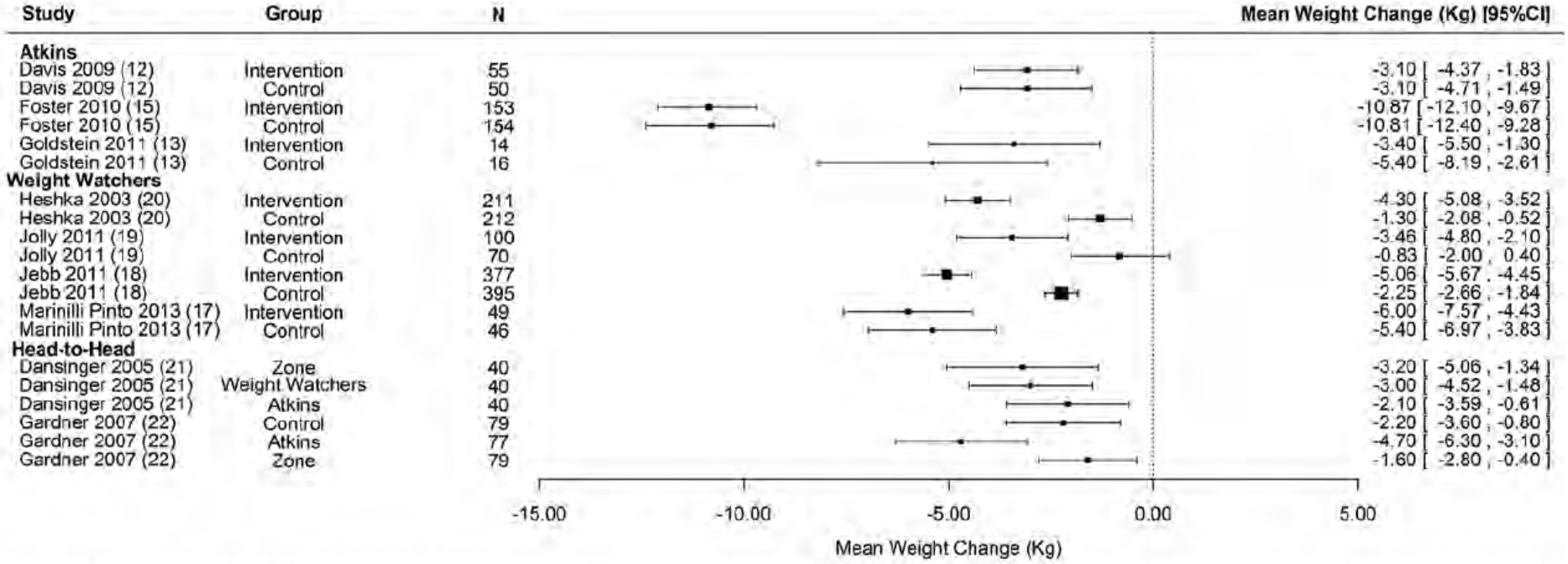


Figure 3. Forest plot for mean weight change from baseline to 12 months among long-term trials. N is the number of patients included in the 12-month analysis. CI indicates confidence interval.

SPECIAL FOCUS ISSUE: CARDIOVASCULAR HEALTH PROMOTION

THE PRESENT AND FUTURE: COUNCIL PERSPECTIVES

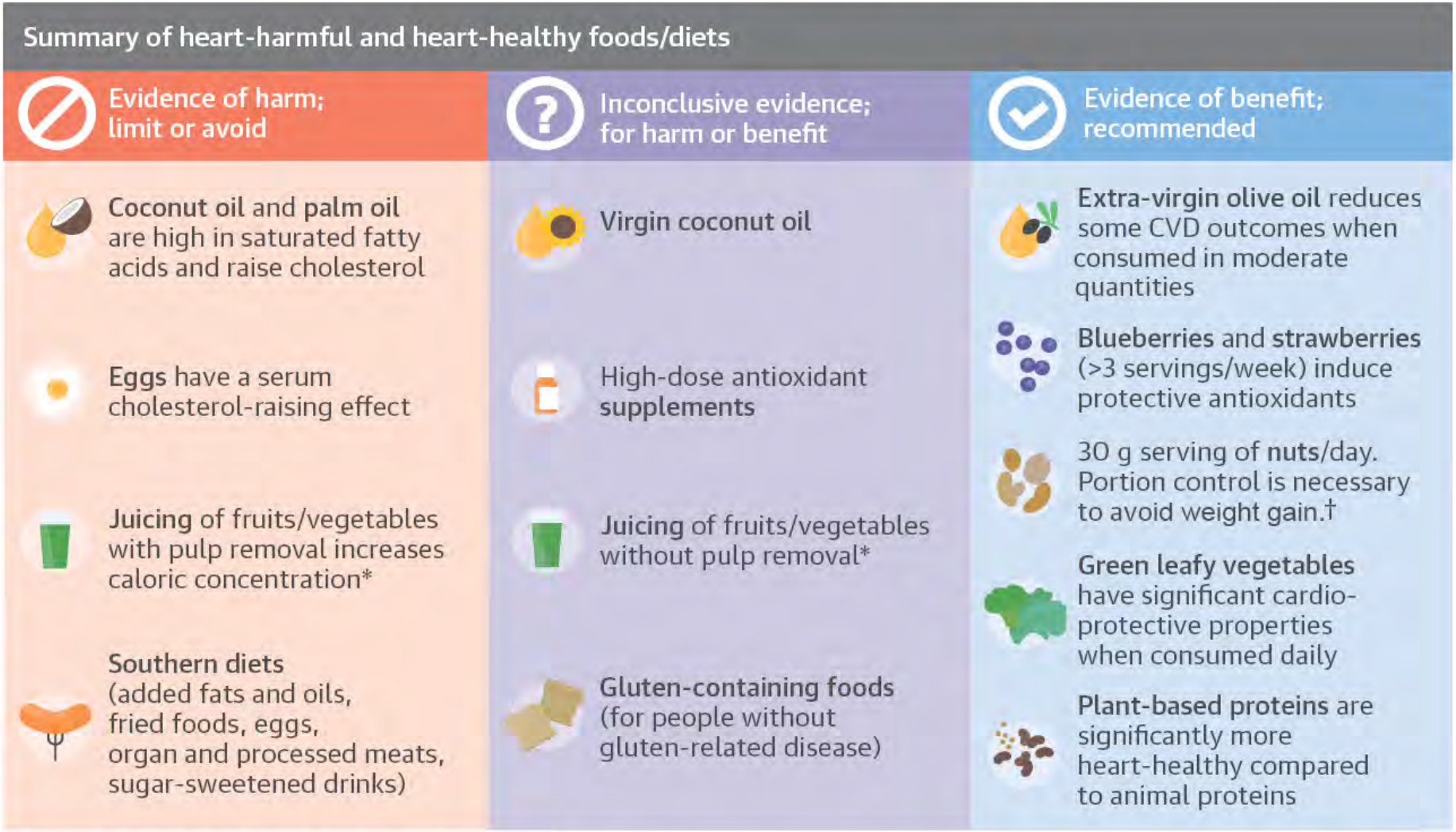
Trending Cardiovascular Nutrition Controversies

Andrew M. Freeman, MD,[a] Pamela B. Morris, MD,[b] Neal Barnard, MD,[c] Caldwell B. Esselstyn, MD,[d] Emilio Ros, MD, PhD,[e] Arthur Agatston, MD,[f] Stephen Devries, MD,[g,h] James O'Keefe, MD,[i] Michael Miller, MD,[j] Dean Ornish, MD,[k] Kim Williams, MD,[l] Penny Kris-Etherton, PhD[m]

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY
VOL. 69, NO. 9, 2017

ISSN 0735-1097/$36.00
PUBLISHED BY ELSEVIER
http://dx.doi.org/10.1016/j.jacc.2016.10.086

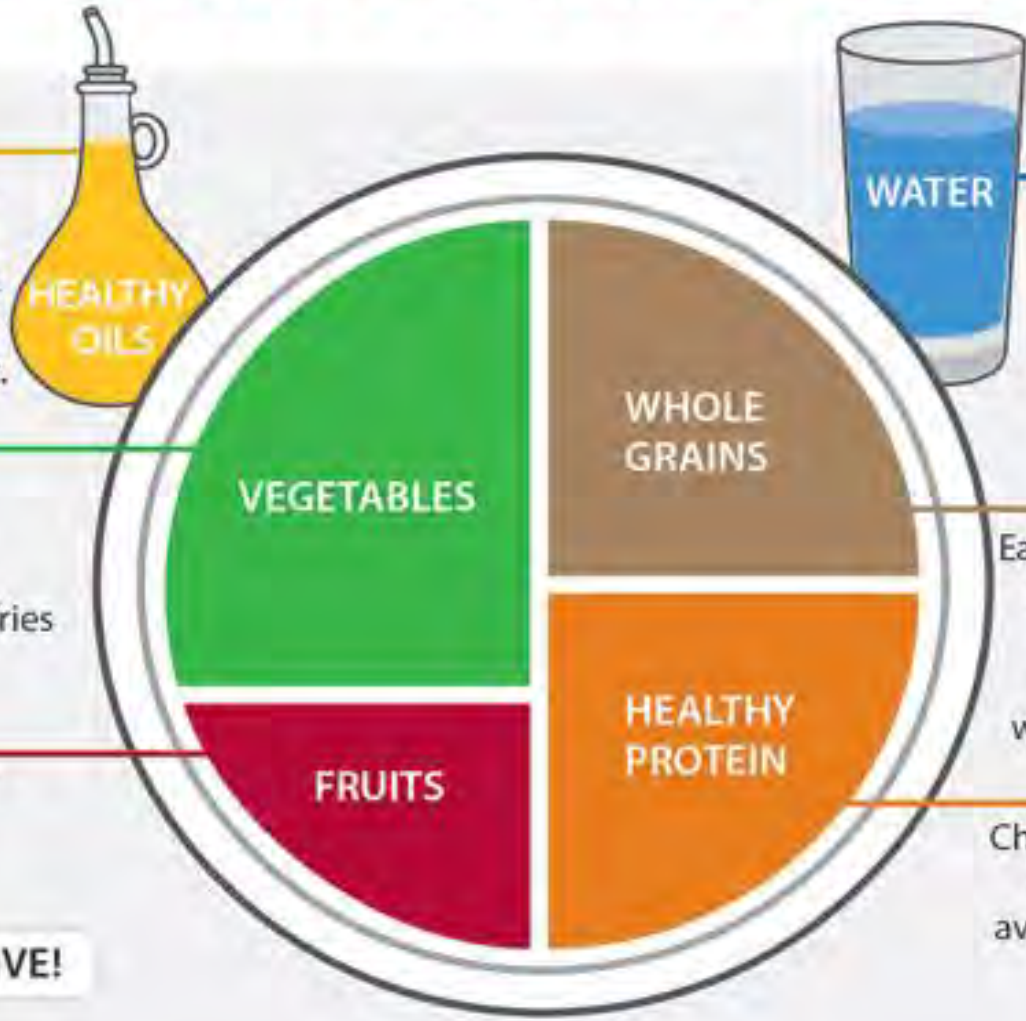
CENTRAL ILLUSTRATION **Evidence for Cardiovascular Health Impact of Foods Reviewed**



Freeman, A.M. et al. J Am Coll Cardiol. 2017;69(9):1172-87.

This figure summarizes the foods discussed in this paper that should be consumed often, and others that should be avoided from a cardiovascular health perspective. *It is important to note that juicing becomes less of a benefit if calorie intake increases because of caloric concentration with pulp removal. †Moderate quantities are required to prevent caloric excess.

HEALTHY EATING PLATE



Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

The more veggies—and the greater the variety—the better. Potatoes and french fries don't count.

Eat whole grains (like brown rice, whole-wheat bread, and whole-grain pasta). Limit refined grains (like white rice and white bread).

Eat plenty of fruits of all colors.

Choose fish, poultry, beans, and nuts; limit red meat; avoid bacon, cold cuts, and other processed meats.

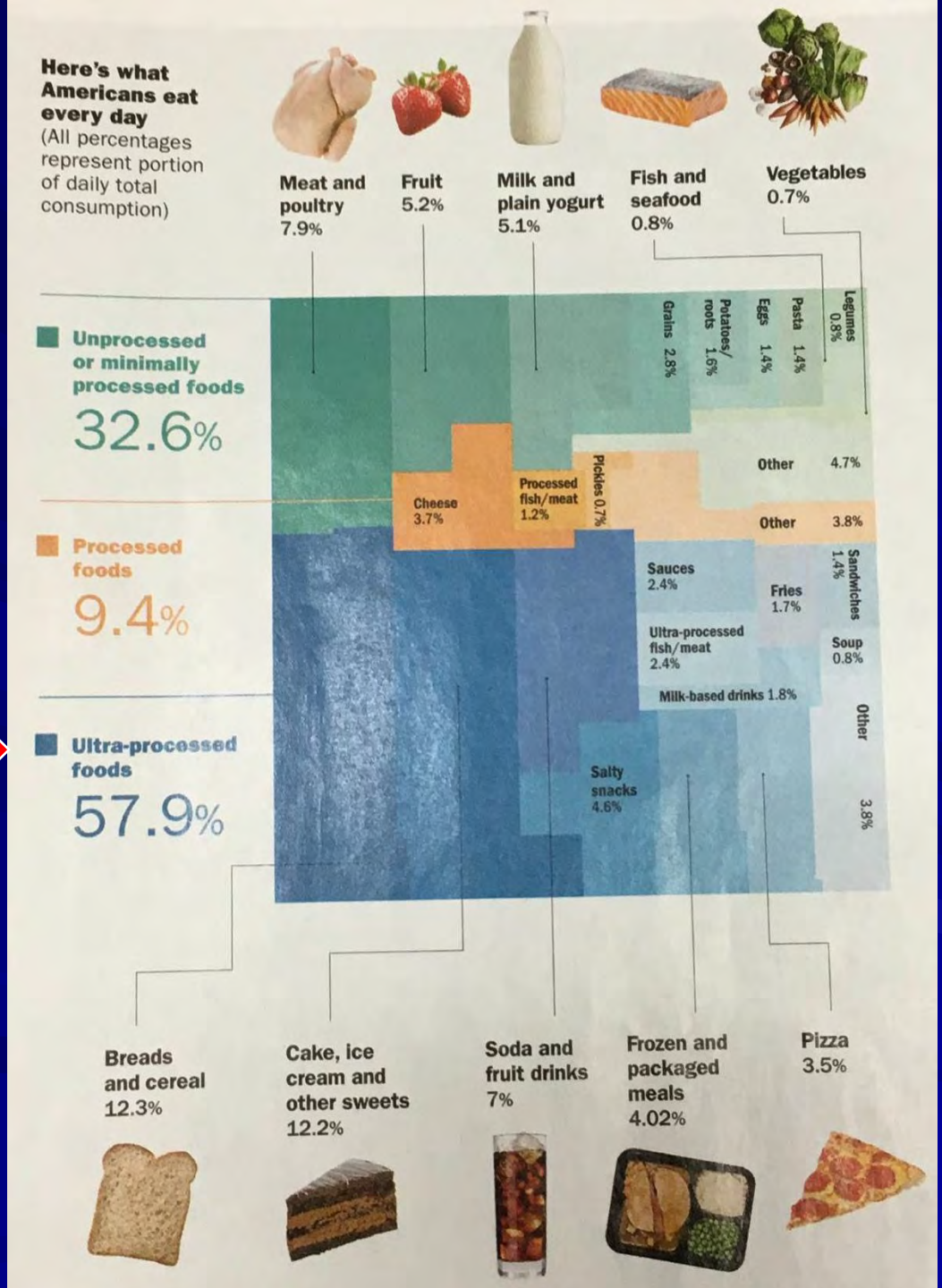
STAY ACTIVE!

Harvard School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu

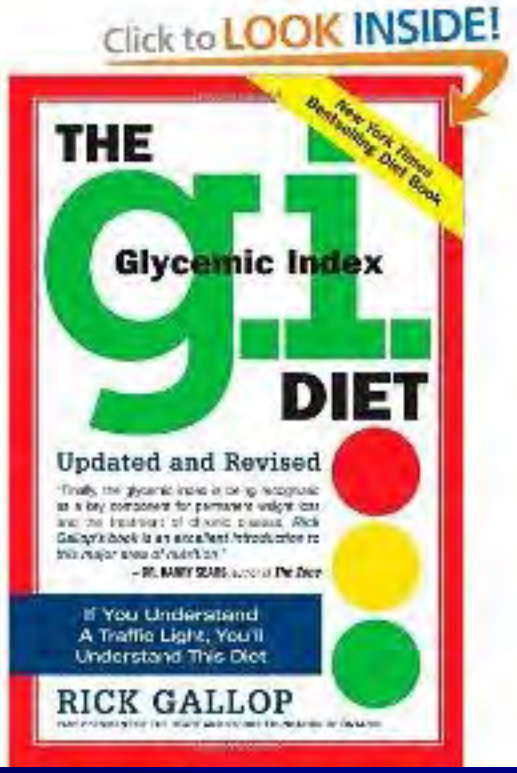
S.A.D.

Standard American Diet…


Here's what Americans eat every day
(All percentages represent portion of daily total consumption)
Meat and poultry 7.9%
Fruit 5.2%
Milk and plain yogurt 5.1%
Fish and seafood 0.8%
Vegetables 0.7%
Unprocessed or minimally processed foods
32.6%
Processed foods
9.4%
Ultra-processed foods
57.9%
Grains 2.8%
Potatoes/ roots 1.6%
Eggs 1.4%
Pasta 1.4%
Legumes 0.8%
Other 4.7%
Other 3.8%
Cheese 3.7%
Processed fish/meat 1.2%
Pickles 0.7%
Sauces 2.4%
Fries 1.7%
Sandwiches 1.4%
Soup 0.8%
Ultra-processed fish/meat 2.4%
Milk-based drinks 1.8%
Other 3.8%
Salty snacks 4.6%
Breads and cereal 12.3%
Cake, ice cream and other sweets 12.2%
Soda and fruit drinks 7%
Frozen and packaged meals 4.02%
Pizza 3.5%

What's better?

Best > ok >>>worst!



High GI

(70 and above)

Medium GI

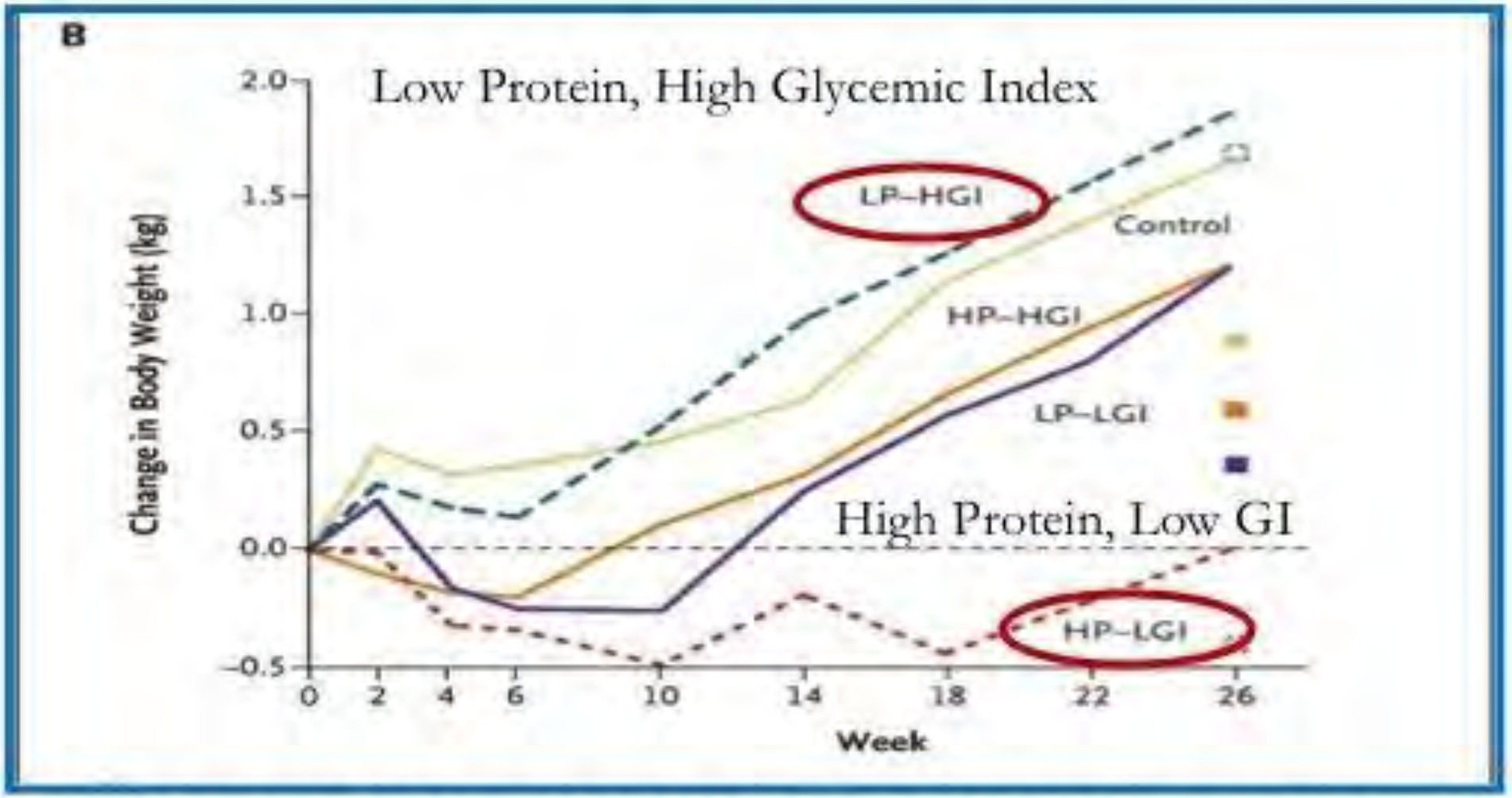
(55 to 69)

Low GI

(54 or less)

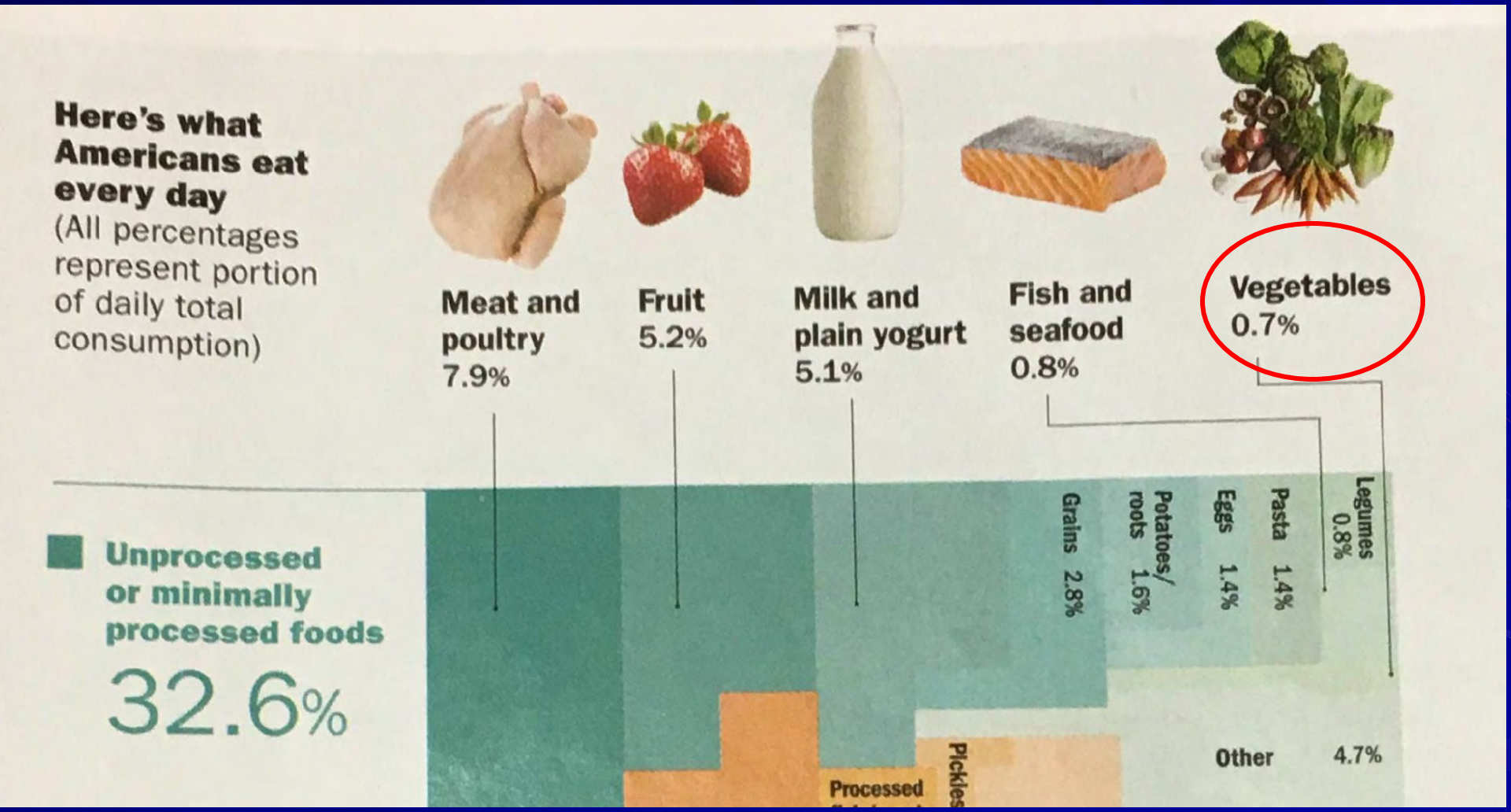
Diets with High or Low Protein Content and Glycemic Index for Weight-Loss Maintenance

Thomas Meinert Larsen, Ph.D., Stine-Mathilde Dalskov, M.Sc.,
Marleen van Baak, Ph.D., Susan A. Jebb, Ph.D., Angeliki Papadaki, Ph.D.,



N Engl J Med Nov 25 2010, 363(22):2102-2113 Larsen TM

The Good…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Fish and seafood 0.8%
Vegetables 0.7%
Legumes 0.8%
Pasta 1.4%
Eggs 1.4%
Potatoes/ roots 1.6%
Grains 2.8%
Pickles
Processed
Other 4.7%
Unprocessed or minimally processed foods
32.6%

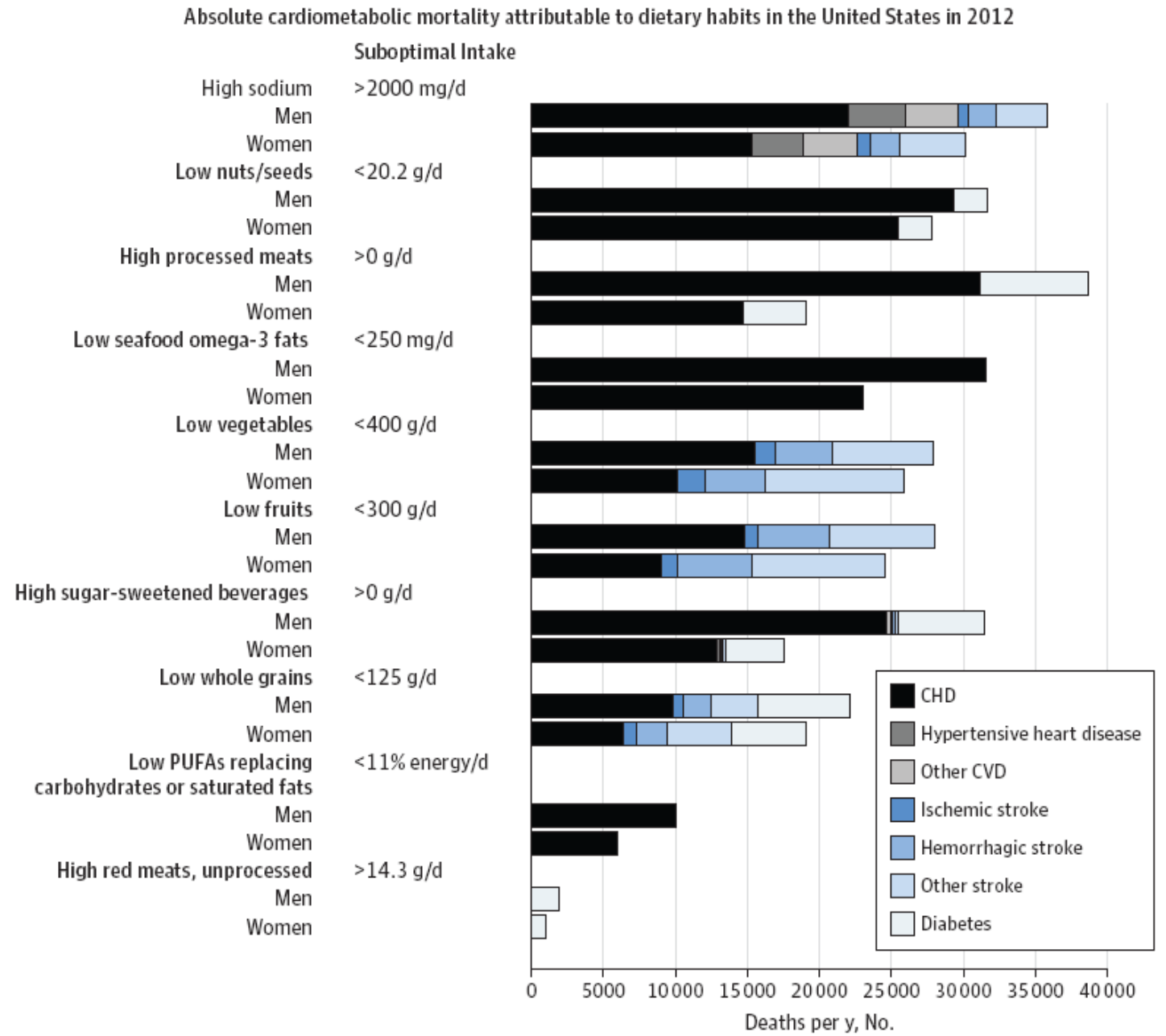
JAMA | Original Investigation

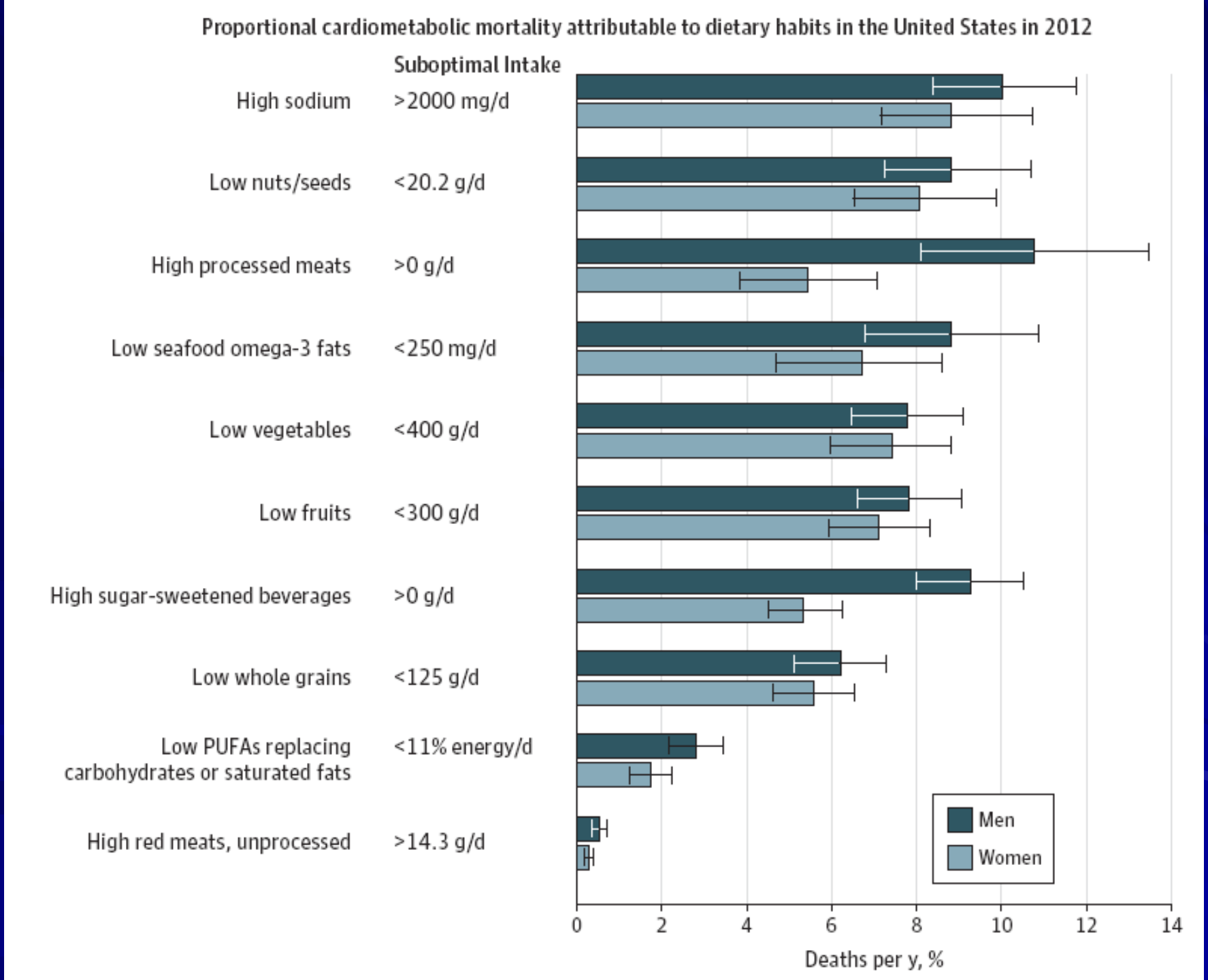
Association Between Dietary Factors and Mortality From Heart Disease, Stroke, and Type 2 Diabetes in the United States

Renata Micha, RD, PhD; Jose L. Peñalvo, PhD; Frederick Cudhea, PhD; Fumiaki Imamura, PhD; Colin D. Rehm, PhD; Dariush Mozaffarian, MD, DrPH

JAMA. 2017;317(9):912-924. doi:10.1001/jama.2017.0947

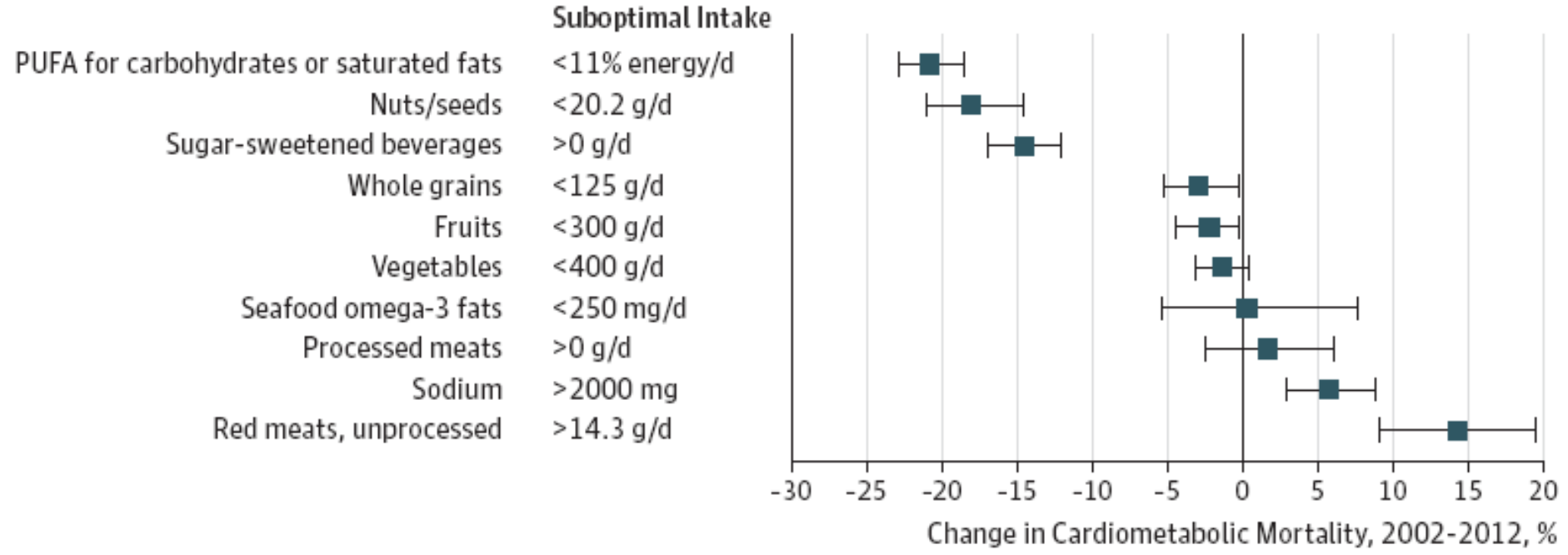
Figure 1. Absolute and Proportional Cardiometabolic Disease Mortality Associated With Suboptimal Dietary Habits Among US Men and Women in 2012



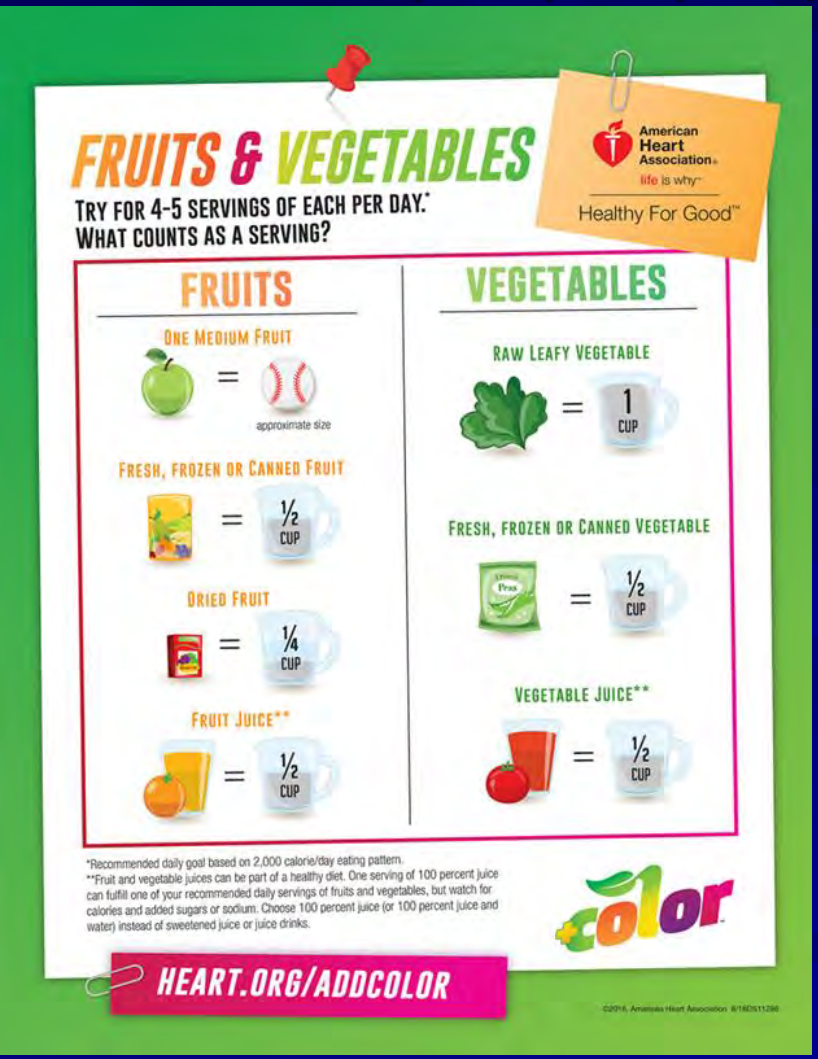

Proportional cardiometabolic mortality attributable to dietary habits in the United States in 2012
Suboptimal Intake
High sodium
>2000 mg/d
Low nuts/seeds
<20.2 g/d
High processed meats
>0 g/d
Low seafood omega-3 fats
<250 mg/d
Low vegetables
<400 g/d
Low fruits
<300 g/d
High sugar-sweetened beverages
>0 g/d
Low whole grains
<125 g/d
Low PUFAs replacing carbohydrates or saturated fats
<11% energy/d
High red meats, unprocessed
>14.3 g/d
Men
Women
0
2
4
6
8
10
12
14
Deaths per y, %

Changing US Diet…

Figure 3. Change in Proportional Cardiometabolic Disease Mortality in the United States Between 2002 and 2012



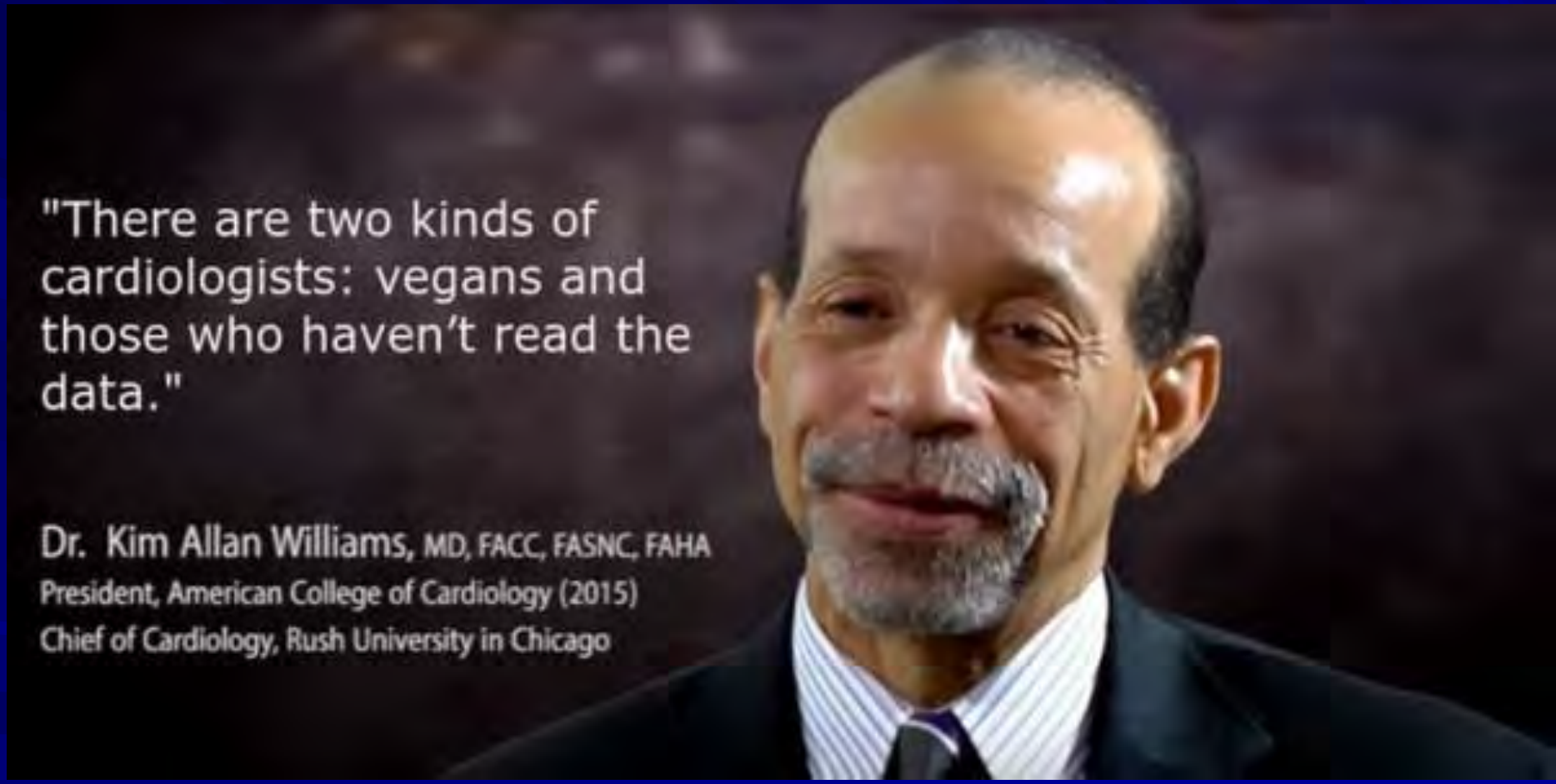
3, 4, 6, 8, and now 10…



- 24% reduced risk of heart disease
- 33% reduced risk of stroke
- 28% reduced risk of cardiovascular disease
- 13% reduced risk of total cancer
- 31% reduction in dying prematurely
- 2.5 servings ~ 10% reduction

Aune et al.
Int J of epid. 2017

Just another random cardiologist…



The Journal of Nutrition
Nutritional Epidemiology

Phylloquinone Intake Is Associated with Cardiac Structure and Function in Adolescents

Mary K Douthit,[1] Mary Ellen Fain,[1] Joshua T Nguyen,[1] Celestine F Williams,[1] Allison H Jasti,[1] Bernard Gutin,[1] and Norman K Pollock[1–3]

[1]Georgia Prevention Institute, and Departments of [2]Pediatrics and [3]Physiology, Medical College of Georgia, Augusta University, Augusta, GA

J Nutr 2017;147:1960–7.

TABLE 1 Characteristics by tertile categories of phylloquinone intake in 766 adolescents aged 14–18 y[1]

	Phylloquinone intake[2]			
	Tertile 1	Tertile 2	Tertile 3	*P*-trend[3]
Age, y	16.1 ± 1.2	16.1 ± 1.2	16.2 ± 1.3	0.28
Females,[4] %	57	50	44	0.016
Blacks,[4] %	55	44	49	0.07
Tanner stage (I–V)	4.7 ± 0.6	4.5 ± 0.7	4.6 ± 0.6	0.16
Blood pressure, mm Hg				
Systolic	112 ± 10	111 ± 11	111 ± 10	0.60
Diastolic	60 ± 7	60 ± 6	60 ± 6	0.53
BMI percentile	62.8 ± 28.9	60.0 ± 28.6	58.2 ± 27.9	0.10
Fat-free soft tissue mass, kg	45.7 ± 9.7[b]	45.9 ± 9.7	47.6 ± 9.9[a]	0.020
Fat mass, kg	17.7 ± 10.9[a]	16.3 ± 10.5	15.0 ± 9.5[b]	0.003
Socioeconomic status	32.8 ± 8.4	33.9 ± 9.0	34.4 ± 9.8	0.12
Moderate and vigorous physical activity, min/d	43.2 ± 29.8	42.5 ± 26.3	46.4 ± 30.7	0.25
Dietary intake				
Energy, kcal/d	1630 ± 463[c]	2010 ± 473[b]	2230 ± 617[a]	<0.001
Protein, % of energy	14 ± 3	14 ± 3	14 ± 3	0.49
Carbohydrate, % of energy	54 ± 7	53 ± 6	53 ± 6	0.70
Fat, % of energy	32 ± 6	33 ± 5	33 ± 4	0.50
Fiber, g/d	9.8 ± 3.0[c]	10.8 ± 3.4[b]	12.1 ± 5.1[a]	<0.001
Calcium, mg/d	739 ± 346	748 ± 310	747 ± 353	0.80
Vitamin C, mg/d	67.6 ± 38.6	68.4 ± 37.8	69.8 ± 24.4	0.54
Vitamin D, μg/d	4.0 ± 2.7	3.8 ± 2.6	4.0 ± 2.9	0.67
Sodium, mg/d	3210 ± 890	3320 ± 890	3310 ± 1020	0.07
Left ventricular hypertrophy,[4] %	17	8	5	<0.001

[1] Values are means ± SDs unless othewise indicated. Values in a row without a common superscript letter differ, $P < 0.05$.
[2] Median (range) intakes of phylloquinone: tertile 1 = 32 μg/d (8–42 μg/d), $n = 255$; tertile 2 = 54 μg/d (43–65 μg/d), $n = 255$; and tertile 3 = 90 μg/d (66–386 μg/d), $n = 256$.
[3] *P*-trend based on ANOVA with polynomial contrast.
[4] Based on Mantel-Haenszel linear-by-linear association χ^2 test.

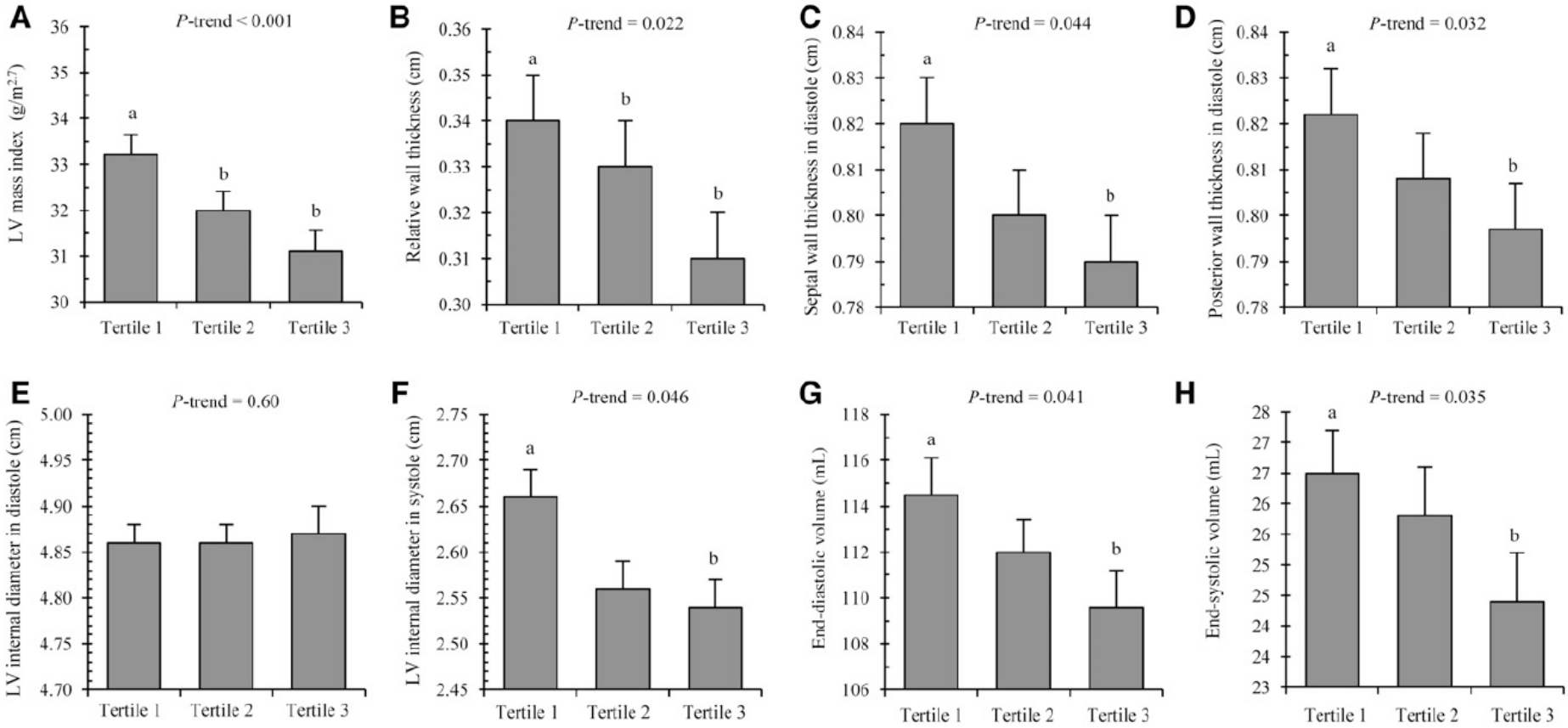


FIGURE 2 Cardiac structure variables, including LV mass index (A), relative wall thickness (B), septal wall thickness in diastole (C), posterior wall thickness in diastole (D), LV internal diameter in diastole (E), LV internal diameter in systole (F), end-diastolic volume (G), and end-systolic volume (H), across tertiles of daily phylloquinone intake in 766 adolescents aged 14–18 y. Median (range) intakes of phylloquinone were as follows: tertile 1 = 32 μg/d (8–42 μg/d), n = 255; tertile 2 = 54 μg/d (43–65 μg/d), n = 255; and tertile 3 = 90 μg/d (66–386 μg/d), n = 256. Values are adjusted means ± SEMs. Means were adjusted for age, sex, race, Tanner stage, systolic blood pressure, fat-free soft tissue mass, fat mass, socioeconomic status, moderate and vigorous physical activity, and dietary intakes of total energy, fiber, calcium, vitamin C, vitamin D, and sodium. Labeled means without a common lowercase letter differ, $P < 0.05$. LV, left ventricular.

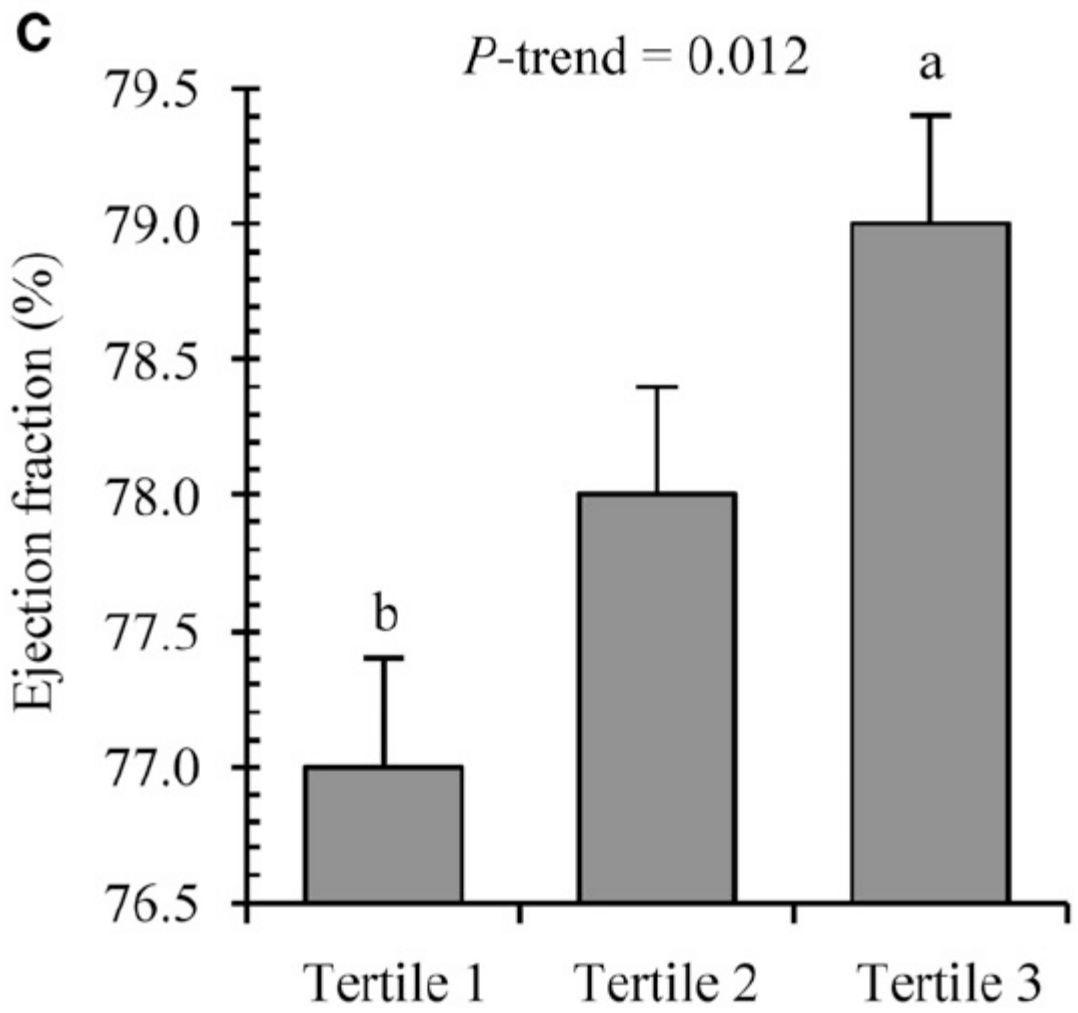
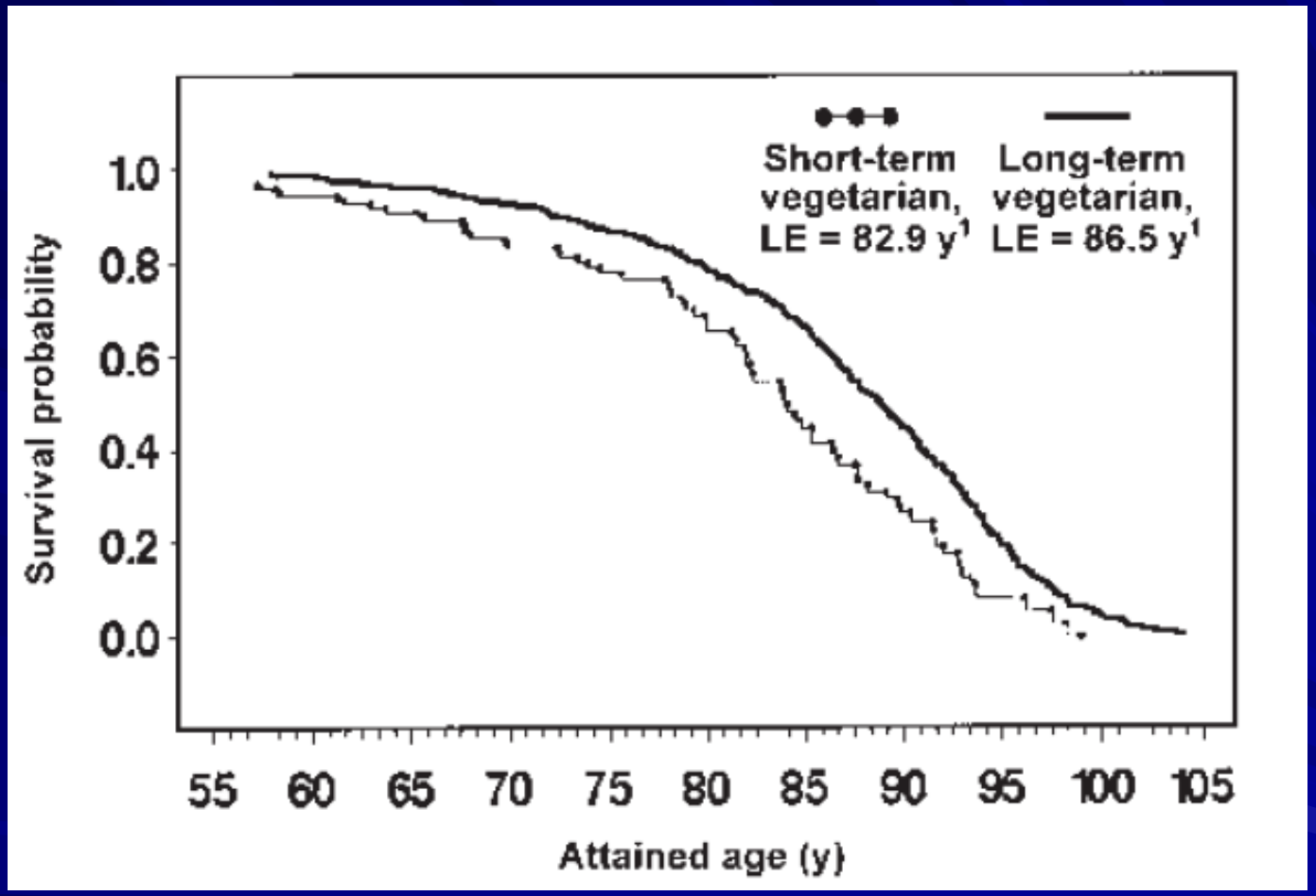


FIGURE 3 Cardiac function variables, including endocardial fractional shortening (A), midwall fractional shortening (B), and ejection fraction (C), across tertiles of daily phylloquinone intake in 766 adolescents aged 14–18 y. Median (range) intakes of phylloquinone were as follows: tertile 1 = 32 μg/d (8–42 μg/d), *n* = 255; tertile 2 = 54 μg/d (43–65 μg/d), *n* = 255; and tertile 3 = 90 μg/d (66–386 μg/d), *n* = 256. Values are adjusted means ± SEMs. Means were adjusted for age, sex,

Does low meat consumption increase life expectancy in humans?[1–3]

Pramil N Singh, Joan Sabaté, and Gary E Fraser



+3.6 years of life if eating meat < 1/wk.

Am J Clin Nutr 2003;78(suppl):526S–32S.

Direct comparison of a dietary portfolio of cholesterol-lowering foods with a statin in hypercholesterolemic participants[1–3]

David JA Jenkins, Cyril WC Kendall, Augustine Marchie, Dorothea A Faulkner, Julia MW Wong, Russell de Souza, Azadeh Emam, Tina L Parker, Edward Vidgen, Elke A Trautwein, Karen G Lapsley, Robert G Josse, Lawrence A Leiter, William Singer, and Philip W Connelly

Am J Clin Nutr 2005;81:380–7

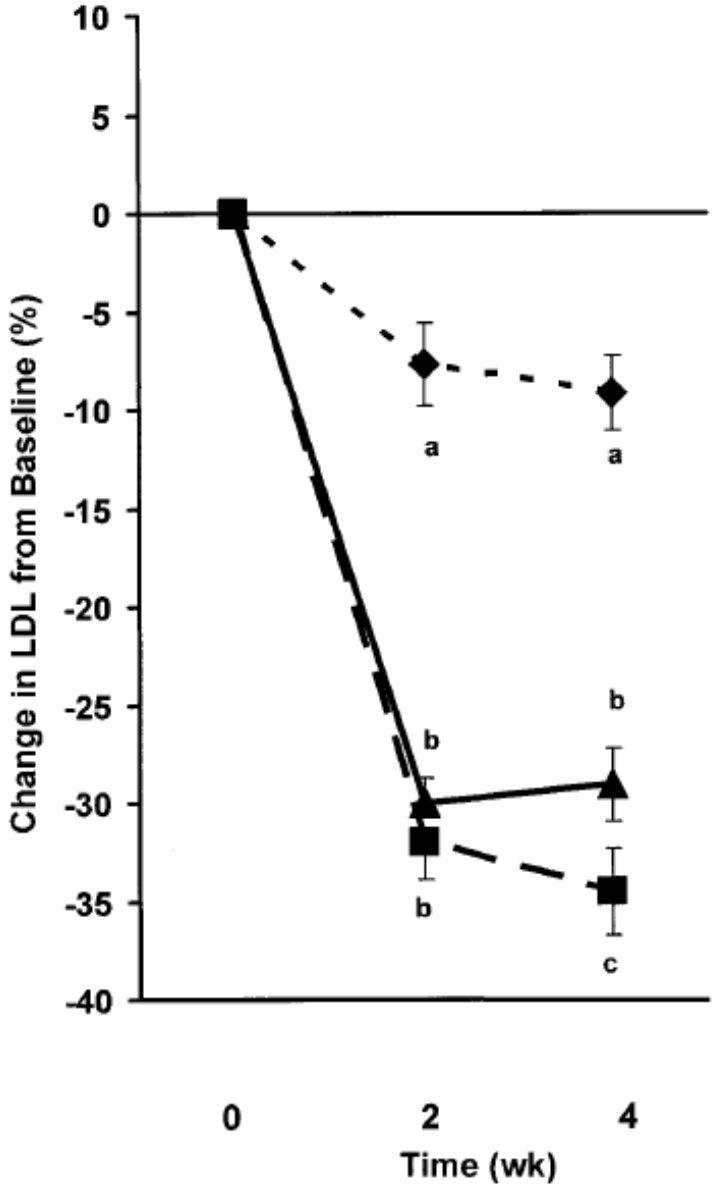


FIGURE 2. Mean (±SE) percentage change from baseline in LDL-cholesterol concentrations with the portfolio (▲; $n = 34$), control (◆; $n = 34$), and statin (■; $n = 34$) diets. Data for the 3 time points were analyzed with a two-factor repeated-measures ANOVA, with interaction based on actual data and not on the change from baseline. The diet effect and the diet-by-time interaction were significant ($P < 0.001$). Values at the same time point with different lowercase letters are significantly different, $P < 0.020$ (paired comparison by least-squares-means procedures with Tukey's adjustment).

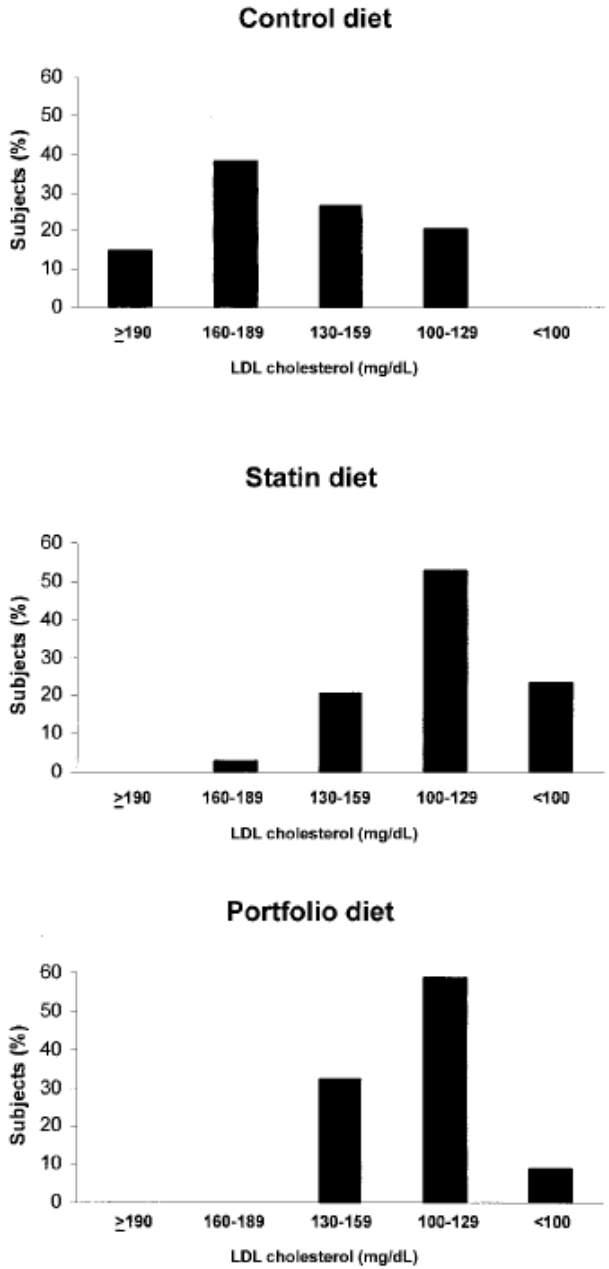
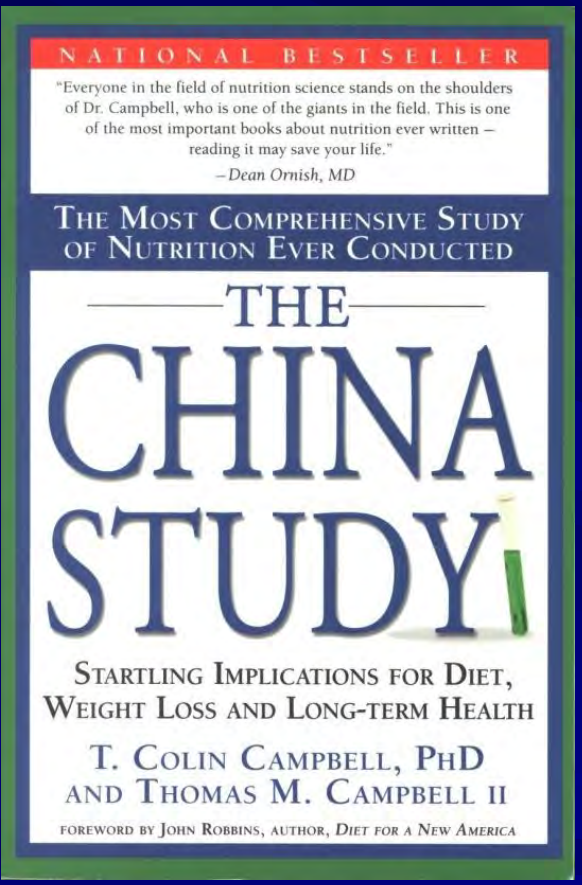
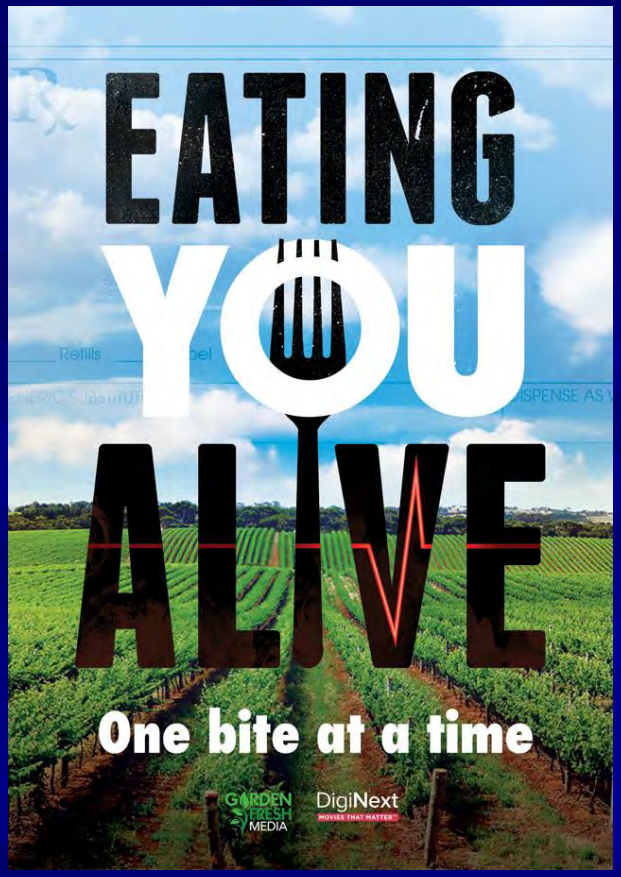
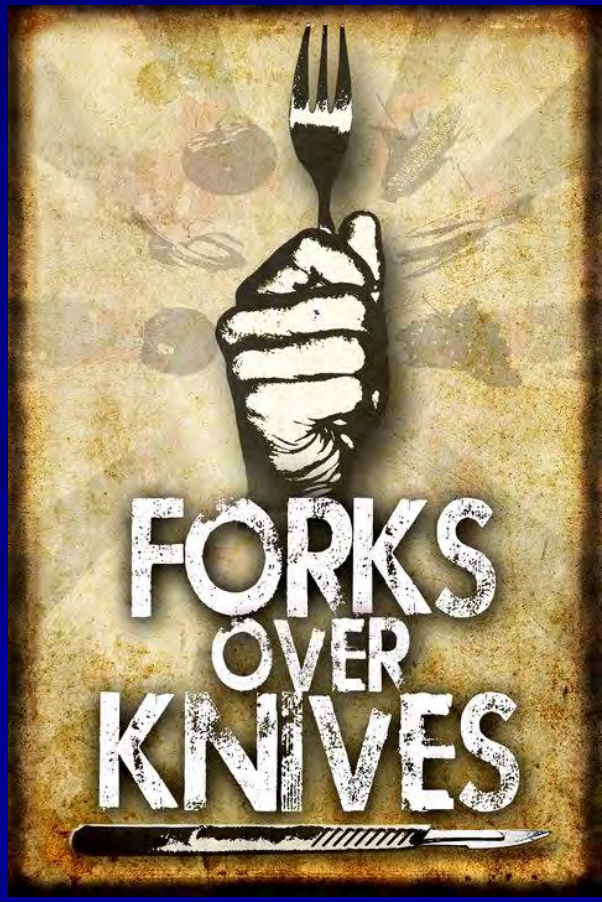


FIGURE 3. Percentages of the 34 subjects who achieved LDL-cholesterol treatment goals for primary prevention (very high concentrations: >190 mg/dL; high concentrations: 160–189 mg/dL; borderline high concentrations: 130–159 mg/dL; near or above optimal concentrations: 100–129 mg/dL; optimal concentrations: <100 mg/dL).

Vegan references







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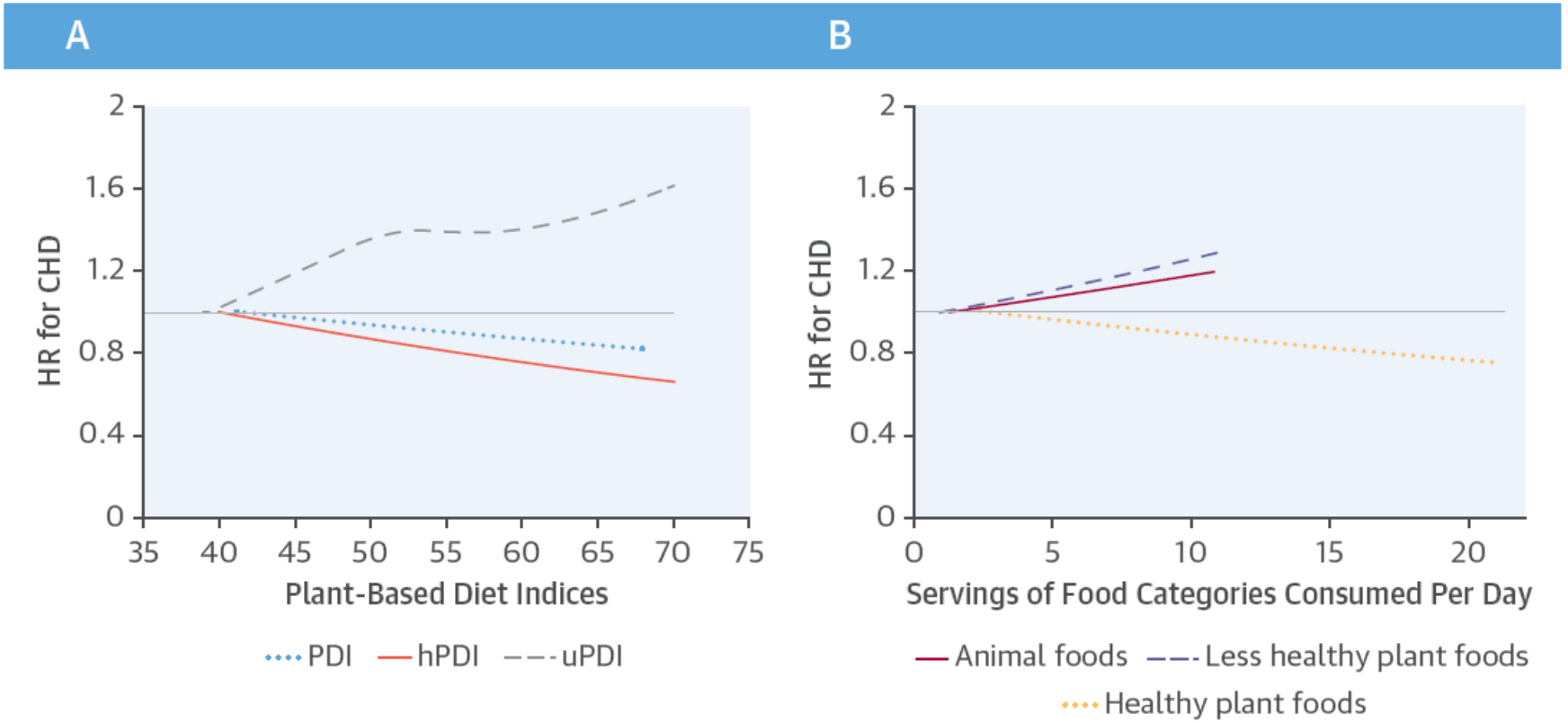
ORIGINAL INVESTIGATIONS

Healthful and Unhealthful Plant-Based Diets and the Risk of Coronary Heart Disease in U.S. Adults

Ambika Satija, ScD,[a] Shilpa N. Bhupathiraju, PhD,[a,b] Donna Spiegelman, ScD,[a,b,c,d,e] Stephanie E. Chiuve, ScD,[a,f] JoAnn E. Manson, MD, DrPH,[c,g,h] Walter Willett, MD, DrPH,[a,b,c] Kathryn M. Rexrode, MD, MPH,[i] Eric B. Rimm, ScD,[a,b,c] Frank B. Hu, MD, PhD[a,b,c]

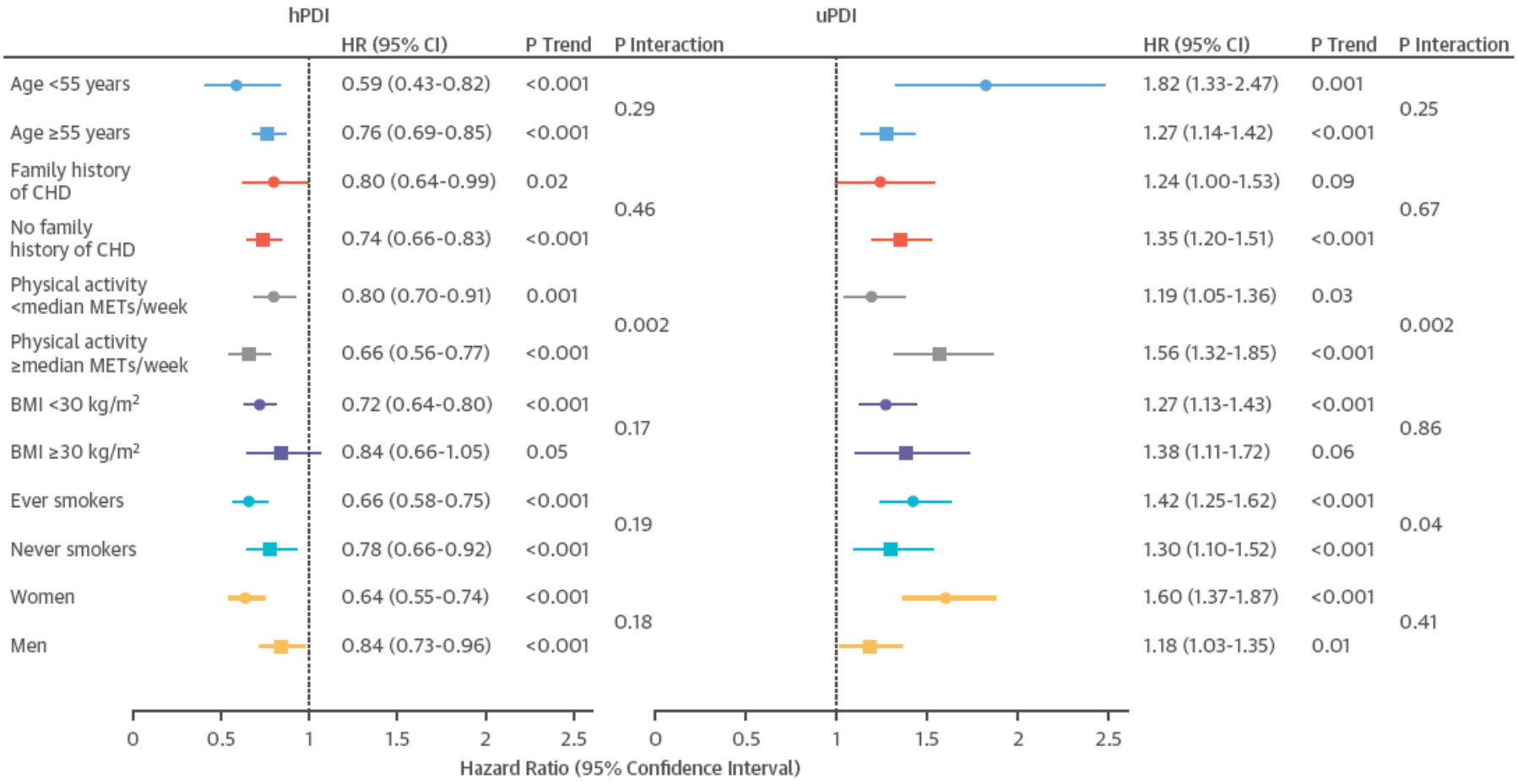
CENTRAL ILLUSTRATION **Dose-Response Relationship of Plant-Based Diet Indices and Animal, Healthy Plant, and Less Healthy Plant Foods With CHD Incidence**



Satija, A. et al. J Am Coll Cardiol. 2017;70(4):411-22.

Analysis of the dose-response relationship of **(A)** the plant-based diet indices and **(B)** animal, healthy plant, and less healthy plant foods with CHD incidence was carried out after combining all 3 cohorts. Adjusted for age, smoking status, physical activity, alcohol intake, multivitamin use, aspirin use, family history of coronary heart disease (CHD), margarine intake, baseline hypertension, hypercholesterolemia, and diabetes, and updated body mass index. Also adjusted for post-menopausal hormone use in NHS (Nurses' Health Study) and NHS2 and for oral contraceptive use in NHS2. Energy intake was additionally adjusted when analyzing the plant-based diet indices. The 3 plant-based diet indices were examined in separate models. The 3 food categories (healthy and less healthy plant foods, and animal foods) were simultaneously included in the same model. For the unhealthful plant-based diet index (uPDI), p for test of curvature = 0.01 and p for nonlinear association is <0.001. The p values for test of curvature for overall plant-based diet index (PDI) = 0.25, for healthful plant-based diet index (hPDI) = 0.82, for animal foods = 0.58, for healthy plant foods = 0.99, and for less healthy plant foods = 0.74. The p values for linearity = 0.004 for animal foods, 0.001 for PDI, and <0.001 for hPDI, less healthy plant foods, and healthy plant foods. HR = hazard ratio.

FIGURE 1 Pooled HR (95% CI) for CHD Comparing Extreme Deciles of the Plant-Based Diet Indices, Stratified by Selected Characteristics



The hazard ratios (HRs) and p values for men and women were obtained after combining all 3 cohorts. All other HR and p values were obtained by pooling estimates from the 3 cohorts using a fixed-effects model. Adjusted for age, smoking status, physical activity, alcohol intake, multivitamin use, aspirin use, family history of coronary heart disease (CHD), margarine intake, energy intake, baseline hypertension, hypercholesterolemia, and diabetes, and updated body mass index. Also adjusted for post-menopausal hormone use in NHS (Nurses' Health Study) and NHS2 and for oral contraceptive use in NHS2. BMI = body mass index; CI = confidence interval; hPDI = healthful plant-based diet index; MET = metabolic equivalent task; uPDI = unhealthful plant-based diet index.

Original Investigation

Vegetarian Dietary Patterns and Mortality in Adventist Health Study 2

Michael J. Orlich, MD; Pramil N. Singh, DrPH; Joan Sabaté, MD, DrPH; Karen Jaceldo-Siegl, DrPH; Jing Fan, MS; Synnove Knutsen, MD, PhD; W. Lawrence Beeson, DrPH; Gary E. Fraser, MBchB, PhD

Table 3. Age-Sex-Race Standardized Mortality Rates Among 73 308 Adventist Health Study 2 Participants According to Dietary Pattern

Characteristic	No. of People	Time, Person-years	Mean Time, y	Deaths	Death Rate, Deaths/1000 Person-years (95% CI)[a]	*P* Value[b]
Vegetarian[c]						
Vegan	5548	32 810.3	5.92	197	5.40 (4.62-6.17)	.009
Lacto-ovo	21 177	124 660.5	5.88	815	5.61 (5.21-6.01)	.001
Pesco	7194	41 225.7	5.73	251	5.33 (4.61-6.05)	.004
Semi	4031	23 714.6	5.86	160	6.16 (5.03-7.30)	.30
Nonvegetarian	35 359	202 098.4	5.72	1147	6.61 (6.21-7.03)	
All participants	73 308	424 509.4	5.79	2570	6.05 (5.82-6.29)	

[a] Adjusted for age, race, and sex by direct standardization.

[b] From *Z* tests that test null hypotheses of no difference from the nonvegetarian death rate.

[c] Dietary pattern classified after multiple imputation of missing values. Values for number of people, person time, mean time, deaths, and death rate represent the mean of values from 5 imputed data sets; thus, summed values for number of people, person-time, and deaths may not equal the value for all participants.

JAMA Intern Med. 2013;173(13):1230-1238. doi:10.1001/jamainternmed.2013.6473
Published online June 3, 2013.

Table 4. Associations of Dietary Patterns With All-Cause and Cause-Specific Mortality From a Cox Proportional Hazards Regression Model Among Participants in the Adventist Health Study 2, 2002-2009

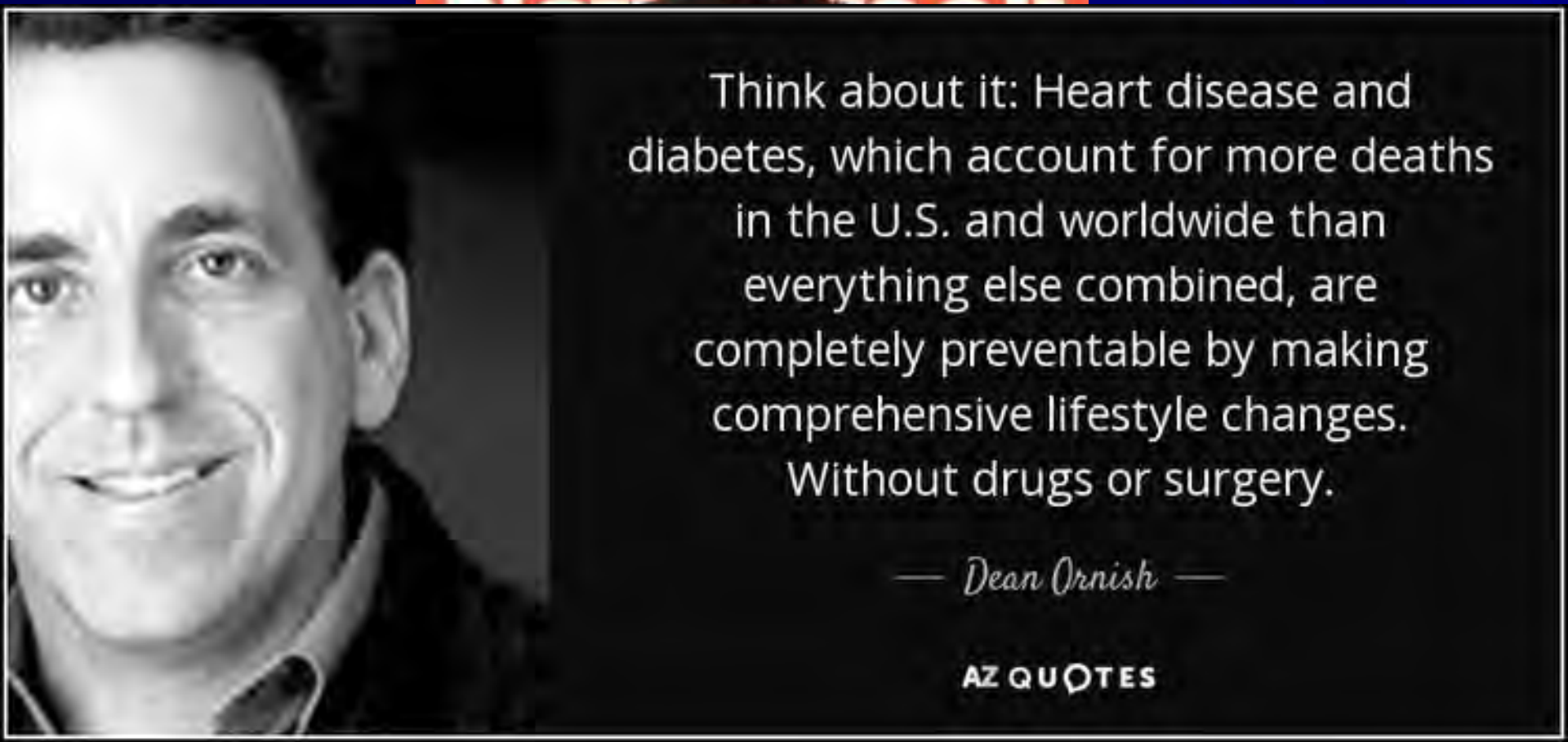
Characteristic	Deaths, Hazard Ratio (95% CI)				
	All-Cause	Ischemic Heart Disease	Cardiovascular Disease	Cancer	Other
All (N = 73 308), No. of deaths[a,b]	2560	372	987	706	867
Vegetarian					
Vegan					.74 (0.56-0.99)
Lacto-ov					.91 (0.77-1.07)
Pesco					.71 (0.54-0.94)
Semi					.99 (0.72-1.36)
Nonvegetar					1 [Reference]
Men (n = 25 1					368
Vegetarian					
Vegan					.81 (0.53-1.22)
Lacto-ov					.89 (0.69-1.15)
Pesco					.60 (0.39-0.93)
Semi					.03 (0.62-1.71)
Nonvegetar					1 [Reference]
Women (n = 4					499
Vegetarian					
Vegan					.70 (0.47-1.05)
Lacto-ov					.93 (0.75-1.17)
Pesco					.81 (0.58-1.15)
Semi					.97 (0.64-1.47)
Nonvegetar					1 [Reference]

[a] Adjusted by a (≤4 h/night, 5-8 smoking (curr years, quit 20-29 years, quit ≥30 years, and never smoked), exercise (none, ≤20 min/week, 21-60 min/week, 61-150 min/week, and ≥151 min/week), personal income (≤$20 000/y, >$20 000-$50 000/y, >$50 000-$100 000/y, and >$100 000/y), educational level (up to high school graduate, trade school/some college/associate degree, bachelor degree, and graduate degree), marital status (married/common-law and single/widowed/divorced/separated), alcohol (nondrinker, rare drinker [<1.5 servings/mo], monthly drinker [1.5 to <4 servings/mo], weekly drinker [4 to <28 servings/mo], and daily drinker [≥28 servings/mo]), region (West,

[b] Also adjusted by sex (male and female), menopause (in women) (premenopausal [including perimenopausal], postmenopausal), and hormone therapy (in postmenopausal women) (not taking hormone therapy, taking hormone therapy).

[c] Also adjusted by menopause (premenopausal [including perimenopausal], postmenopausal) and hormone therapy (postmenopausal women) (not taking hormone therapy, taking hormone therapy).

ornish
lifestyle medicine



ornish
lifestyle medicine

THE ORNISH NUTRITION ELEMENT

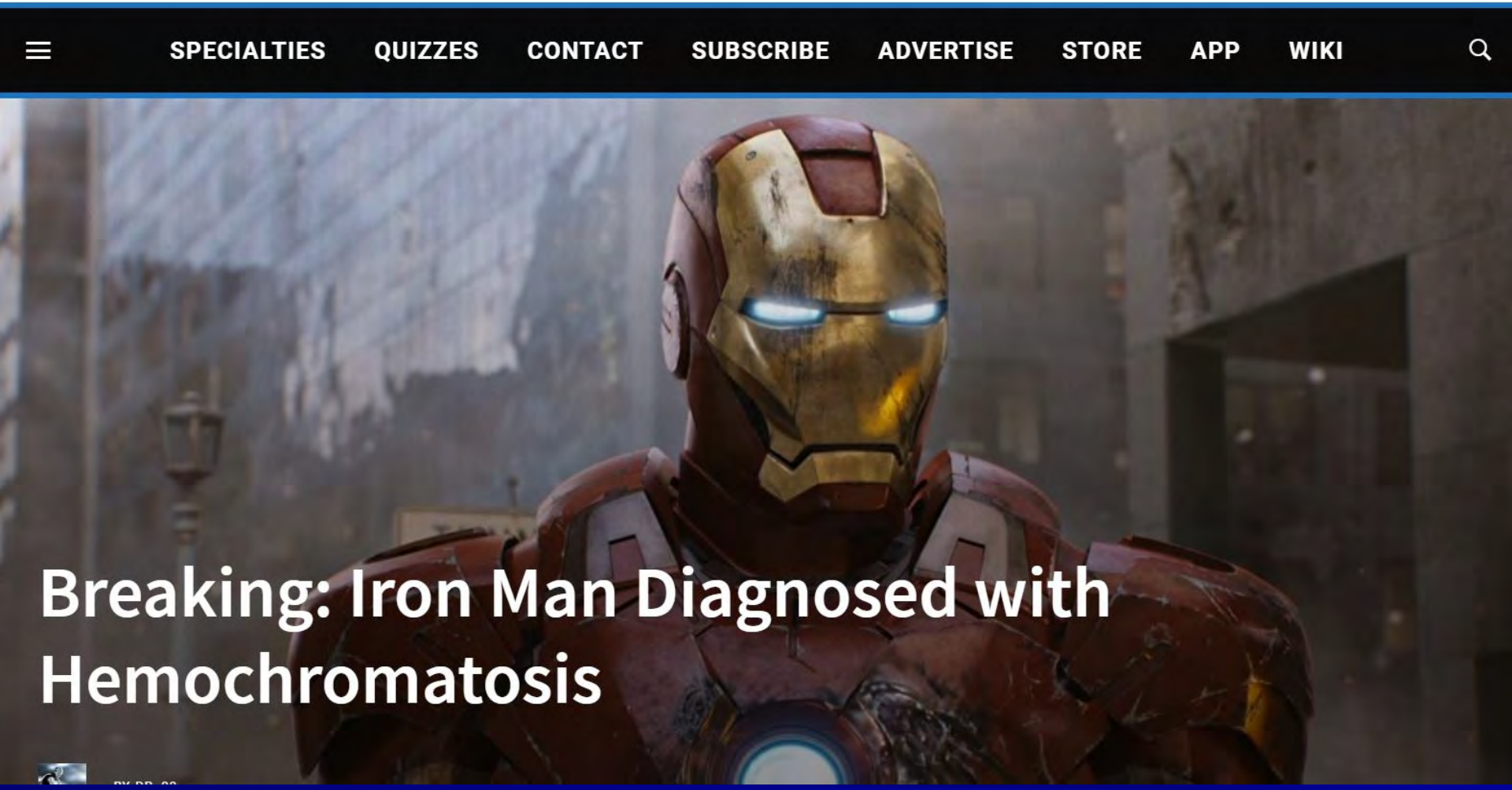
...IS HIGH IN
GOOD CARBS
GOOD FATS
GOOD PROTEINS

...AND LOW IN
BAD CARBS
BAD FATS
BAD PROTEINS

WE EMPHASIZE REAL FOODS AS THEY'RE FOUND IN NATURE
RATHER THAN PROCESSED FOODS.

15% fats

Newsflash, Newsflash, Newsflash…



You are what you eat…

Mortality from different causes associated with meat, heme iron, nitrates, and nitrites in the NIH-AARP Diet and Health Study: population based cohort study

Arash Etemadi, Rashmi Sinha, Mary H Ward, Barry I Graubard, Maki Inoue-Choi, Sanford M Dawsey, Christian C Abnet

Cite this as: *BMJ* 2017;357:j1957
http://dx.doi.org/10.1136/bmj.j1957

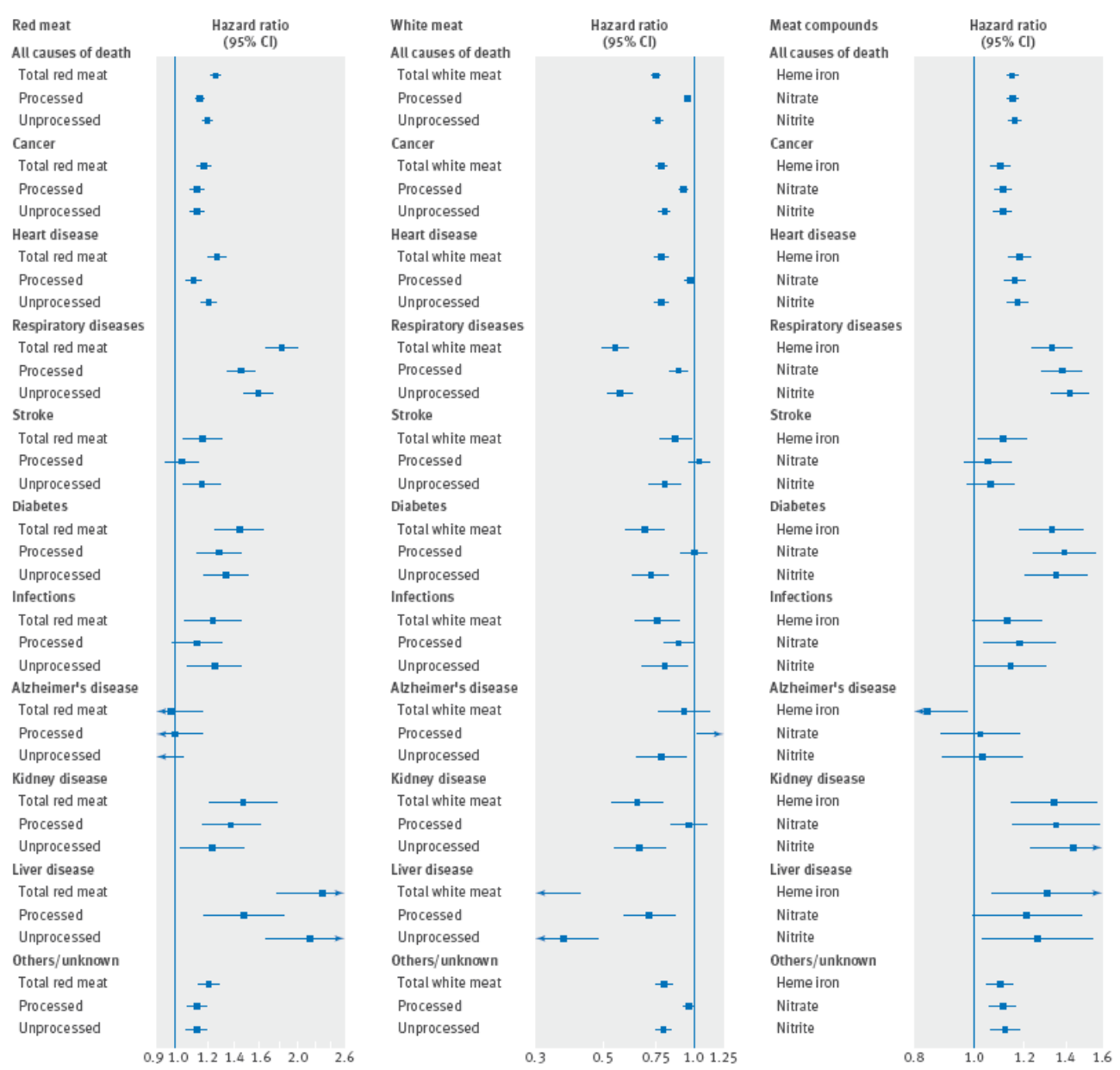


Fig 1 | Association between intake of different types of red meat, different types of white meat, and meat associated compounds and mortality in NIH-AARP Diet and Health Study, using substitution models. Point estimates are highest versus lowest fifth hazard ratios, and lines represent 95% CIs in adjusted models. Detailed results are shown in supplementary table A. Models were adjusted for sex, age at entry to study, marital status, ethnicity, education, fifths of composite deprivation index, perceived health at baseline, history of heart disease, stroke, diabetes, and cancer at baseline, smoking history, body mass index, vigorous physical activity, usual activity throughout day, alcohol consumption, fruit and vegetable intakes, total energy intake, and total meat intake (only in red and white meat models)

Intestinal microbiota metabolism of *L*-carnitine, a nutrient in red meat, promotes atherosclerosis

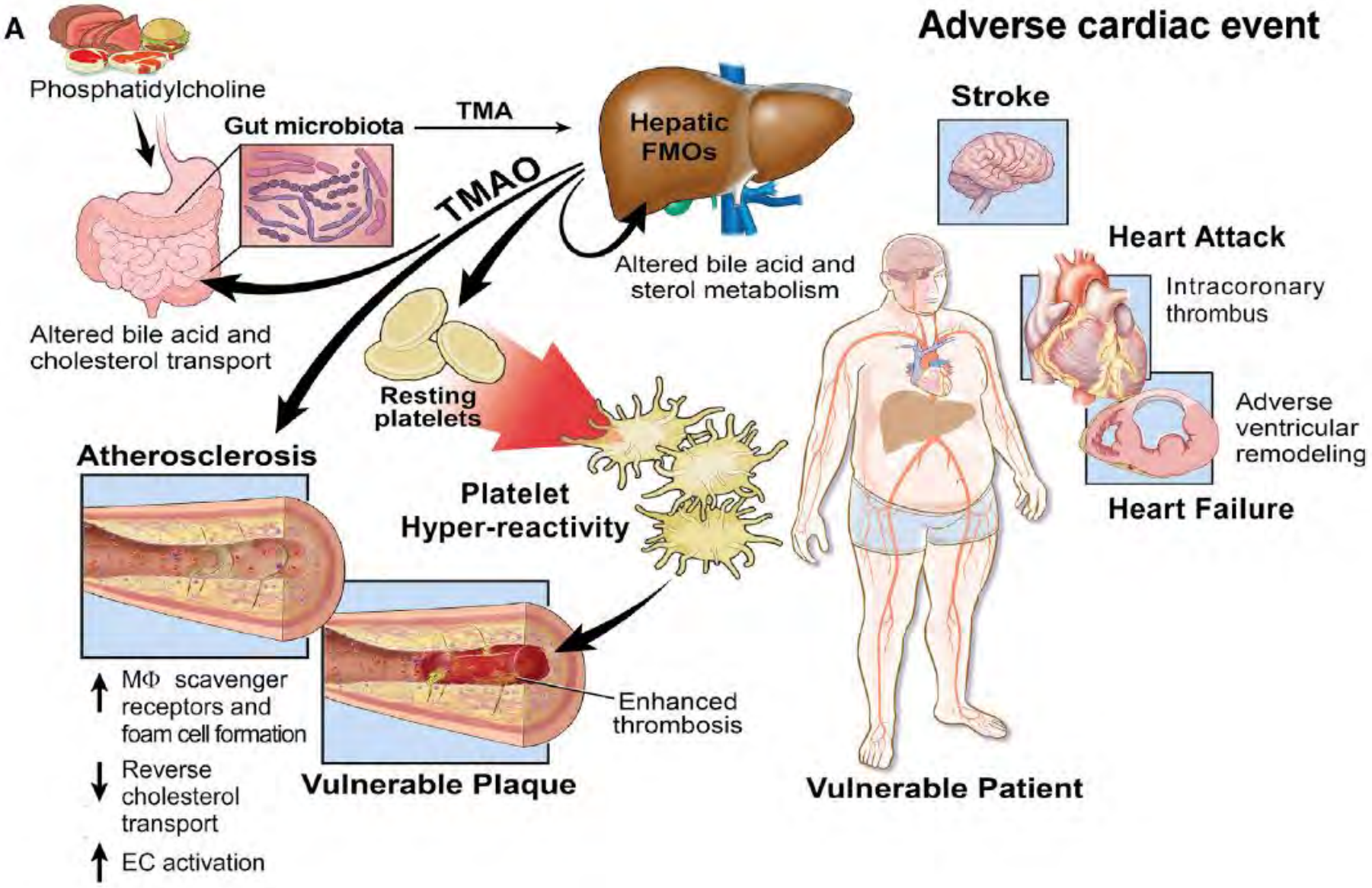
Robert A. Koeth[1,2], Zeneng Wang[1,2], Bruce S. Levison[1,2], Jennifer A. Buffa[1,2], Elin Org[3], Brendan T. Sheehy[1], Earl B. Britt[1,2], Xiaoming Fu[1,2], Yuping Wu[4], Lin Li[1,2], Jonathan D. Smith[1,2,5], Joseph A. DiDonato[1,2], Jun Chen[6], Hongzhe Li[6], Gary D. Wu[7], James D. Lewis[6,8], Manya Warrier[9], J. Mark Brown[9], Ronald M. Krauss[10], W. H. Wilson Tang[1,2,5], Frederic D. Bushman[5], Aldons J. Lusis[3], and Stanley L. Hazen[1,2,5]

Nat Med. 2013 May ; 19(5): 576–585. doi:10.1038/nm.3145.

Gut Microbial Metabolite TMAO Enhances Platelet Hyperreactivity and Thrombosis Risk

Weifei Zhu,[1,7] Jill C. Gregory,[1,7] Elin Org,[2] Jennifer A. Buffa,[1] Nilaksh Gupta,[1] Zeneng Wang,[1] Lin Li,[1] Xiaoming Fu,[1] Yuping Wu,[5] Margarete Mehrabian,[2] R. Balfour Sartor,[3] Thomas M. McIntyre,[1] Roy L. Silverstein,[4] W.H. Wilson Tang,[1,6] Joseph A. DiDonato,[1] J. Mark Brown,[1] Aldons J. Lusis,[2] and Stanley L. Hazen[1,6,*]

Zhu et al., 2016, Cell *165*, 1–14
March 24, 2016
http://dx.doi.org/10.1016/j.cell.2016.02.011


A
Phosphatidylcholine
Gut microbiota
TMA
Hepatic FMOs
TMAO
Altered bile acid and sterol metabolism
Altered bile acid and cholesterol transport
Resting platelets
Atherosclerosis
Platelet Hyper-reactivity
MΦ scavenger receptors and foam cell formation
Reverse cholesterol transport
EC activation
Enhanced thrombosis
Vulnerable Plaque
Adverse cardiac event
Stroke
Heart Attack
Intracoronary thrombus
Adverse ventricular remodeling
Heart Failure
Vulnerable Patient

Higher compared with lower dietary protein during an energy deficit combined with intense exercise promotes greater lean mass gain and fat mass loss: a randomized trial[1,2]

*Thomas M Longland, Sara Y Oikawa, Cameron J Mitchell, Michaela C Devries, and Stuart M Phillips**

Department of Kinesiology, Exercise Metabolism Research Group, McMaster University, Hamilton, Canada

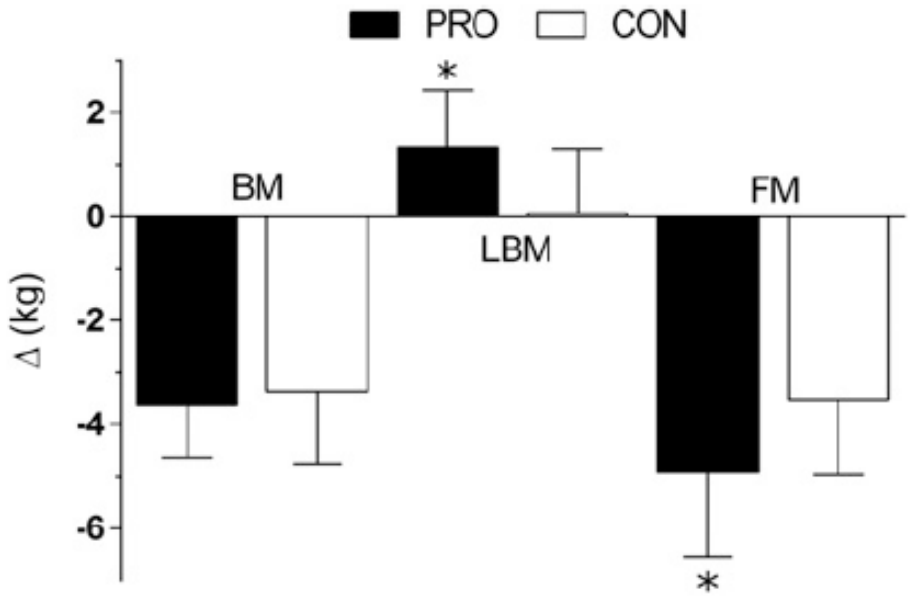


FIGURE 2 Four-compartment model-derived changes in BM, LBM, and FM during the intervention in both PRO and CON groups; data were analyzed with the use of an unpaired *t* test. Values are means ± SDs; $n = 40$ (20/group). *Significantly different from CON ($P < 0.05$). BM, body mass; CON, lower-protein (1.2 g · kg^{-1} · d^{-1}) control diet; FM, fat mass; LBM, lean body mass; PRO, higher-protein (2.4 g · kg^{-1} · d^{-1}) diet.

Am J Clin Nutr doi: 10.3945/ajcn.115.119339.

Long term gluten consumption in adults without celiac disease and risk of coronary heart disease: prospective cohort study

Benjamin Lebwohl,[1,2] Yin Cao,[3,4,5] Geng Zong,[5] Frank B Hu,[5,6] Peter H R Green,[1] Alfred I Neugut,[1,2] Eric B Rimm,[5,6,7] Laura Sampson,[5] Lauren W Dougherty,[5] Edward Giovannucci,[5,6,7] Walter C Willett,[5,6,7] Qi Sun,[5,6] Andrew T Chan[3,4,6]

Cite this as: *BMJ* 2017;357:j1892
http://dx.doi.org/10.1136/bmj.j1892

Table 3 | Gluten and risk of coronary heart disease (fatal and non-fatal myocardial infarctions)

	Fifth of energy adjusted gluten intake					
	1 (lowest)	2	3	4	5 (highest)	P for trend
Nurses' Health Study						
Mean; median (range) gluten intake, g/d	2.6; 2.8 (0-3.4)	3.8; 3.8 (3.4-4.3)	4.7; 4.7 (4.3-5.1)	5.6; 5.6 (5.1-6.2)	7.5; 7.1 (6.2-26.7)	–
No of events	492	470	494	471	504	–
Person years	246 539	280 655	290 265	296 789	293 279	–
Incidence per 100 000 person years	200	167	170	159	172	–
Age adjusted HR (95% CI)	1.0 (reference)	0.88 (0.77 to 1.00)	0.90 (0.80 to 1.02)	0.84 (0.74 to 0.96)	0.89 (0.79 to 1.01)	0.08
Multivariable adjusted HR (95% CI)*	1.0 (reference)	0.97 (0.86 to 1.10)	1.02 (0.90 to 1.16)	0.97 (0.85 to 1.10)	1.00 (0.88 to 1.14)	0.98
Full model HR (95% CI)†	1.0 (reference)	0.96 (0.85 to 1.10)	1.02 (0.90 to 1.16)	0.96 (0.84 to 1.09)	1.01 (0.89 to 1.15)	0.92
Health Professionals Follow-up Study						
Mean; median (range) gluten intake, g/d	3.3; 3.5 (0-4.3)	4.9; 4.9 (4.3-5.5)	6.0; 6.0 (5.5-6.6)	7.3; 7.3 (6.6-8.1)	10.0; 9.4 (8.1-38.4)	–
No of events	930	768	849	756	795	–
Person years	157 910	172 630	179 552	180 670	175 641	–
Incidence per 100 000 person years	589	445	473	418	453	–
Age adjusted HR (95% CI)	1.0 (reference)	0.81 (0.74 to 0.89)	0.89 (0.81 to 0.98)	0.80 (0.73 to 0.89)	0.88 (0.80 to 0.97)	0.02
Multivariable adjusted HR (95% CI)*	1.0 (reference)	0.86 (0.78 to 0.95)	0.96 (0.88 to 1.06)	0.89 (0.80 to 0.98)	0.98 (0.89 to 1.07)	0.78
Full model HR (95% CI)†	1.0 (reference)	0.86 (0.78 to 0.94)	0.95 (0.87 to 1.05)	0.87 (0.79 to 0.96)	0.96 (0.87 to 1.05)	0.49
Pooled						
No of events	1422	1238	1343	1227	1299	–
Person years	404 450	453 285	469 817	477 459	468 920	–
~~Incidence per 100 000 person years~~	~~352~~	~~273~~	~~286~~	~~257~~	~~277~~	
Age adjusted HR (95% CI)	1.0 (reference)	0.83 (0.77 to 0.90)	0.89 (0.83 to 0.96)	0.81 (0.75 to 0.87)	0.87 (0.80 to 0.93)	0.001
~~Multivariable adjusted HR (95% CI)*~~	~~1.0 (reference)~~	~~0.90 (0.83 to 0.97)~~	~~0.98 (0.91 to 1.06)~~	~~0.91 (0.84 to 0.98)~~	~~0.98 (0.91 to 1.06)~~	~~0.81~~
Full model HR (95% CI)†	1.0 (reference)	0.88 (0.82 to 0.95)	0.96 (0.89 to 1.04)	0.88 (0.82 to 0.95)	0.95 (0.88 to 1.02)	0.29

HR=hazard ratio.
*Additionally adjusted for race, body mass index, height, history of diabetes, regular non-steroidal anti-inflammatory drug use, current use of multivitamin, alcohol intake (g/d), smoking (pack years), aspirin use, statin use, parental history of myocardial infarction, history of hypertension, history of hypercholesterolemia, physical activity (MET, h/wk), menopausal status (Nurses' Health Study only), and menopausal hormone use (Nurses' Health Study only).
†Above model additionally adjusted for trans fat, red meat, processed meat, polyunsaturated fats, fruits, and vegetables.

Whole grains are good for you!

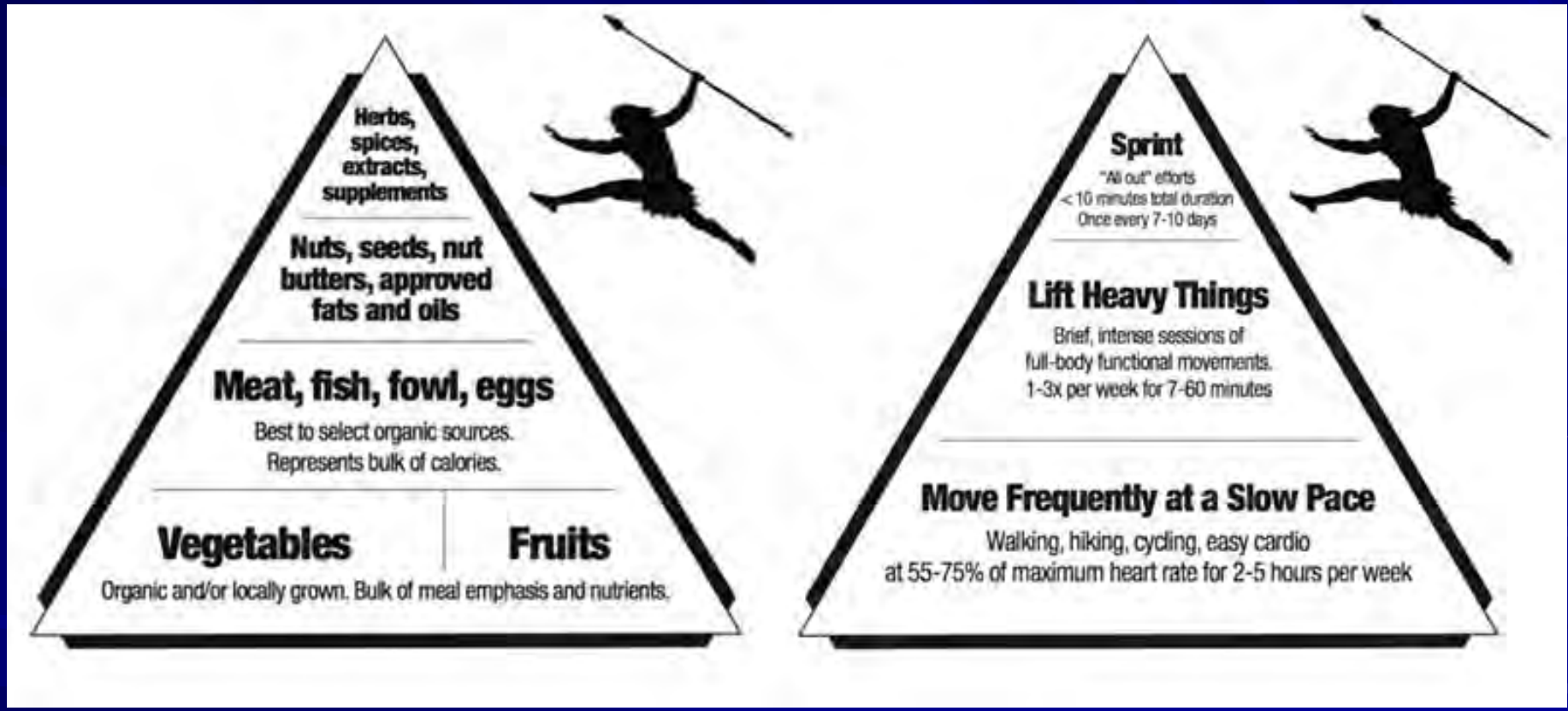
Table 4 | Hazard ratios for coronary heart disease events by fifths of energy adjusted gluten intake, with additional adjustment for refined grains and whole grains (pooled cohorts)

	Fifth of energy adjusted gluten intake					
	1 (lowest)	2	3	4	5 (highest)	P for trend
Mean; median (range) gluten intake, g/d						
Nurses' Health Study	2.6; 2.8 (0-3.4)	3.8; 3.8 (3.4-4.3)	4.7; 4.7 (4.3-5.1)	5.6; 5.6 (5.1-6.2)	7.5; 7.1 (6.2-26.7)	–
Health Professionals Follow-up Study	3.3; 3.5 (0-4.3)	4.9; (4.9 (4.3-5.5)	6.0; 6.0 (5.5-6.6)	7.3; 7.3 (6.6-8.1)	10.0; 9.4 (8.1-38.4)	–
Model results						
No of events	1422	1238	1343	1227	1299	–
Person years	404 450	453 285	469 817	477 459	468 920	–
Incidence per 100000 person years	352	273	286	257	277	–
Multivariable adjusted HR (95% CI)* additionally adjusted for refined grains	1.0 (reference)	0.85 (0.79 to 0.92)	0.91 (0.84 to 0.98)	0.82 (0.75 to 0.89)	0.85 (0.77 to 0.93)	0.002
Multivariable adjusted HR (95% CI)* additionally adjusted for whole grains	1.0 (reference)	0.89 (0.83 to 0.96)	0.98 (0.91 to 1.06)	0.91 (0.84 to 0.98)	1.00 (0.92 to 1.09)	0.77

HR=hazard ratio.

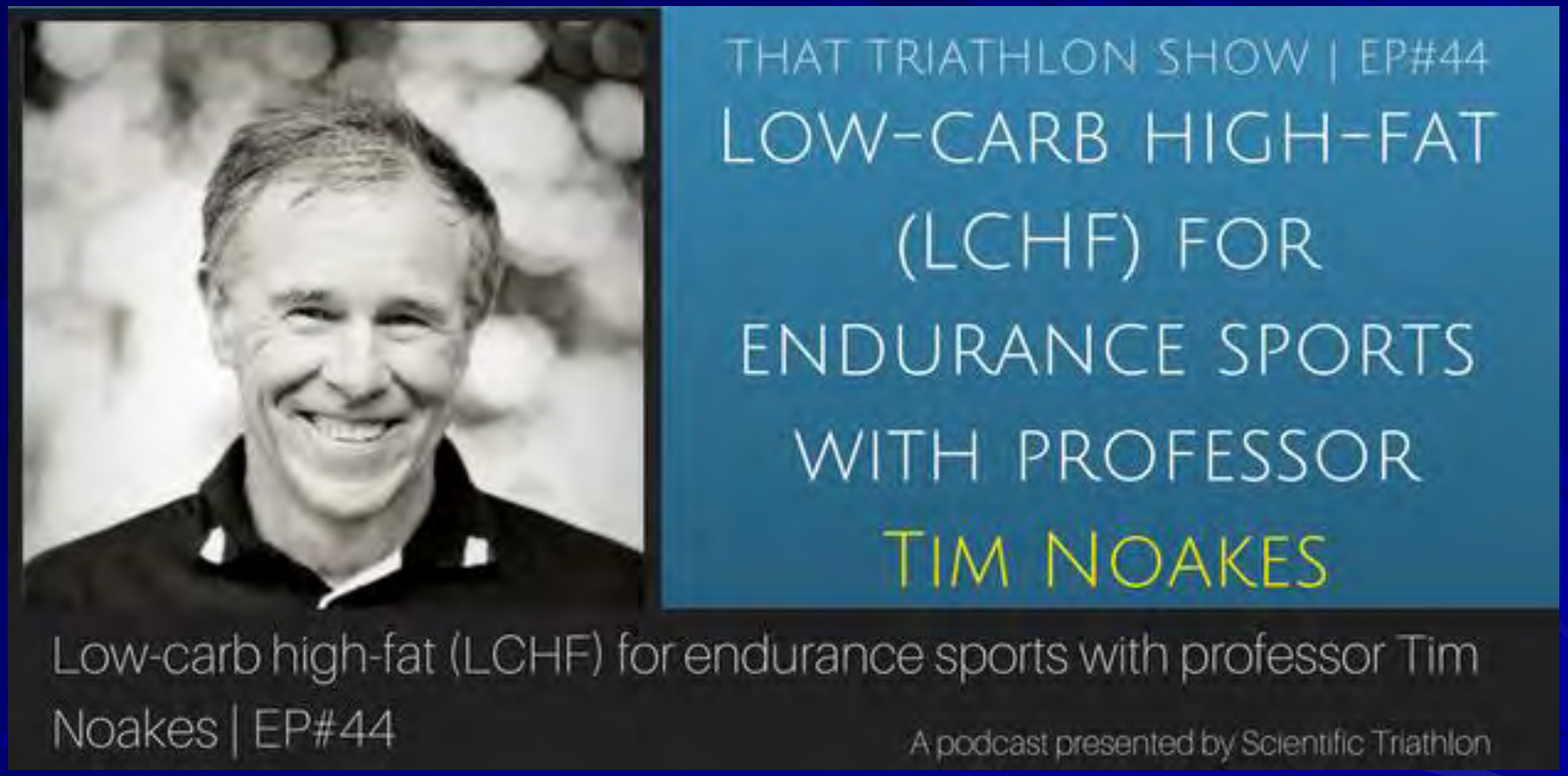
*Adjusted for age, race, body mass index, height, history of diabetes, regular non-steroidal anti-inflammatory drug use, current use of multivitamin, alcohol intake (g/d), smoking (pack years), aspirin use, statin use, parental history of myocardial infarction, history of hypertension, history of hypercholesterolemia, physical activity (MET, h/wk), trans fat, red meat, processed meat, polyunsaturated fats, fruits, and vegetables.

What would Grok do?



Paleo = whole foods, plant based!

Ketogenics



https://www.medscape.com/viewarticle/874707_1

Low carb, < 50 gm/day.

Burn FAT **10x** *FASTER!*

Diabetes & Metabolic Syndrome: Clinical Research & Reviews 11S (2017) S385–S390

Contents lists available at ScienceDirect

Diabetes & Metabolic Syndrome: Clinical Research & Reviews

journal homepage: www.elsevier.com/locate/dsx

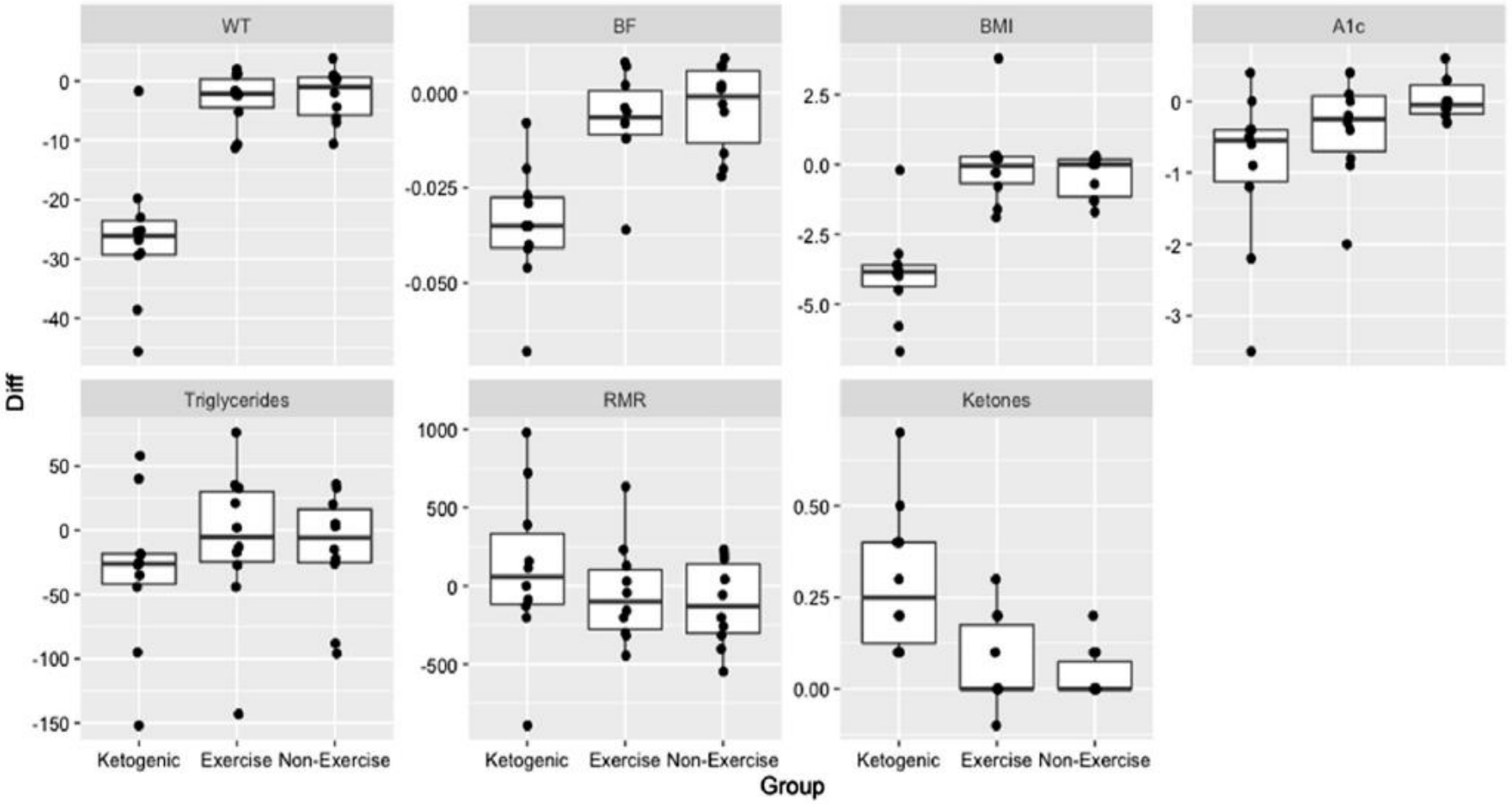
Original Article

Induced and controlled dietary ketosis as a regulator of obesity and metabolic syndrome pathologies

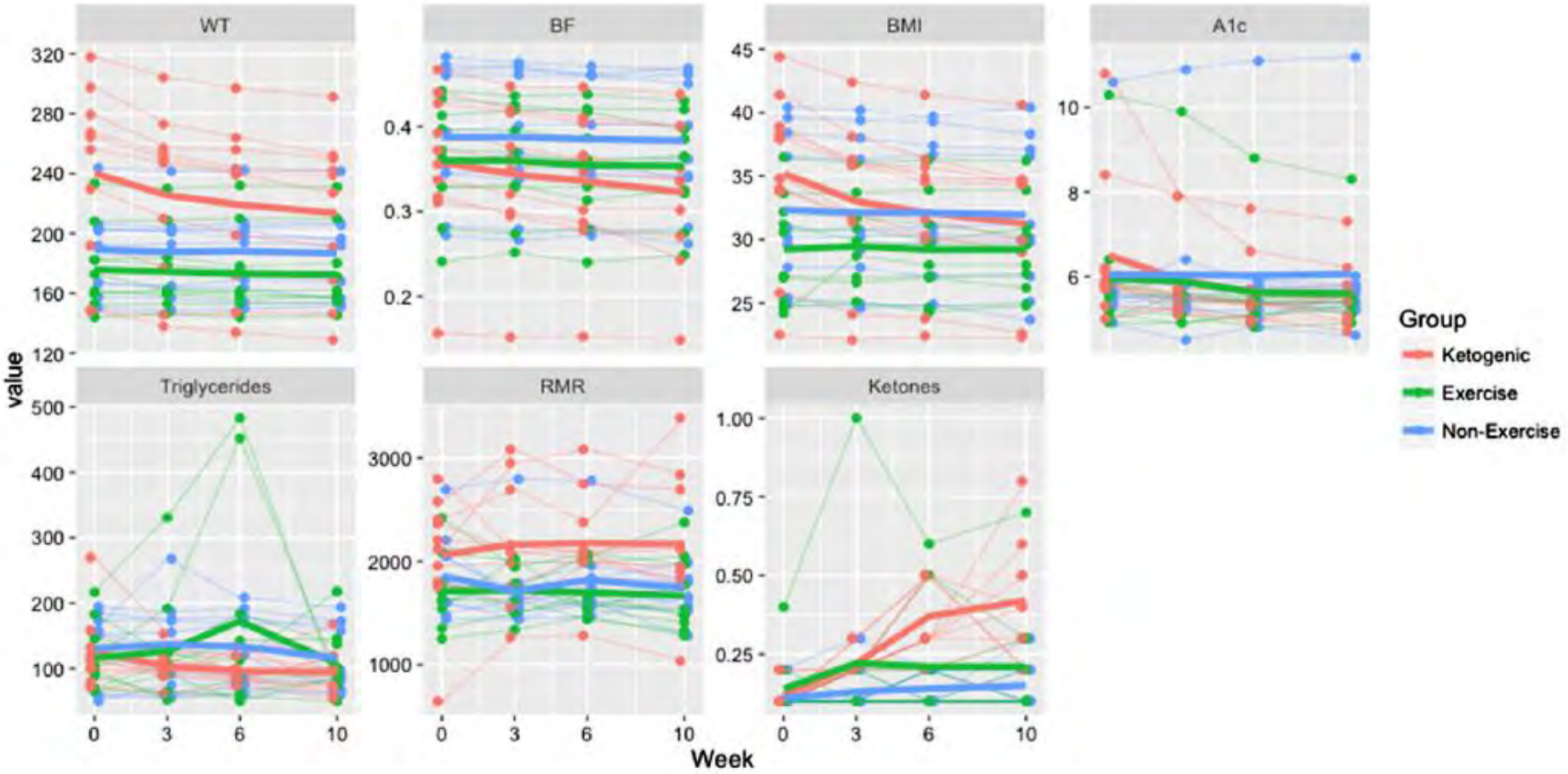
Madeline K. Gibas, Kelly J. Gibas*

Bethel University, MN, United States

Grouped data



Individual data



Associations of fats and carbohydrate intake with cardiovascular disease and mortality in 18 countries from five continents (PURE): a prospective cohort study

*Mahshid Dehghan, Andrew Mente, Xiaohe Zhang, Sumathi Swaminathan, Wei Li, Viswanathan Mohan, Romaina Iqbal, Rajesh Kumar, Edelweiss Wentzel-Viljoen, Annika Rosengren, Leela Itty Amma, Alvaro Avezum, Jephat Chifamba, Rafael Diaz, Rasha Khatib, Scott Lear, Patricio Lopez-Jaramillo, Xiaoyun Liu, Rajeev Gupta, Noushin Mohammadifard, Nan Gao, Aytekin Oguz, Anis Safura Ramli, Pamela Seron, Yi Sun, Andrzej Szuba, Lungiswa Tsolekile, Andreas Wielgosz, Rita Yusuf, Afzal Hussein Yusufali, Koon K Teo, Sumathy Rangarajan, Gilles Dagenais, Shrikant I Bangdiwala, Shofiqul Islam, Sonia S Anand, Salim Yusuf, on behalf of the Prospective Urban Rural Epidemiology (PURE) study investigators**

Lancet 2017; 390: 2050–62

PURE confusion…

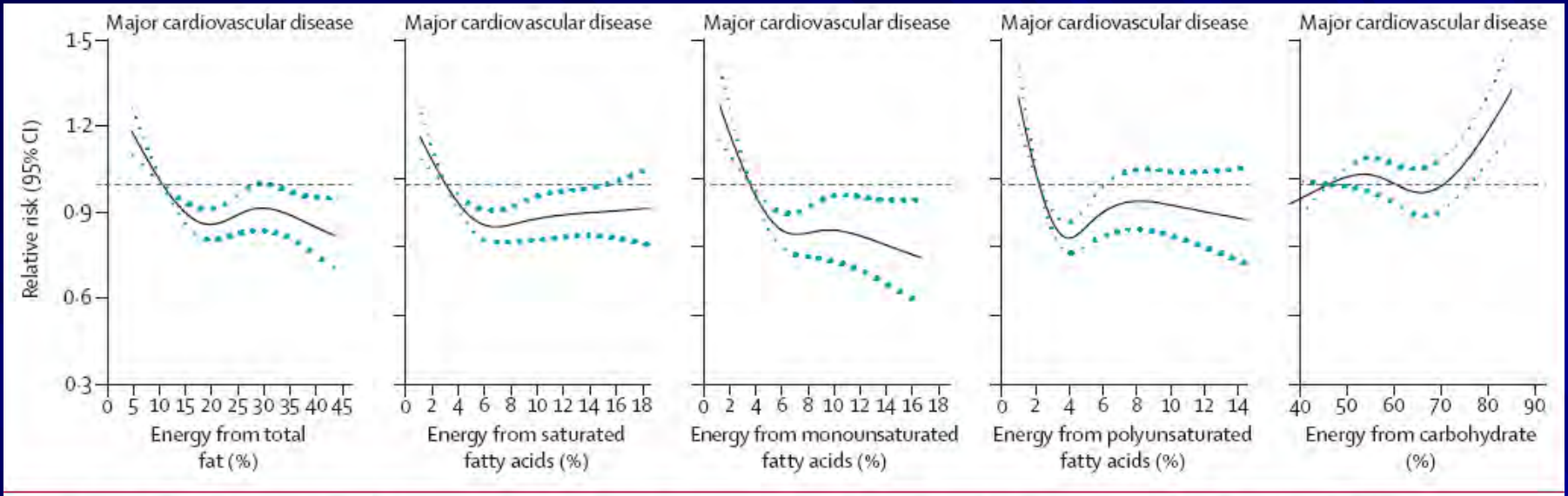
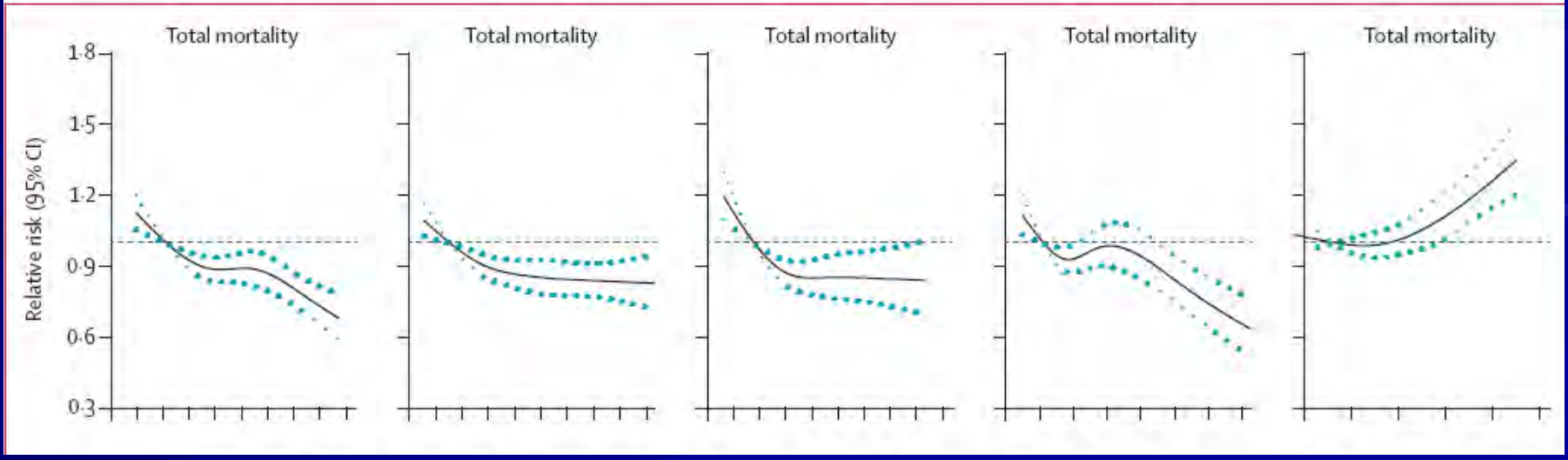


Figure 1: **Association between estimated percentage energy from nutrients and total mortality and major cardiovascular disease (n=135 335)**
Adjusted for age, sex, education, waist-to-hip ratio, smoking, physical activity, diabetes, urban or rural location, centre, geographical regions, and energy intake. Major cardiovascular disease=fatal cardiovascular disease+myocardial infarction+stroke+heart failure.



Effect of a Moderate Fat Diet With and Without Avocados on Lipoprotein Particle Number, Size and Subclasses in Overweight and Obese Adults: A Randomized, Controlled Trial

Li Wang, PhD; Peter L. Bordi, PhD; Jennifer A. Fleming, MS, RD; Alison M. Hill, PhD; Penny M. Kris-Etherton, PhD, RD

Clinical Trial Registration—URL: http://www.clinicaltrials.gov. Unique identifier: NCT01235832. (***J Am Heart Assoc.*** **2015;4: e001355 doi: 10.1161/JAHA.114.001355)**

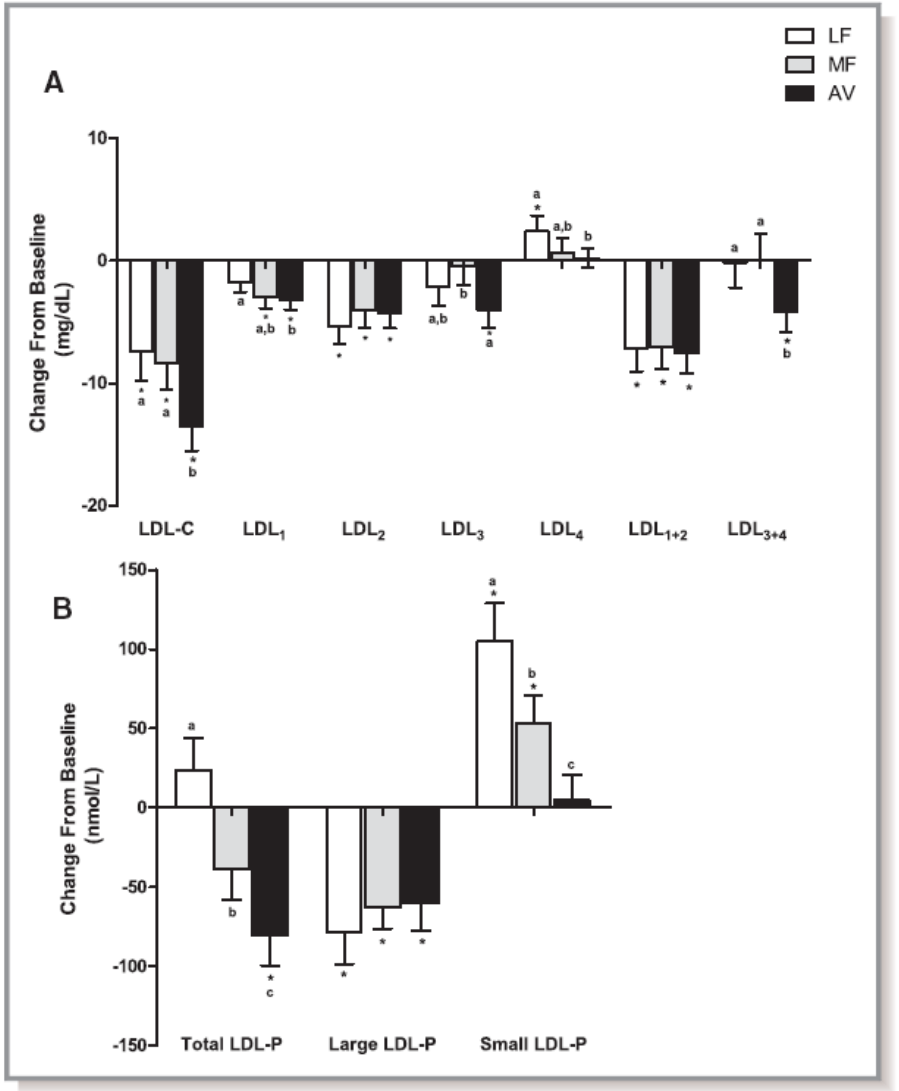


Figure 4. Change in LDL subclasses from baseline (mean±SEM). (A) Change in LDL subclasses cholesterol; (B) change in total, large and small LDL particle numbers. *Represents values that are significantly different from the baseline ($P<0.05$). Values with different letters (a, b, and c) are significantly different (Tukey post-hoc test by SAS, $P<0.05$). AV indicates avocado diet; LDL-C, low-density lipoprotein cholesterol; LDL-P, low-density lipoprotein number; LF, lower-fat diet; MF, moderate-fat diet.

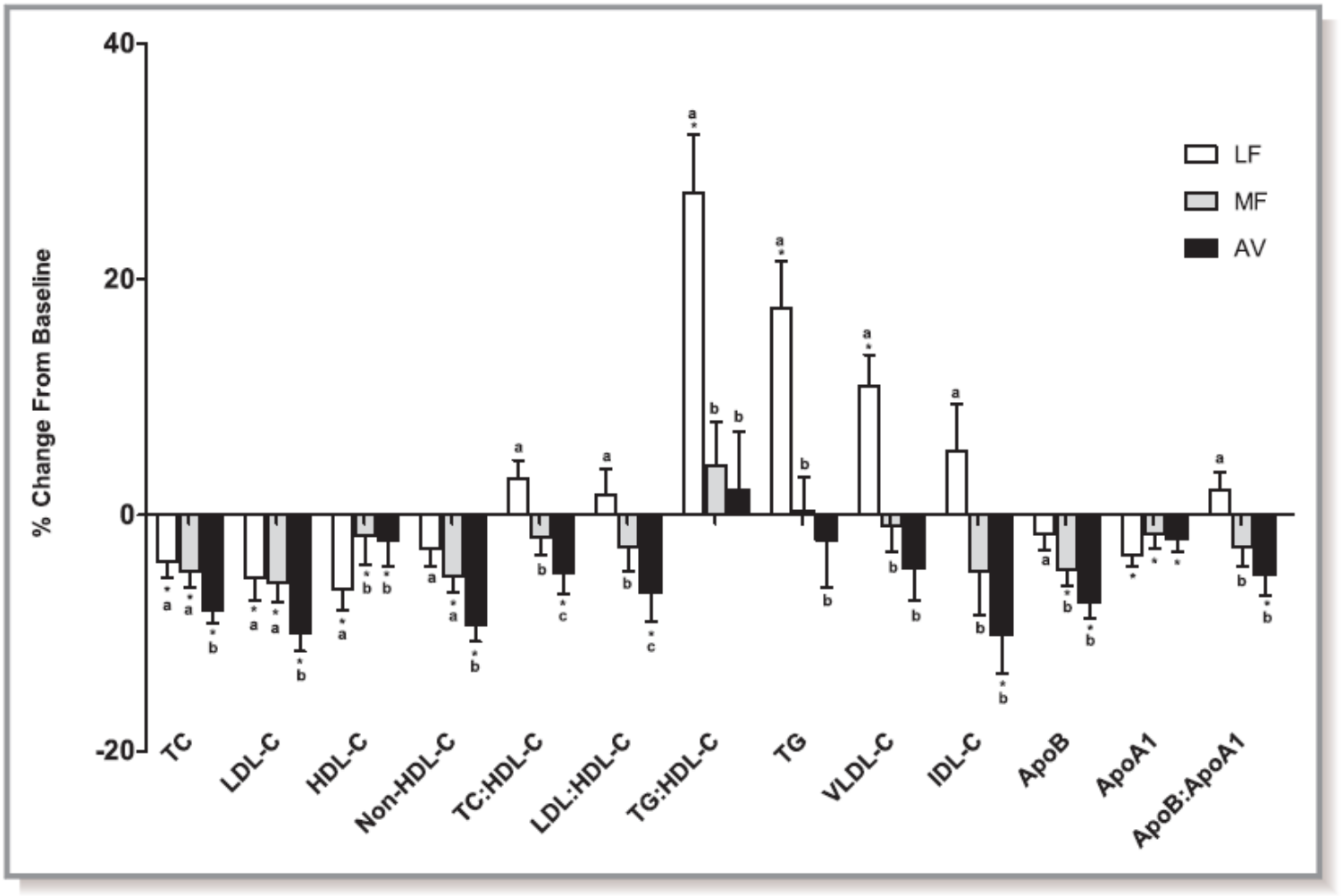
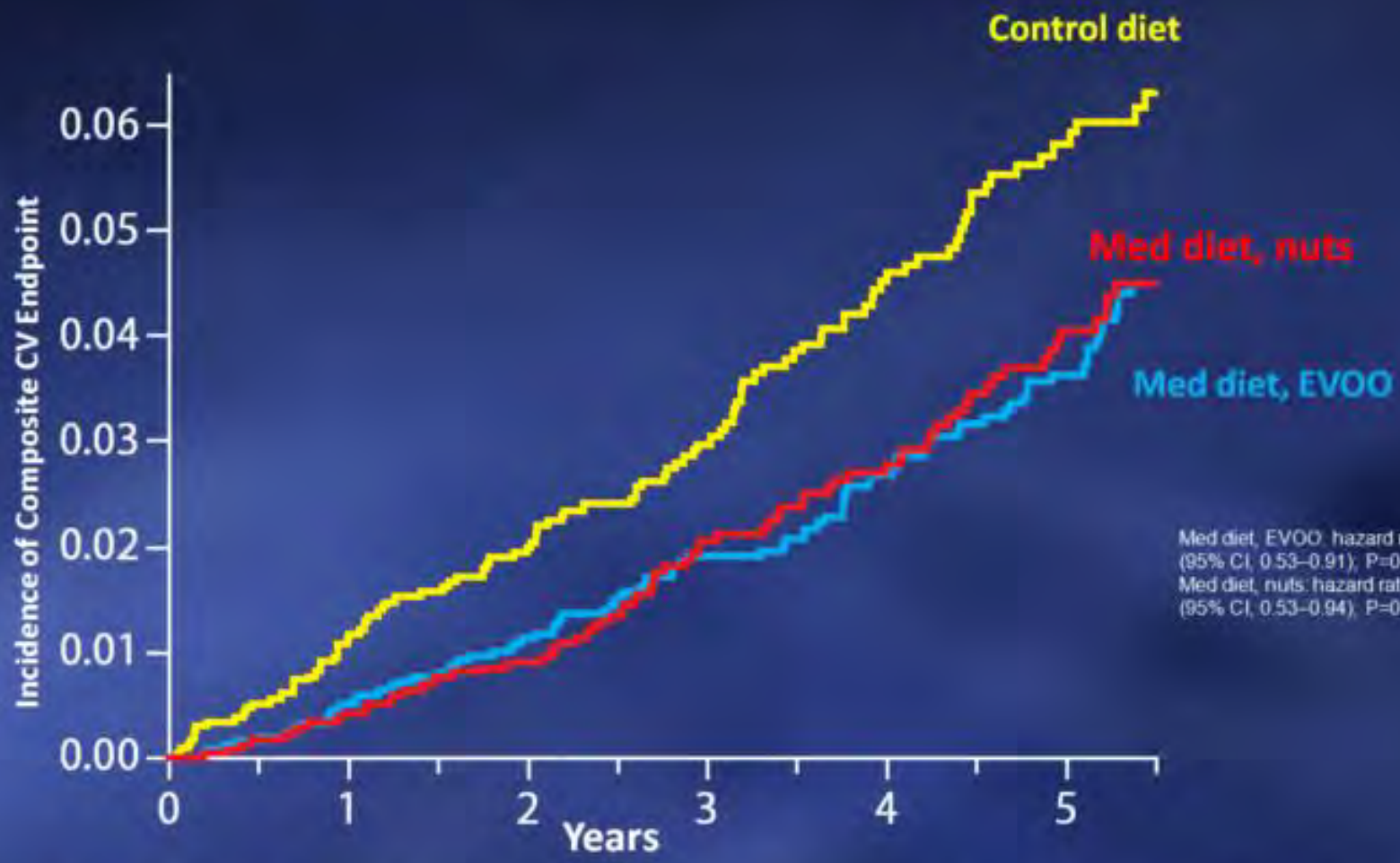


Figure 3. Percent change in lipids, lipoproteins, and apolipoproteins (mean±SEM) from baseline. *Represents values that are significantly different from the baseline ($P<0.05$). Values with different letters (a, b, and c) are significantly different (Tukey post-hoc test by SAS, $P<0.05$). AV indicates avocado diet; apoA1, apolipoprotein A1; apoB, apolipoprotein B; HDL-C, high-density lipoprotein cholesterol; IDL-C, intermediate-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; LF, lower-fat diet; MF, moderate-fat diet; TC, total cholesterol; TG, triglycerides; VLDL, very-low-density lipoprotein.

PREDIMED: Primary Prevention of CVD with a Mediterranean Diet: Primary End Point

EUROPEAN PRIMARY CARE EPCS CARDIOVASCULAR SOCIETY

acute myocardial infarction, stroke, or death from cardiovascular causes



European Primary Care Cardiovascular Society

Estruch, R et al. N Engl J Med 2013.DOI:10.1056/NEJMoa1200303

European Heart Journal
doi:10.1093/eurheartj/eh

LINICAL RESEARCH
Coronary artery disease

Dietary patte
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patients with

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disease

Ralph A. H. Stewart[1]*
Emil Hagström[2], Clae
Karen Chiswell[6], Ola
STABILITY Investigat

colas Danchin[3],
nda Stebbins[6],
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Received 22 April 2015; revised 9 December 201

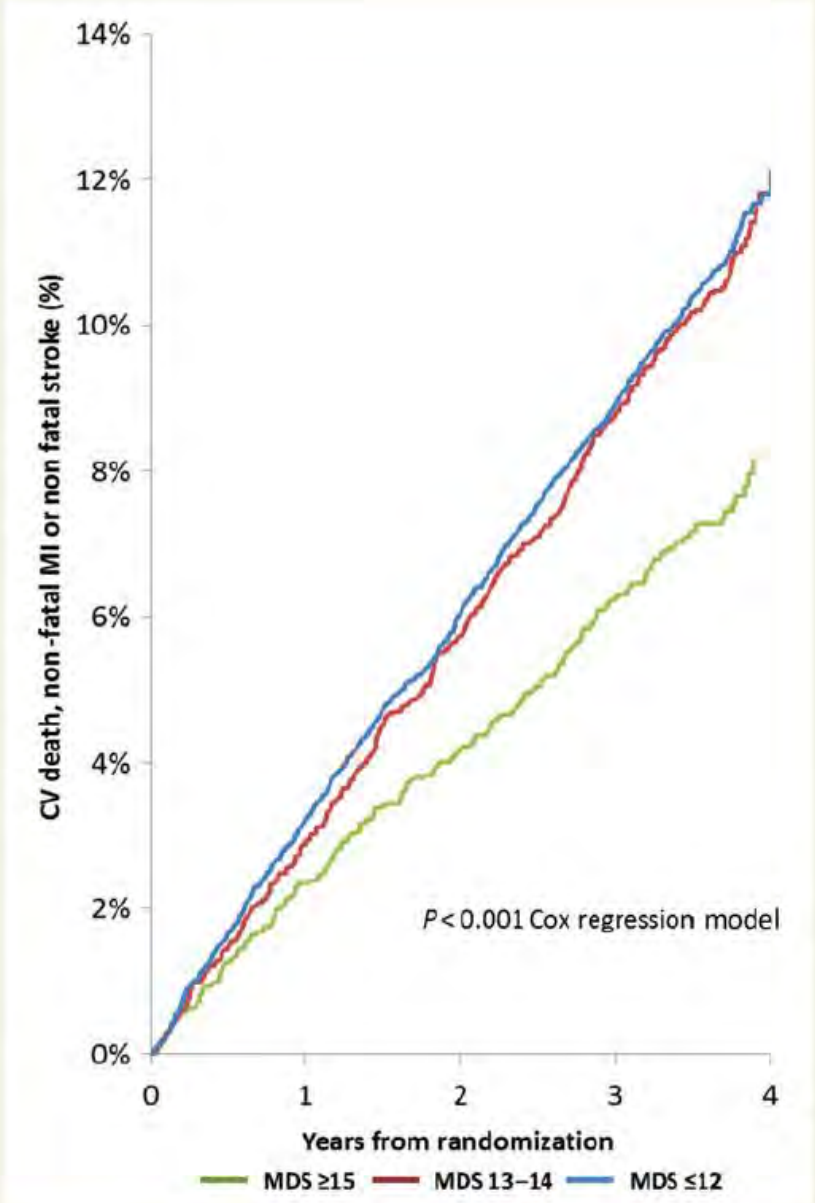
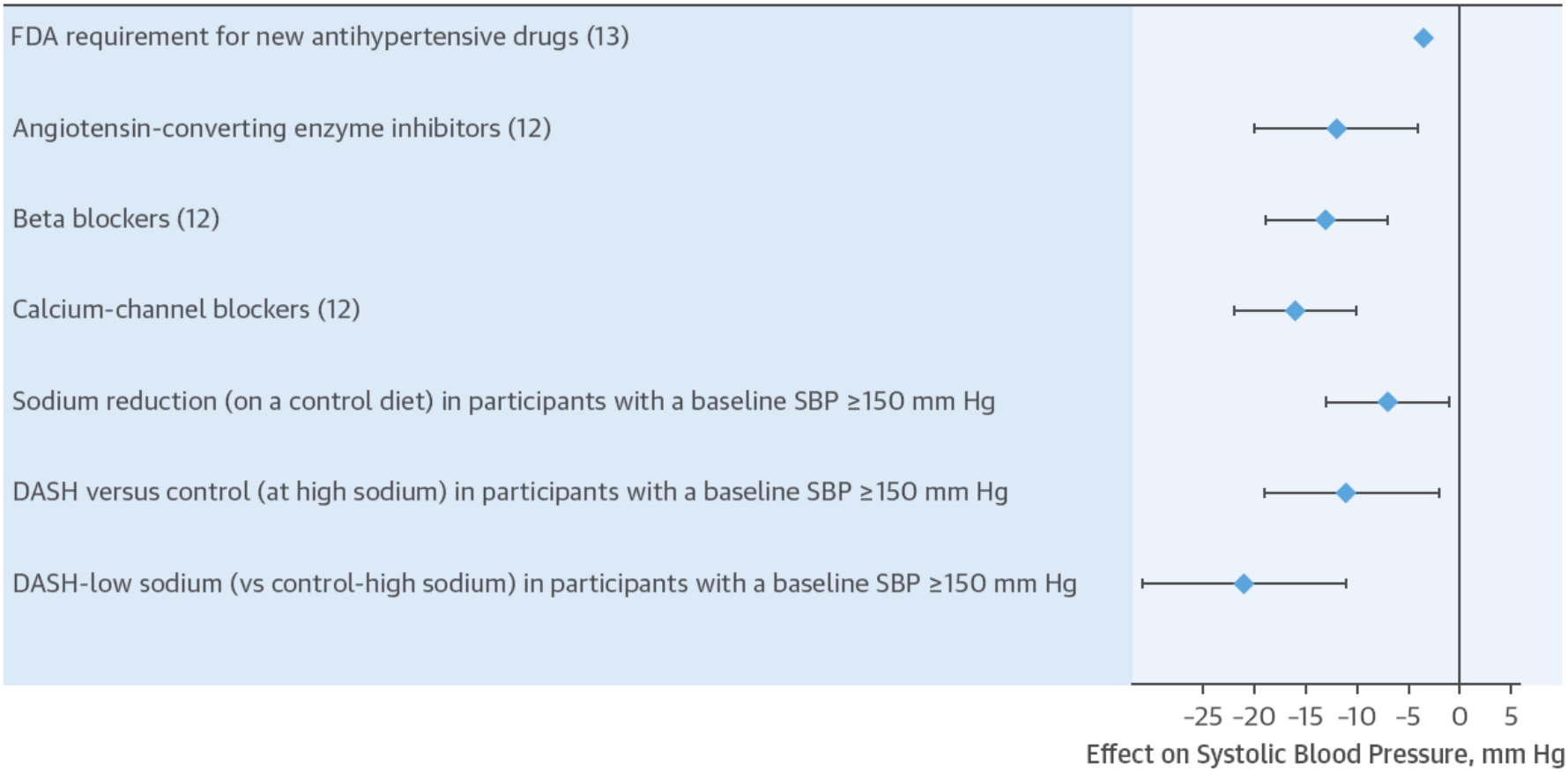


Figure 2 Kaplan–Meier plots of major adverse cardiovascular events by Mediterranean diet score group. CV, cardiovascular; MI, myocardial infarction, MDS, Mediteranean diet score.

Effects of Sodium Reduction and the DASH Diet in Relation to Baseline Blood Pressure

Stephen P. Juraschek, MD, PhD,[a,b] Edgar R. Miller, III, MD, PhD,[b] Connie M. Weaver, PhD,[c] Lawrence J. Appel, MD, MPH[b]

CENTRAL ILLUSTRATION The BP Effects of the DASH Diet



Juraschek, S.P. et al. J Am Coll Cardiol. 2017;■(■):■-■.

Sodium reduction, alone or combined, compared with average BP effects of antihypertensive drug therapies and the FDA requirement for new antihypertensive drugs. Estimates for antihypertensive drug classes are taken from Manisty et al. (12). The FDA requirement for new antihypertensive drugs is taken from a committee meeting of the Center for Drug Evaluation and Research (2014) (13). BP = blood pressure; DASH = Dietary Approaches to Stopping Hypertension; FDA = Food and Drug Administration; SBP = systolic blood pressure.

Evolution, not revolution…

Meal No. 1

1/2 lb. Hamburger
w/Cheese
on White Bun
Potato Chips
Cookies

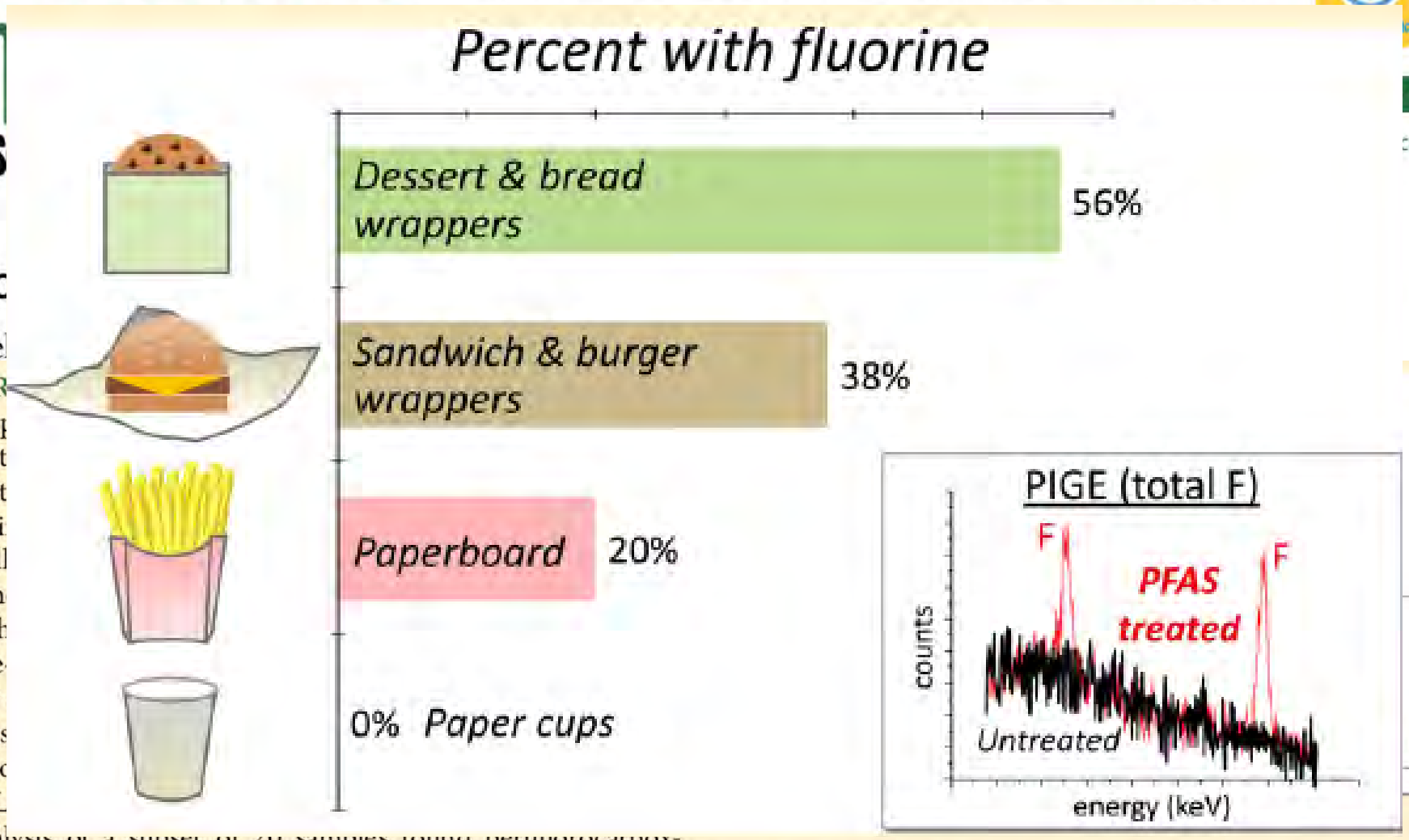
Meal No. 2

1/4 lb. Hamburger
w/Fat-Free
Cheese
on Whole
Wheat Bun
Coleslaw
Baked Beans
Cookies

Meal No. 3

One Half
1/4 lb.
Hamburger
on Whole
Wheat Bun
Roasted
Vegetables
Baked Beans,
Low Fat
Pear


YOU DISGUST ME RONALD!
YOU'RE NOT EVEN SCARY!
I'VE KILLED MORE PEOPLE THAN YOU



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try analysis of a subset of 20 samples found perfluorocarbox-
ylates, perfluorosulfonates, and other known PFASs and/or unidentified polyfluorinated compounds (based on nontargeted analysis). The total peak area for PFASs was higher in 70% of samples (10 of 14) with a total fluorine level of >200 nmol/cm^2 compared to six samples with a total fluorine level of <16 nmol/cm^2. Samples with high total fluorine levels but low levels of measured PFASs may contain volatile PFASs, PFAS polymers, newer replacement PFASs, or other fluorinated compounds. The prevalence of fluorinated chemicals in fast food packaging demonstrates their potentially significant contribution to dietary PFAS exposure and environmental contamination during production and disposal.

The Importance of Breakfast in Atherosclerosis Disease

Insights From the PESA Study

Irina Uzhova, MSc,[a] Valentín Fuster, MD, PhD,[a,b] Antonio Fernández-Ortiz, MD, PhD,[a,c,d,e] José M. Ordovás, PhD,[a,f,g] Javier Sanz, MD,[a,b] Leticia Fernández-Friera, MD, PhD,[a,c,h] Beatriz López-Melgar, MD, PhD,[a,h] José M. Mendiguren, MD,[i] Borja Ibáñez, MD, PhD,[a,c,j] Héctor Bueno, MD, PhD,[a,d,k] José L. Peñalvo, PhD[l]

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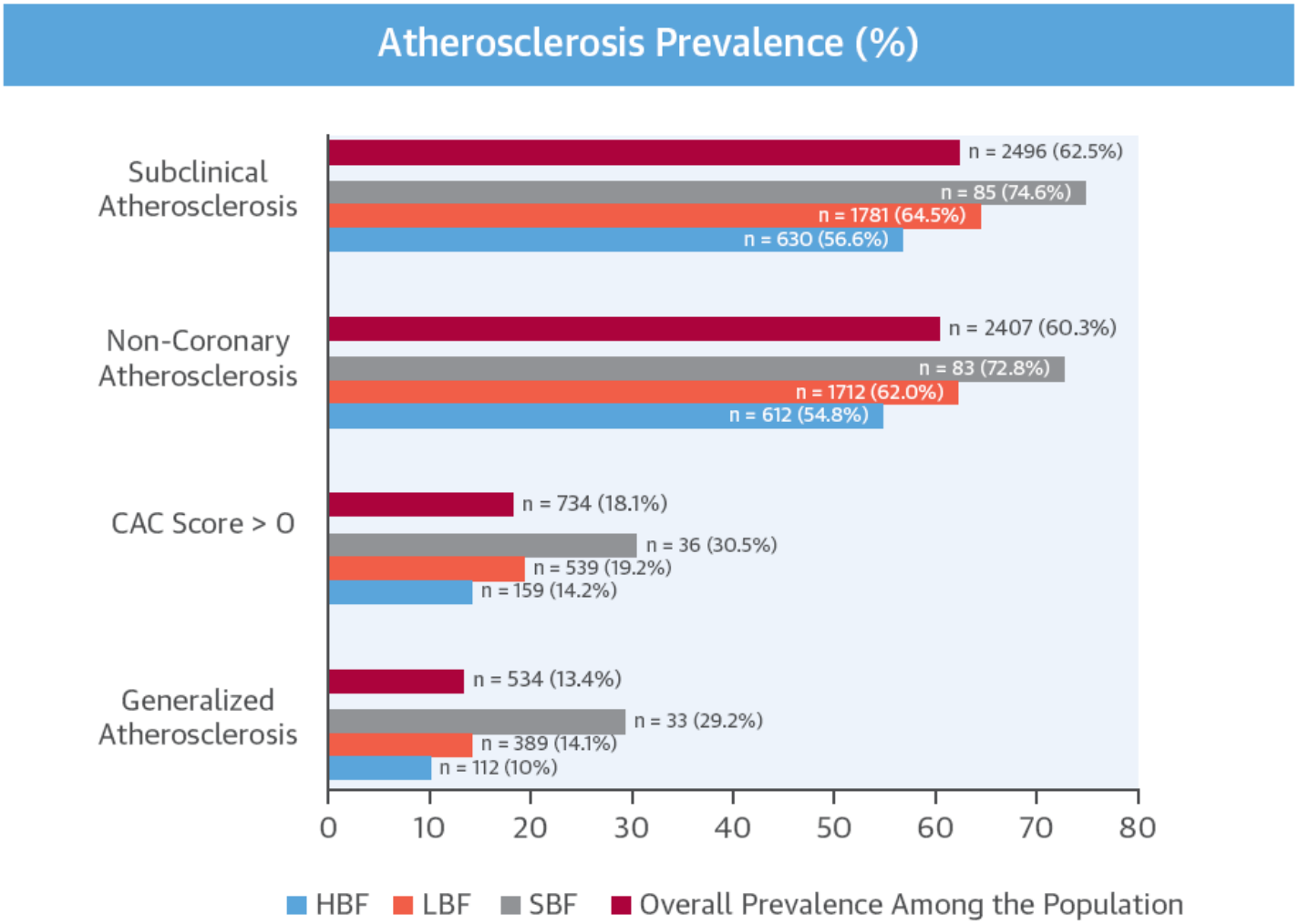
http://dx.doi.org/10.1016/j.jacc.2017.08.027

CENTRAL ILLUSTRATION **Overall Prevalence of an Atherosclerosis Among PESA Study Participants and According to the Type of Breakfast Consumed**



Uzhova, I. et al. J Am Coll Cardiol. 2017;70(15):1833–42.

The prevalence of an atherosclerosis is presented for total population, as well as by breakfast habits categories. The SBF group presents the highest proportion of individuals with subclinical, noncoronary, generalized atherosclerosis and increased coronary artery calcium score. CACs = coronary artery calcium score; HBF = high-energy breakfast; LBF = low-energy breakfast; PESA = Progression of Early Subclinical Atherosclerosis; SBF = skipping breakfast.

TABLE 1 Demographics and Lifestyle Characteristics

	HBF (n = 1,122)	LBF (n = 2,812)	SBF (n = 118)
Demographics			
Age, yrs	45.41 ± 4.23*†	45.95 ± 4.27‡	46.53 ± 4.27‡
Female	503 (44.8)*†	951 (33.8)‡	34 (28.8)‡
Education			
High school or lower	238 (21.4)*	741 (26.5)‡	34 (28.8)
College degree	160 (14.4)	423 (15.2)	21 (17.8)
University degree or higher	714 (64.2)*	1628 (58.3)‡	63 (53.4)
Marital status			
Married	851 (83.4)	2,139 (83.8)	91 (82.0)
Single	73 (7.2)	219 (8.6)	14 (12.6)
Divorced	90 (8.80)	185 (7.20)	6 (5.40)
Widow	6 (0.60)	11 (0.40)	0 (0.00)
Lifestyle			
Physical activity level (total physical activity counts/day)	3,604 ± 6,071	3,537 ± 5,179	3,668 ± 5,223
Smoking status			
Current smoker	196 (17.5)*†	588 (20.9)†‡	49 (41.5)*‡
Social smoker	103 (9.2)	226 (8.0)	11 (9.3)
Ex-smoker	344 (30.7)	928 (33.0)	33 (28.0)
Nonsmoker	479 (42.7)*†	1070 (38.1)†‡	25 (21.2)*‡
Dieting to lose weight	89 (7.9)*†	367 (13.1)‡	21 (17.8)‡
Time spent on breakfast, min	11.00 ± 5.81*†	8.40 ± 5.84†‡	4.93 ± 7.16*‡
% of daily EI at lunch	38.63 ± 6.25*†	41.97 ± 6.55†‡	47.53 ± 9.25*‡

Values are mean ± SD or n (%). Bonferroni correction was applied for categorical variables ($p < 0.017$). *$p < 0.05$ vs. LBF. †$p < 0.05$ vs. SBF. ‡$p < 0.05$ vs. HBF.

EI = energy intake; HBF = high-energy breakfast; LBF = low-energy breakfast; PA = physical activity; SBF = skipping breakfast; WC = waist circumference.

TABLE 2 Overall Dietary Profile of PESA Study Participants According to Breakfast Pattern

	HBF (n = 1,122)	LBF (n = 2,812)	SBF (n = 118)
Macronutrients, g/day or mg/day			
Energy intake, kcal	2,234 ± 450*†	2,345 ± 467‡	2,358 ± 562‡
Total protein	94.3 ± 18.0*†	102.4 ± 20.0‡	105.7 ± 24.0‡
Animal protein	64.8 ± 15.0*†	72.1 ± 17.1†‡	76.6 ± 20.7*‡
Vegetable protein	29.08 ± 8.23*	29.84 ± 8.39‡	28.69 ± 9.83
Total fat	103.1 ± 22.9*†	108.3 ± 24.2‡	113.6 ± 30.6‡
Cholesterol	334.4 ± 98.2*†	361.6 ± 94.8†‡	385.7 ± 111.0*‡
MUFA	47.0 ± 11.6*†	49.3 ± 11.5†‡	52.4 ± 13.8*‡
PUFA	16.62 ± 5.09*†	17.81 ± 5.48†‡	19.05 ± 7.06*‡
SFA	29.98 ± 8.62*†	32.05 ± 9.00‡	32.84 ± 10.90‡
Carbohydrates	218.5 ± 58.1†	220.0 ± 58.8†	197.0 ± 63.8*‡
Sugar	94.0 ± 31.8*†	90.9 ± 30.6†‡	75.5 ± 34.4*‡
Polysaccharides	119.7 ± 40.6*	125.7 ± 43.2‡	119.2 ± 46.0
Fiber	21.08 ± 6.48†	20.90 ± 5.99†	18.99 ± 6.19*‡
Food group, g/day			
Fruits and vegetables	474 ± 210*†	435 ± 202†‡	369 ± 182*‡
Dried fruits	7.30 ± 10.76	7.94 ± 12.26	9.65 ± 16.64
Legumes	25.2 ± 21.2	26.0 ± 22.9	27.4 ± 23.3
Potatoes	20.0 ± 17.1	21.1 ± 17.7	19.3 ± 16.7
Refined grains	216.0 ± 92.8*	234.0 ± 98.7‡	231.0 ± 101.5
Whole grains	14.3 ± 31.9*†	9.1 ± 21.6†‡	2.5 ± 10.6*‡
Nuts	5.03 ± 5.92	5.41 ± 5.68	5.16 ± 4.91
Olives	4.05 ± 6.30*†	4.65 ± 6.52†‡	7.26 ± 15.13*‡
Red meat	93.0 ± 42.2*†	112.9 ± 50.1†‡	145.1 ± 68.6*‡
Lean meat	63.3 ± 30.7*	66.9 ± 33.5‡	67.7 ± 32.6
Seafood (fish, shellfish)	75.8 ± 36.2*	79.1 ± 38.9‡	78.1 ± 39.9
Dairy	207 ± 151†	196 ± 137†	141 ± 116*‡
Low-fat dairy	88.3 ± 125.8	90.0 ± 121.8†	61.4 ± 112.7*
Vegetable oil and fat	5.02 ± 5.92	5.40 ± 5.68	5.15 ± 4.91
Butter	5.89 ± 6.72*†	4.26 ± 4.39†‡	2.30 ± 2.03*‡
Olive oil	31.7 ± 14.1*	29.9 ± 12.2‡	31.0 ± 11.8
Precooked meals, fast food	55.6 ± 34.0*†	66.9 ± 42.1‡	68.6 ± 35.6‡
Chips and snacks	5.02 ± 7.06*†	6.49 ± 9.12†‡	8.69 ± 11.73*‡
Commercial bakery	71.4 ± 50.0†	69.6 ± 47.8†	54.3 ± 47.5*‡
Alcohol (distilled spirits, wine, beer)	122 ± 144*†	190 ± 227†‡	299 ± 328*‡
SSB	132 ± 184*†	157 ± 204†‡	256 ± 439*‡
Tea, coffee	167 ± 131†	174 ± 128	202 ± 193‡
Dietary quality			
Mediterranean cluster	533 (47.5)*†	1,052 (37.4)†‡	30 (25.4)*‡
Western cluster	485 (43.2)†	1,148 (40.8)†	35 (29.7)*‡
Social business cluster	104 (9.3)*†	612 (21.8)†‡	53 (44.9)*‡

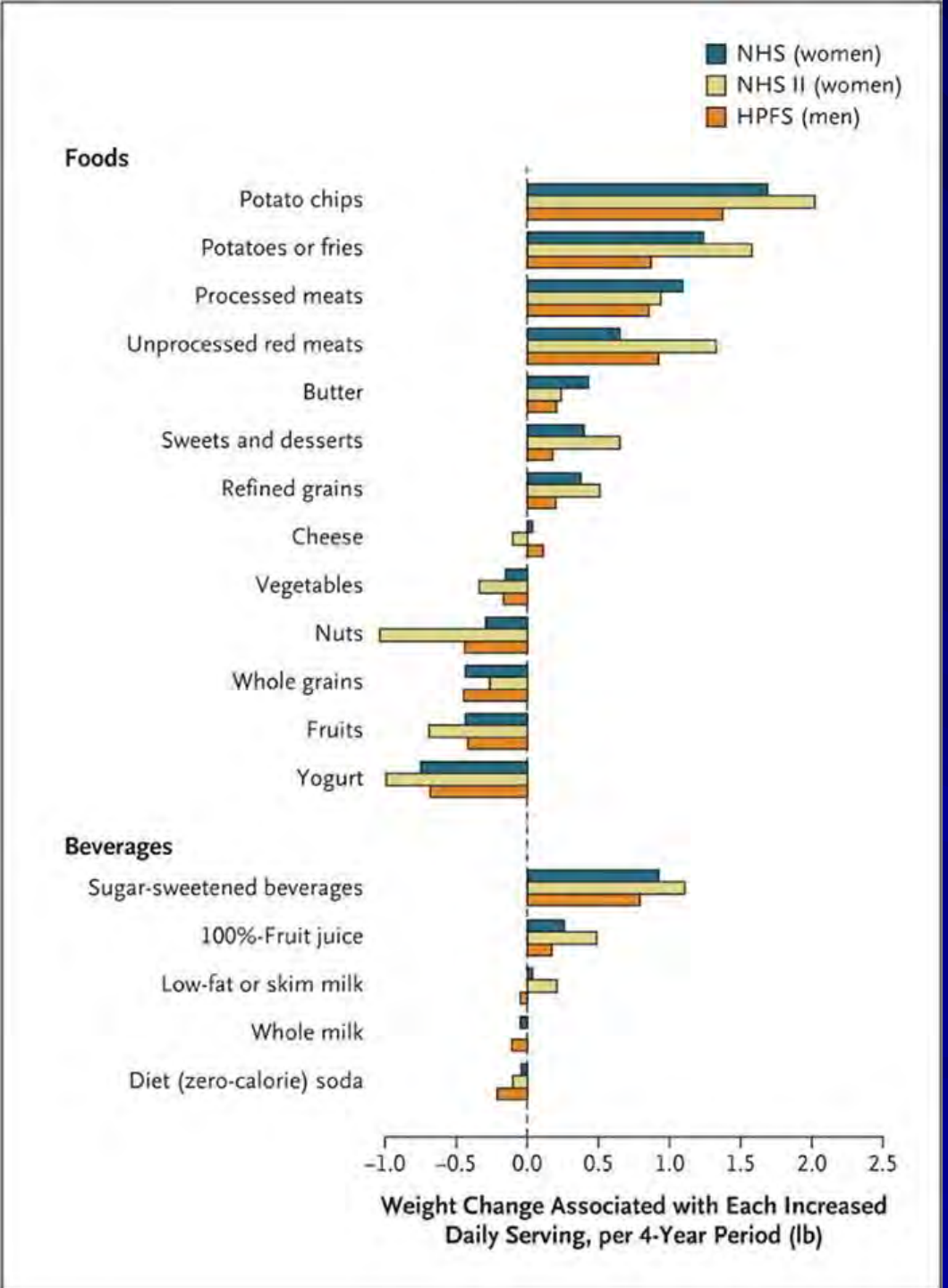
Values are mean ± SD or n (%). Bonferroni correction was applied for categorical variables ($p < 0.017$). *$p < 0.05$ vs. LBF. †$p < 0.05$ vs. SBF. ‡$p < 0.05$ vs. HBF.

MUFA = monounsaturated fatty acids; PESA = Progression of Early Subclinical Atherosclerosis; PUFA = polyunsaturated fatty acids; SFA = saturated fatty acids; SSB = sugar-sweetened beverages; other abbreviations as in Table 1.

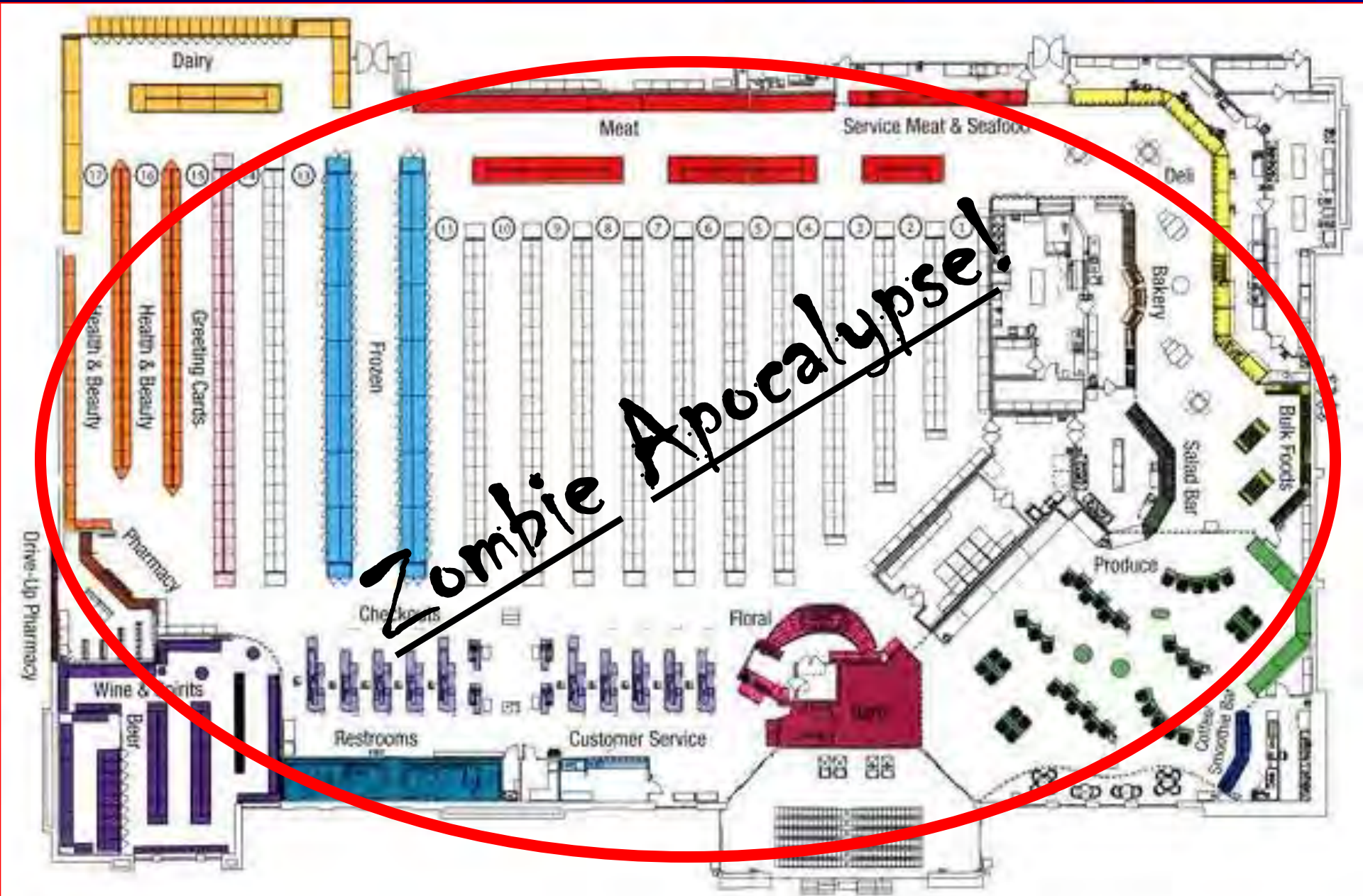
TABLE 2 Overall Dietary Profile of PESA Study Participants According to Breakfast Pattern

	HBF (n = 1,122)	LBF (n = 2,812)	SBF (n = 118)
Dietary quality			
Mediterranean cluster	533 (47.5)*†	1,052 (37.4)†‡	30 (25.4)*‡
Western cluster	485 (43.2)†	1,148 (40.8)†	35 (29.7)*‡
Social business cluster	104 (9.3)*†	612 (21.8)†‡	53 (44.9)*‡

Weight creep



N Engl J Med 2011;364:2392-404.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Health & Beauty
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Bulk Foods
Salad Bar
Produce
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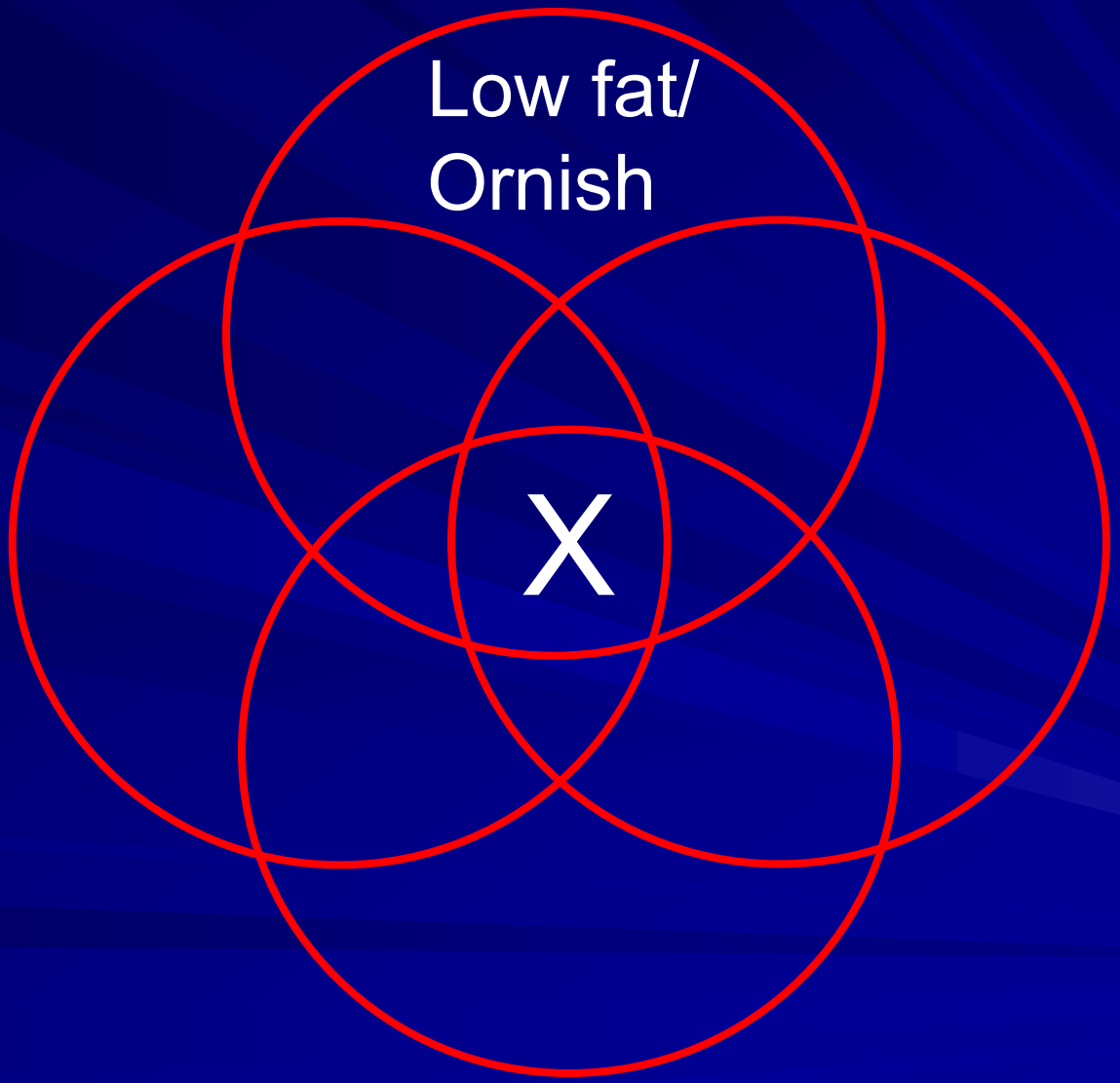
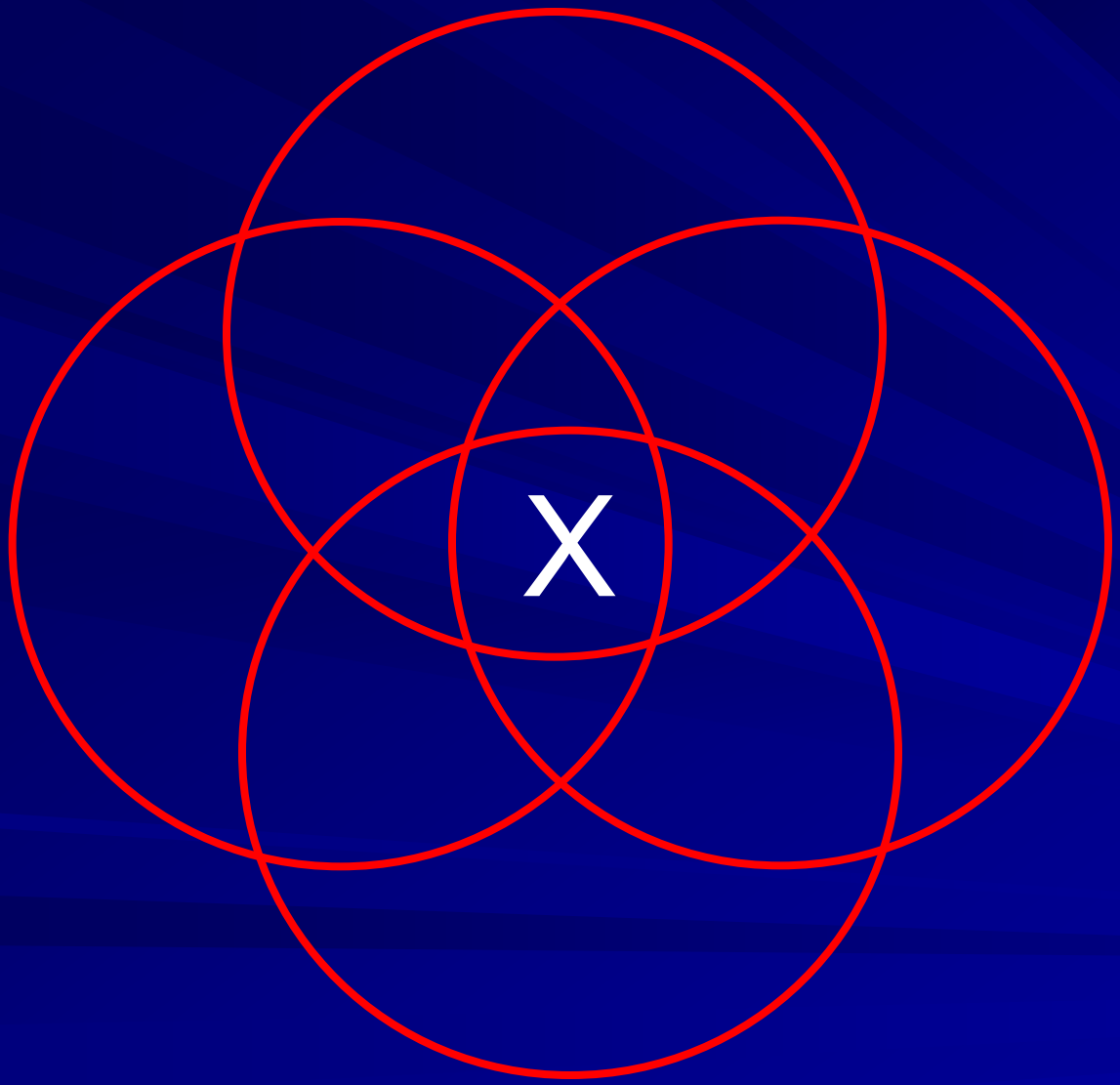
Drive-Up Pharmacy
Floral
Restrooms
Customer Service
Wine & Spirits
Beer
Coffee
Smoothie Bar
Zombie Apocalypse!

Bullseye!



Totality of Evidence



- Whole food / plant based.
- Less processed (bad carbs).
- Less sugar (bad carbs).
- Limit red meat.
- Good fats, not high fat.
- Good carbs.
- Reasonable portions.
- Sleep.
- Exercise.

Summary

	Low-carbohydrate	Low-fat/ vegetarian/vegan	Low-glycemic	Mediterranean	Mixed/balanced	Paleolithic
Health benefits relate to:	Emphasis on restriction of refined starches and added sugars in particular.	Emphasis on plant foods direct from nature; avoidance of harmful fats.	Restriction of starches, added sugars; high fiber intake.	Foods direct from nature; mostly plants; emphasis on healthful oils, notably monounsaturates.	Minimization of highly processed, energy-dense foods; emphasis on wholesome foods in moderate quantities.	Minimization of processed foods. Emphasis on natural plant foods and lean meats.
Compatible elements:	Limited refined starches, added sugars, processed foods; limited intake of certain fats; emphasis on whole plant foods, with or without lean meats, fish, poultry, seafood.					
And all potentially consistent with:	**Food, not too much, mostly plants[a,b,c].**					

[a]From Reference 135.
[b]Portion control may be facilitated by choosing better-quality foods which have the tendency to promote satiety with fewer calories.
[c]While neither the low-carbohydrate nor Paleolithic diet need be "mostly plants," both can be.

Katz DL, Meller S. 2014.
Annu. Rev. Public Health. 35:83–103

- Everyone is different.
- Sustainability is key, not a diet…
- Enjoy life, don't torture yourself,
- or others for that matter…

KISS

Keep It Simple Stupid…

#1 lesson…

Healthy Kitchens, Healthy Lives®

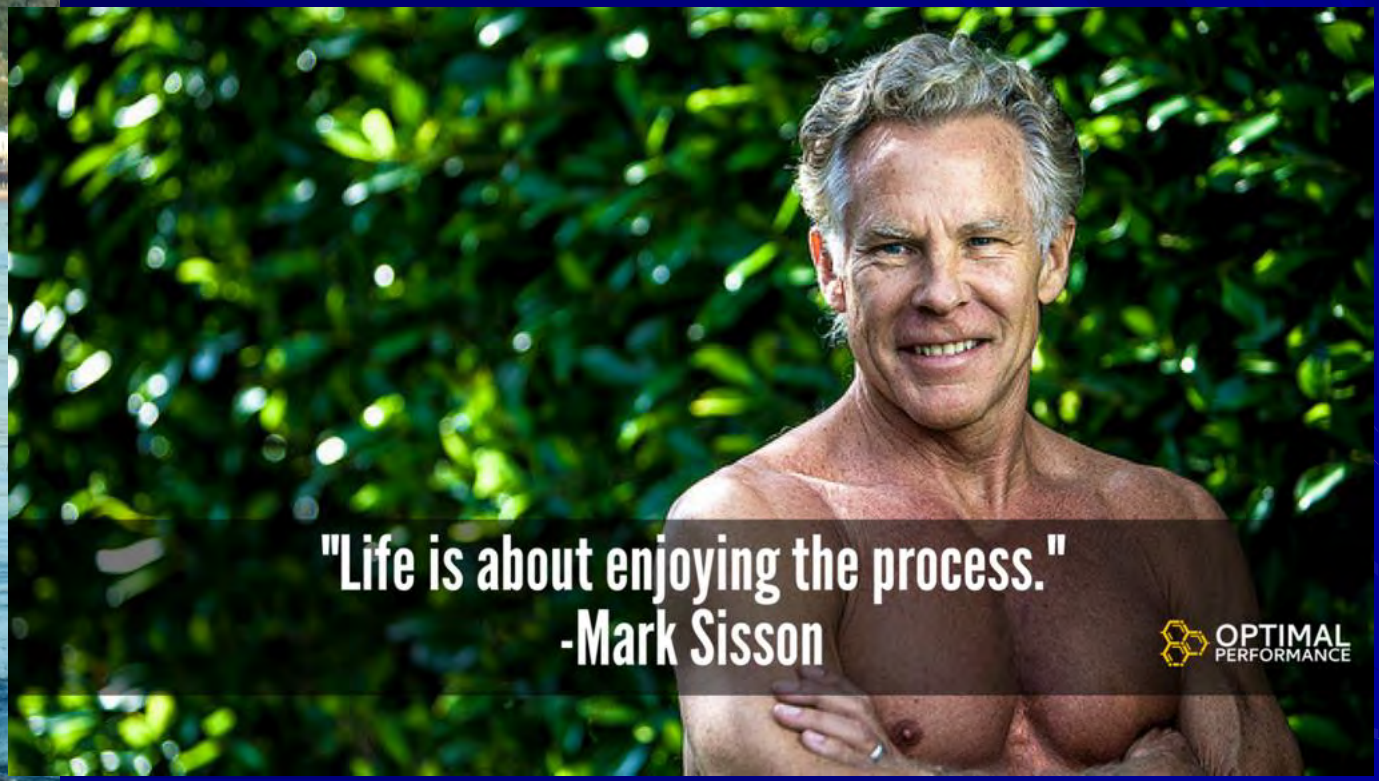
Caring for Our Patients, and Ourselves

www.healthykitchens.org

“It has to taste good!”

In sudden disgust, the three lionesses realized they had killed a tofudebeest—one of the Serengeti's obnoxious health antelopes.

Mark Sisson


"Life is about enjoying the process."
-Mark Sisson
OPTIMAL PERFORMANCE

Sustainability…

- What keeps you from getting hangry?
  - Fats satisfy
  - Protein stays in your stomach
  - Fiber fills you up
  - So does just drinking H_2O…

The skinny on fats…

American Heart Association. life is why™ | Healthy For Good™

THE FACTS ON FAT

The American Heart Association recommends replacing bad (saturated) fats with good (unsaturated) fats as part of a healthy eating pattern.

LOVE IT

UNSATURATED (POLY & MONO)

- Lowers rates of cardiovascular and all-cause mortality
- Lowers bad cholesterol & triglyceride levels
- Provides essential fats your body needs but can't produce itself

LIMIT IT

SATURATED

- Increases risk of cardiovascular disease
- Raises bad cholesterol levels

LOSE IT

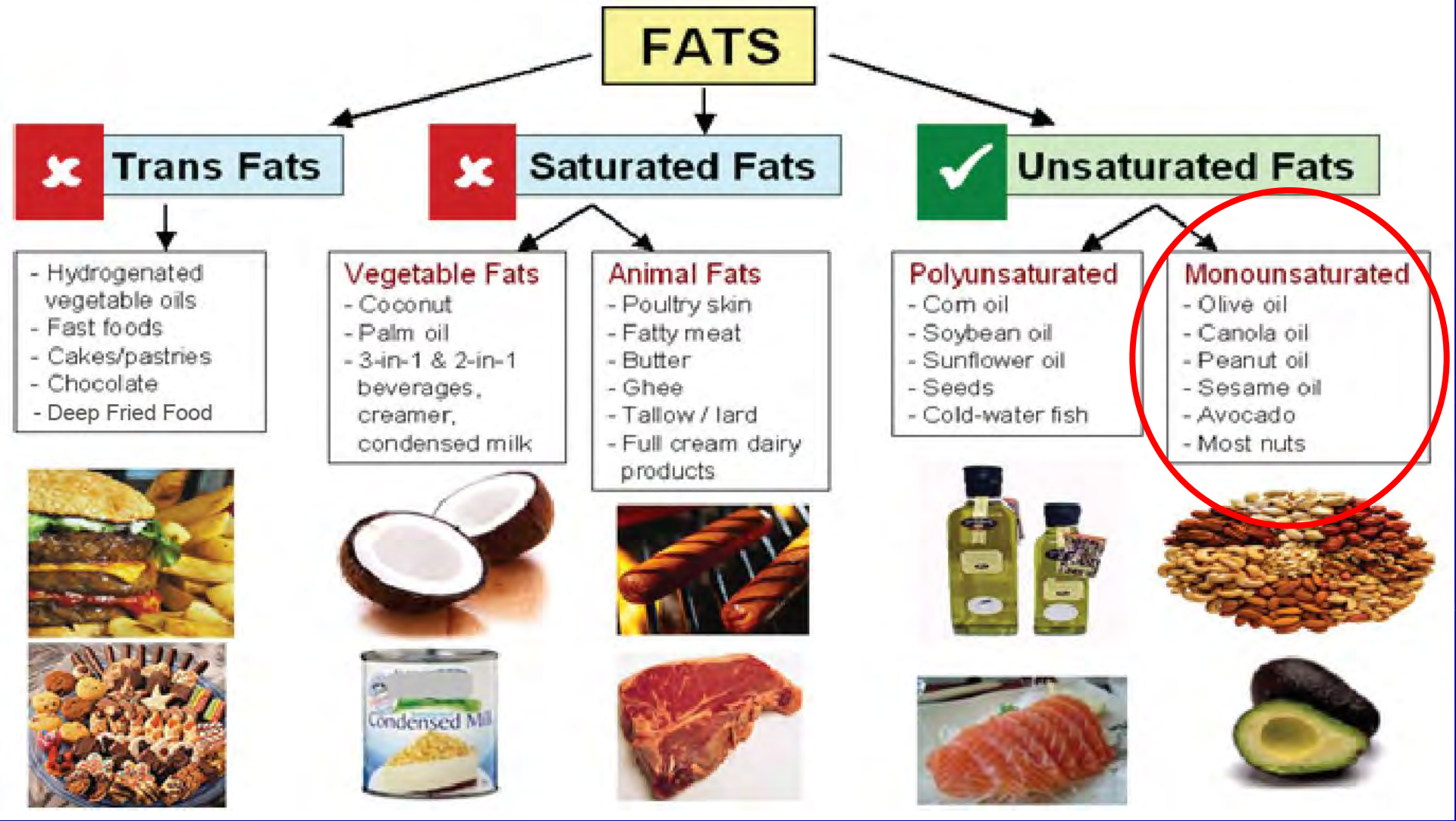
ARTIFICIAL TRANS FAT, HYDROGENATED OILS & TROPICAL OILS

- Increases risk of heart disease
- Raises bad cholesterol levels

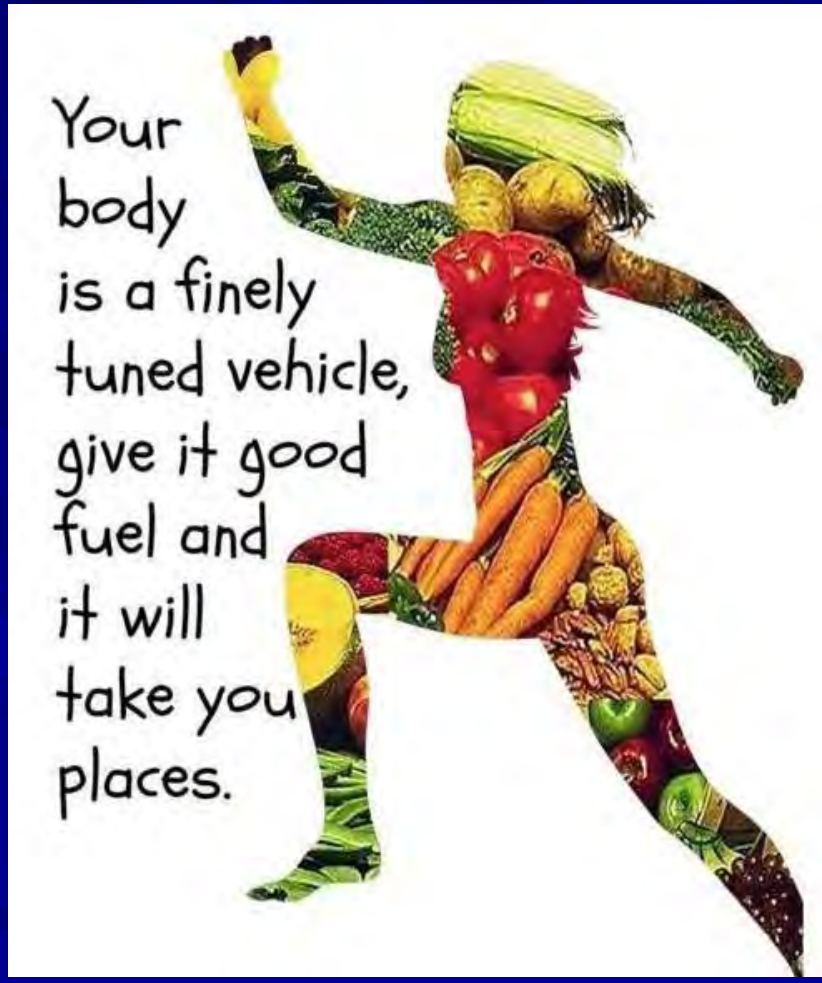
EAT SMART ADD COLOR MOVE MORE BE WELL

LEARN MORE AT HEART.ORG/EATSMART

The skinny on fats…

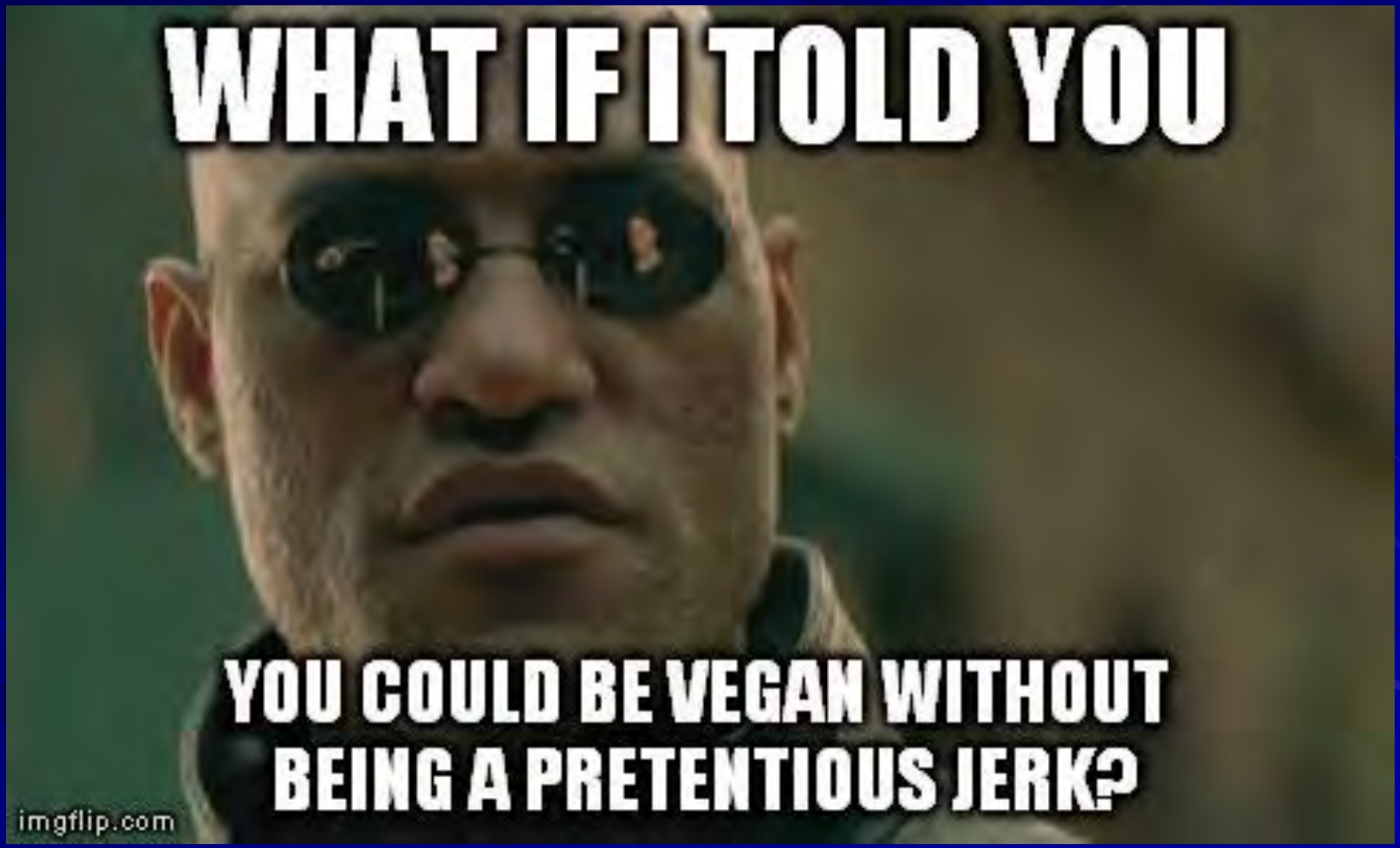


Food is FUEL!
What are you going to put into your tank?



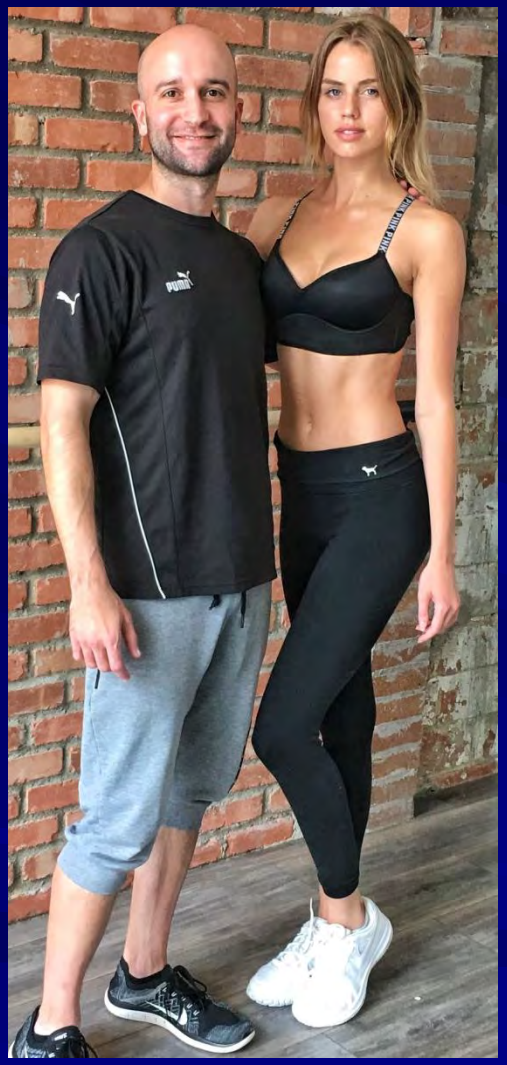
Being Vegan vs vegan diet…

Being Vegan vs vegan diet…

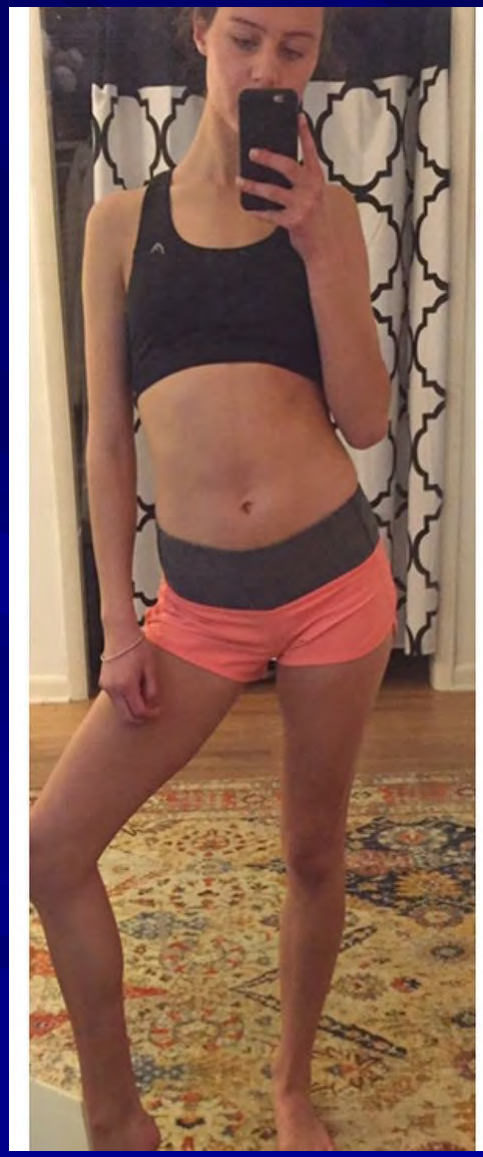


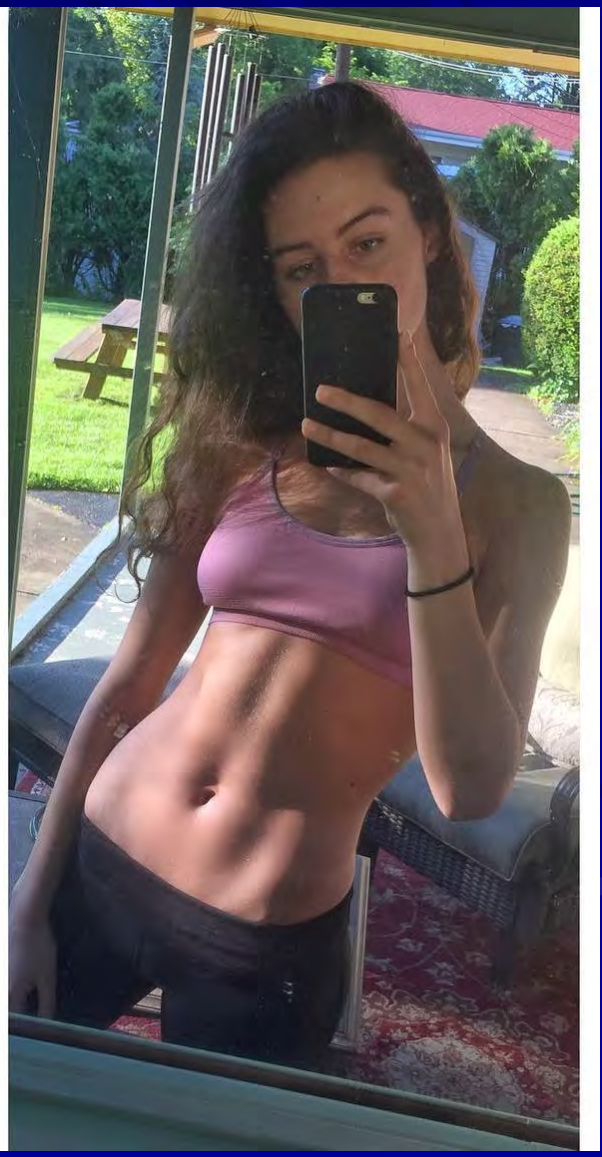
Being Vegan vs vegan diet…

What is ‘success’?



John Benton





Clowns are awesome!

The Bad & the UGLY!

ORIGINAL RESEARCH

Religious Attendance: More Cost-Effective Than Lipitor?

Daniel E. Hall, MD, MDiv

Table 1. Published Estimates for Modeled Parameters

Modality	OR/RR	Range*	Cost
Regular physical exercise†	0.66[11]	Not reported	$500
Statin-type medication	0.74[12]	0.60 to 0.92	$836[13]
Weekly religious attendance	0.775[2]	0.719 to 0.833	$516[14,15]

* Range corresponds to the 95% CI for each point estimate.
† Relative risk of regular physical exercise was calculated and reported separately by these authors for both women (0.66) and men (0.65). Given that these values are nearly identical, the more conservative estimate is used in this analysis.

(J Am Board Fam Med 2006;19:103–9.)

Special Report

Effect Size Estimates of Lifestyle and Dietary Changes on All-Cause Mortality in Coronary Artery Disease Patients

A Systematic Review

J.A. Iestra, RD; D. Kromhout, MPH, PhD; Y.T. van der Schouw, PhD; D.E. Grobbee, MD, PhD; H.C. Boshuizen, PhD; W.A. van Staveren, PhD

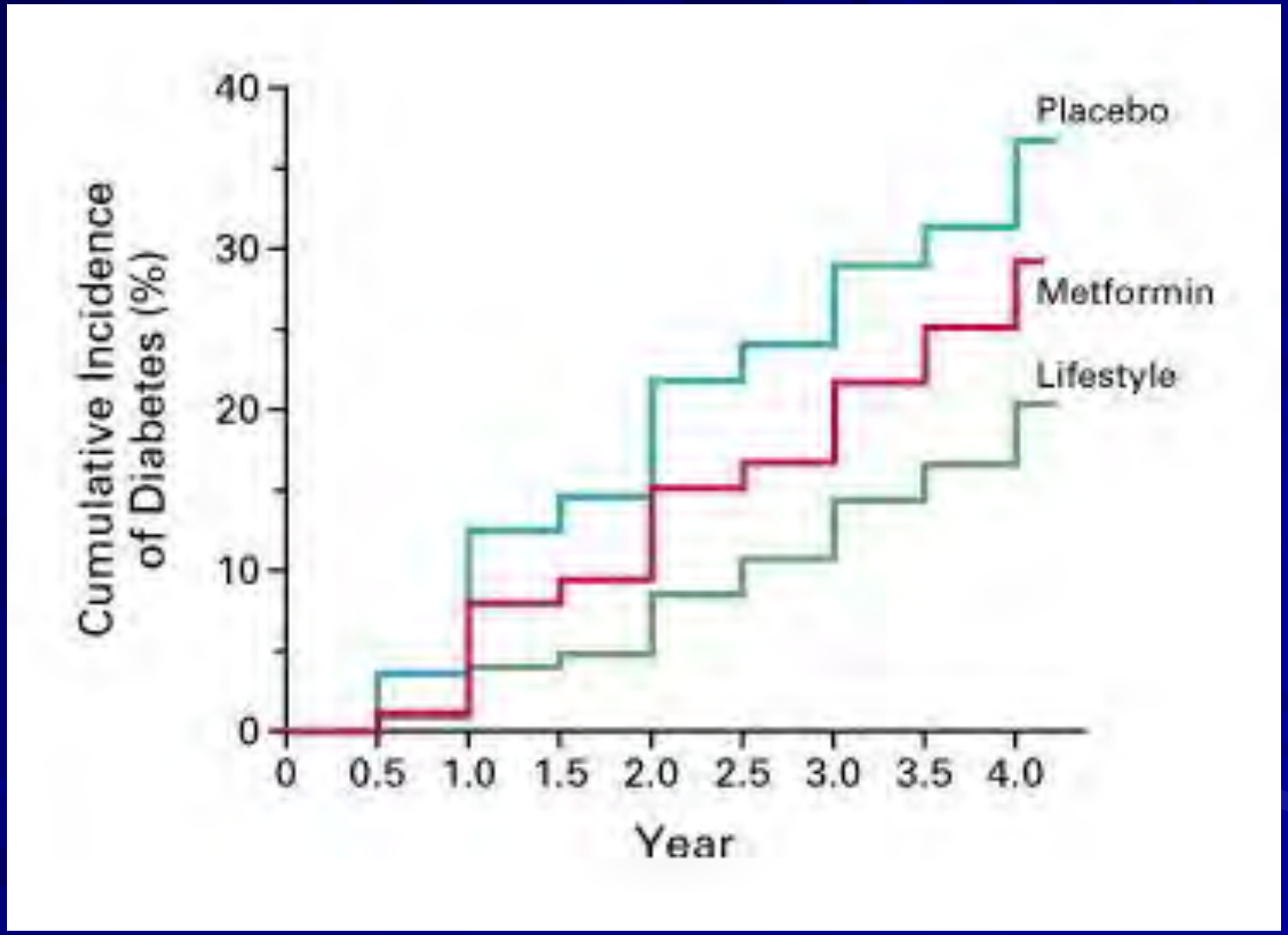
TABLE 4. Approximate Mortality Reduction Potential of Lifestyle and Dietary Changes Estimated From Studies in CAD Patients and the General Population

Recommendation	Mortality Risk Reduction Estimated From Studies in CAD Patients	Mortality Risk Reduction Estimated From Cohort Studies in General Population
Smoking cessation	35%	50%
Physical activity	25%	20%–30%
Moderate alcohol	20%	15%
Combined dietary changes	45%	15%–40%

TABLE 5. Approximate Mortality Reduction Potential of Preventive Drug Interventions After MI

Intervention	Mortality Risk Reduction, Mean (95% CI)
Low-dose aspirin[111]	18% (1%–30%)
Statins[112]	21% (14%–28%)
β-Blockers[113]	23% (15%–31%)
ACE inhibitors[114]	26% (16%–35%)

Cumulative Incidence of Diabetes According to Study Group.



Diabetes Prevention Program Research Group. N Engl J Med 2002;346:393-403.

The NEW ENGLAND JOURNAL of MEDICINE

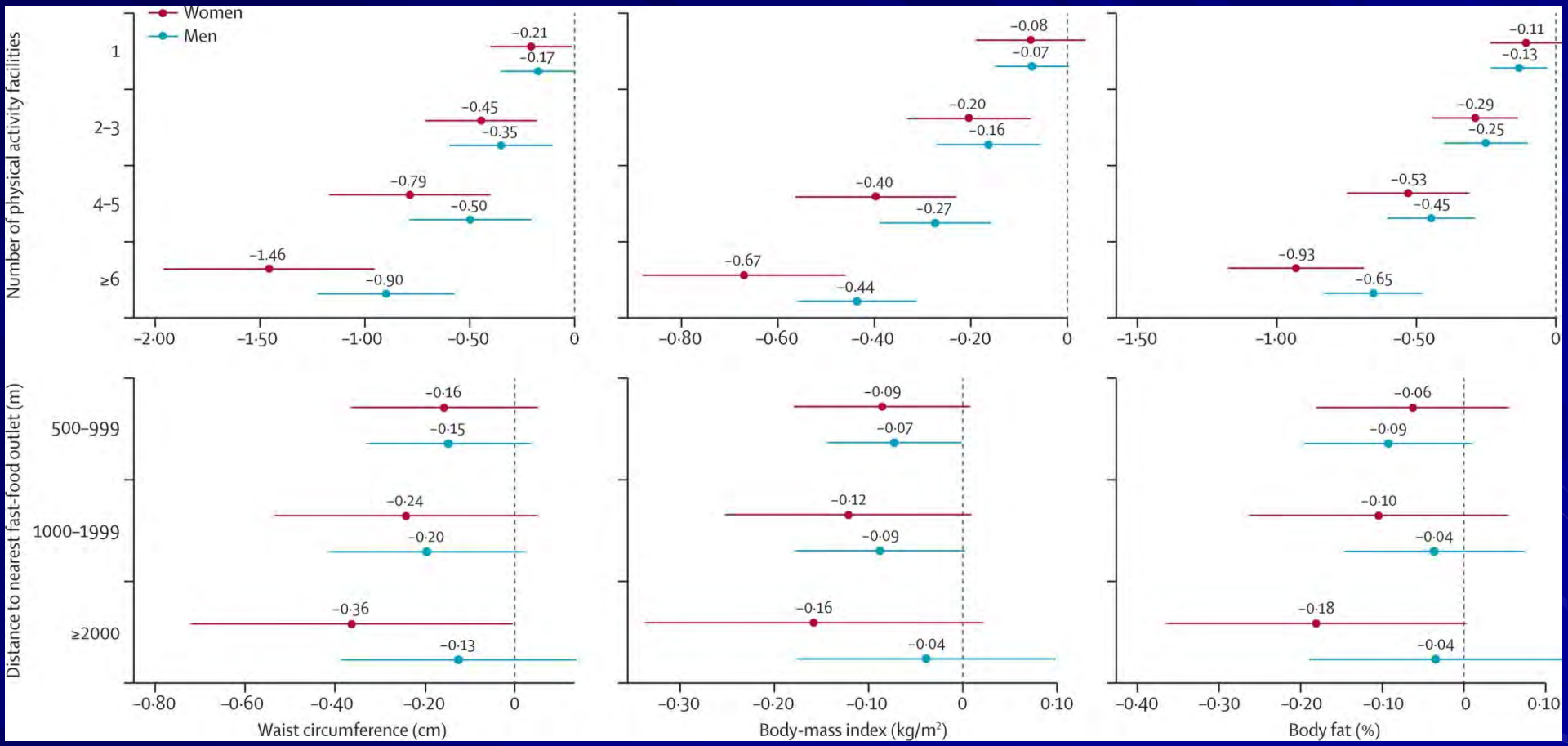
Associations between fast food and physical activity environments and adiposity in mid-life: cross-sectional, observational evidence from UK Biobank

Kate E Mason, Neil Pearce, Steven Cummins

The "obesogenic environment"

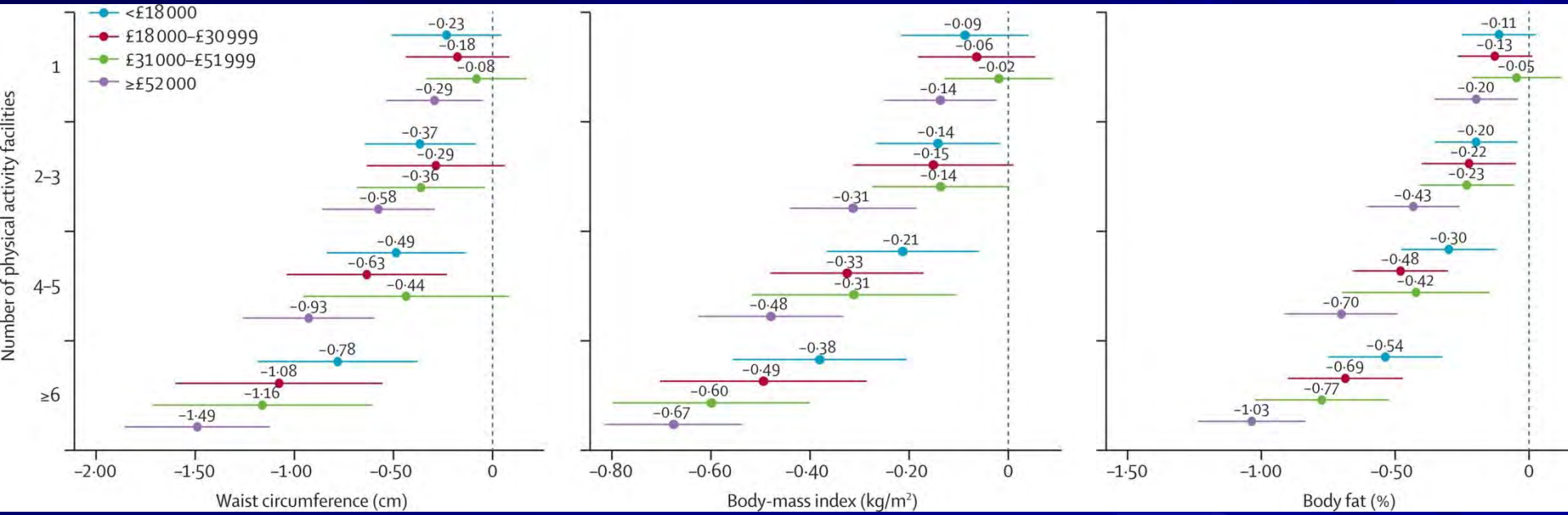
The Lancet Public Health
Volume 3, Issue 1, Pages e24-e33 (January 2018)
DOI: 10.1016/S2468-2667(17)30212-8

Morphometrics by location?



The Lancet Public Health 2018 3, e24-e33DOI: (10.1016/S2468-2667(17)30212-8)

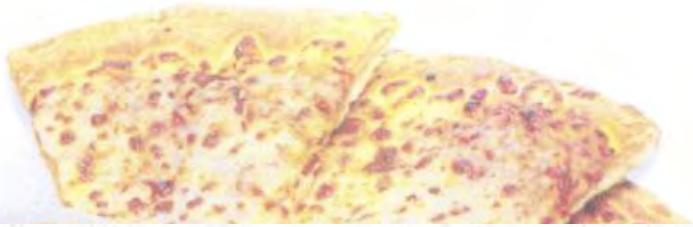
Morphometrics by gym?



The Lancet Public Health 2018 3, e24-e33DOI: (10.1016/S2468-2667(17)30212-8)

Meal No. 1

Cheese Pizza
Breadsticks
Marinara Sauce



Meal No. 2

Cheese Pizza
Breadstick
Marinara Sauce
Salad
Fat-Free Dressing

Meal No. 3

Cheese Pizza
Salad
Fat-Free Dressing
Minestrone Soup
Fruit Salad

Meal No. 1

3 cups White Spaghetti
2 cups Meat Sauce
Garlic Bread

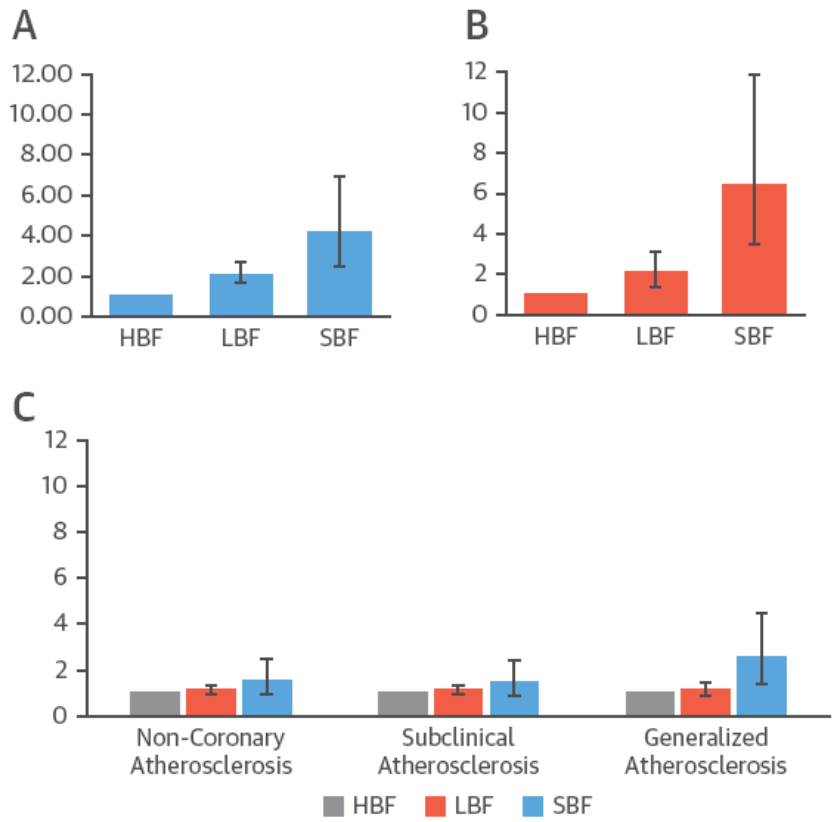
Meal No. 2

2 cups Whole Wheat Spaghetti
1 cup Meat Sauce
Whole Wheat Ba
Broc

Meal No. 3

1 cup Whole Wheat Spaghetti
1/2 cup Marinara Sauce
Lentil Soup
Broccoli
Raspberries w/Whipped Topping

FIGURE 1 Association Between Breakfast Patterns and Obesity, MetS, and Atherosclerosis



(A) Adjusted odds ratios for obesity by breakfast pattern (odds ratio [OR] and 95% confidence interval [CI]). Model adjusted for age (years), sex (male/female), energy intake (kcal/day), smoking (yes/no), daily alcohol consumption (g/day), hypertension (yes/no), diabetes (yes/no), dyslipidemia (yes/no), and dieting (yes/no). Obesity defined as body mass index ≥30 kg/m^2. **(B)** Adjusted ORs for metabolic syndrome (MetS) by breakfast pattern (OR and 95% CI). Model adjusted for age (years), sex (male/female), energy intake (kcal/day), smoking (yes/no), daily alcohol consumption (g/day), and family history of cardiovascular disease (yes/no). **(C)** Adjusted odds ratios for atherosclerosis by breakfast pattern (OR and 95% CI). Model adjusted for age (years), sex (male/female), smoking (yes/no), hypertension (yes/no), diabetes (yes/no), dyslipidemia (yes/no), waist circumference (cm), and daily intakes of red meat, alcohol, and salt (g). HBF = high-energy breakfast; LBF = low-energy breakfast; SBF = skipping breakfast.

DASH diet

6-8 servings per day of whole grains

4-5 servings per day of vegetables

4-5 servings per day of fruits

2-3 servings per day of fat-free or low-fat dairy

4-5 servings per week of nuts, seeds, legumes

Less than 6 servings per day of lean meat, poultry, fish

Less than 5 servings per week of sweets

2-3 servings per day of fats and oils

Source: National Heart, Lung and Blood Institute

The DASH diet (Dietary Approaches to Stop Hypertension) has been shown to help lower blood pressure and prevent heart disease, stroke, diabetes and even some forms of cancer. It focuses on eating more fresh fruits and vegetables.

This is a guide to how much of each food group you should eat every day, based on eating 2,000 calories per day.

UKHealthCare
Gill Heart Institute

MAYO CLINIC

SPECIAL ARTICLE

The Inadmissibility of What We Eat in America and NHANES Dietary Data in Nutrition and Obesity Research and the Scientific Formulation of National Dietary Guidelines

Edward Archer, PhD; Gregory Pavela, PhD; and Carl J. Lavie, MD

Mayo Clin Proc. 2015;90(7):911-926

Frank Medrano-vegan…

https://www.youtube.com/watch?v=RFPsvF3UOdo

Case Study: Vegans are wimps

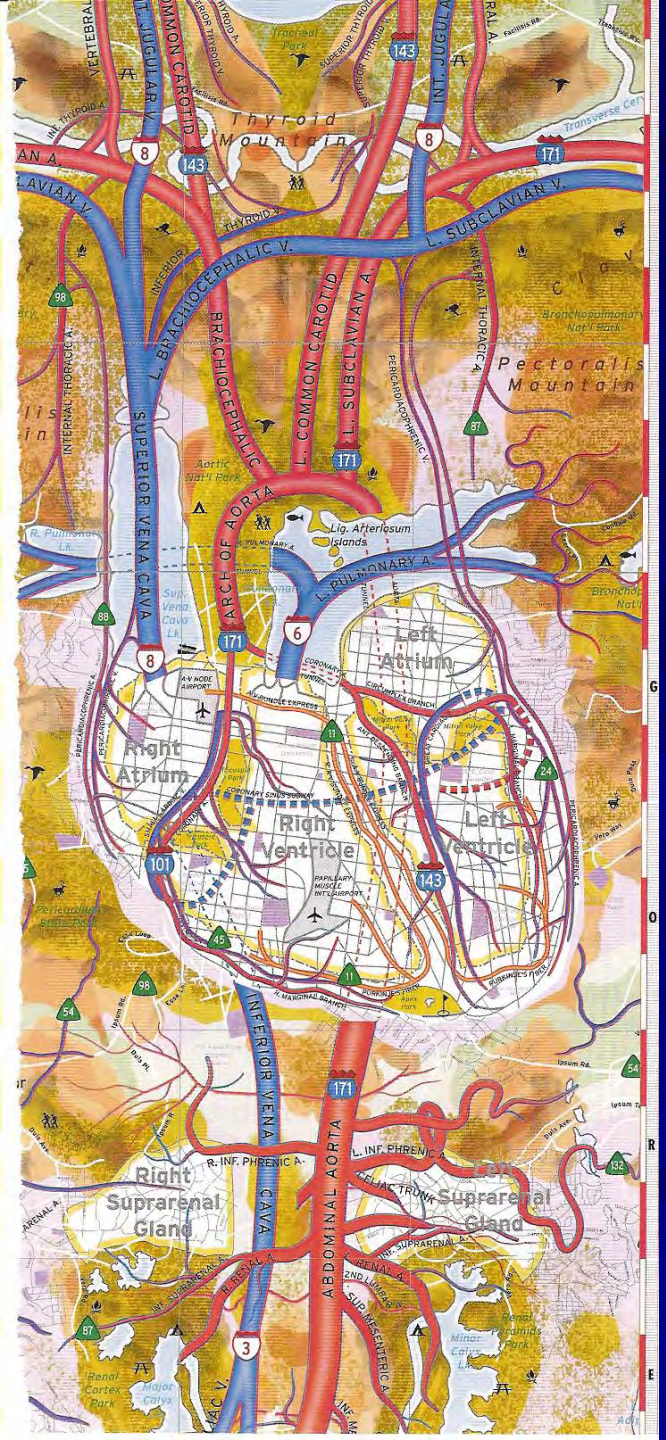
- Winner of Ultimate Fighter 6.
- Vegan.
- Started due to his allergies.
- PETA spokesperson?

Case Study: Vegans are wimps-2

- 2 x winner of Badwater.
- 135 miles ultramarathon…
- In Death Valley!
- Ran 165 miles in 24 hours-that's 6.5 marathons!
- Vegan!

Patrik Baboumian-Vegans are NOT wimps.

- World's Strongest Man
- Carried 550 kg x 10m
- Lifted a 180 kg log
- Vegetarian since 2005
- Vegan since 2011



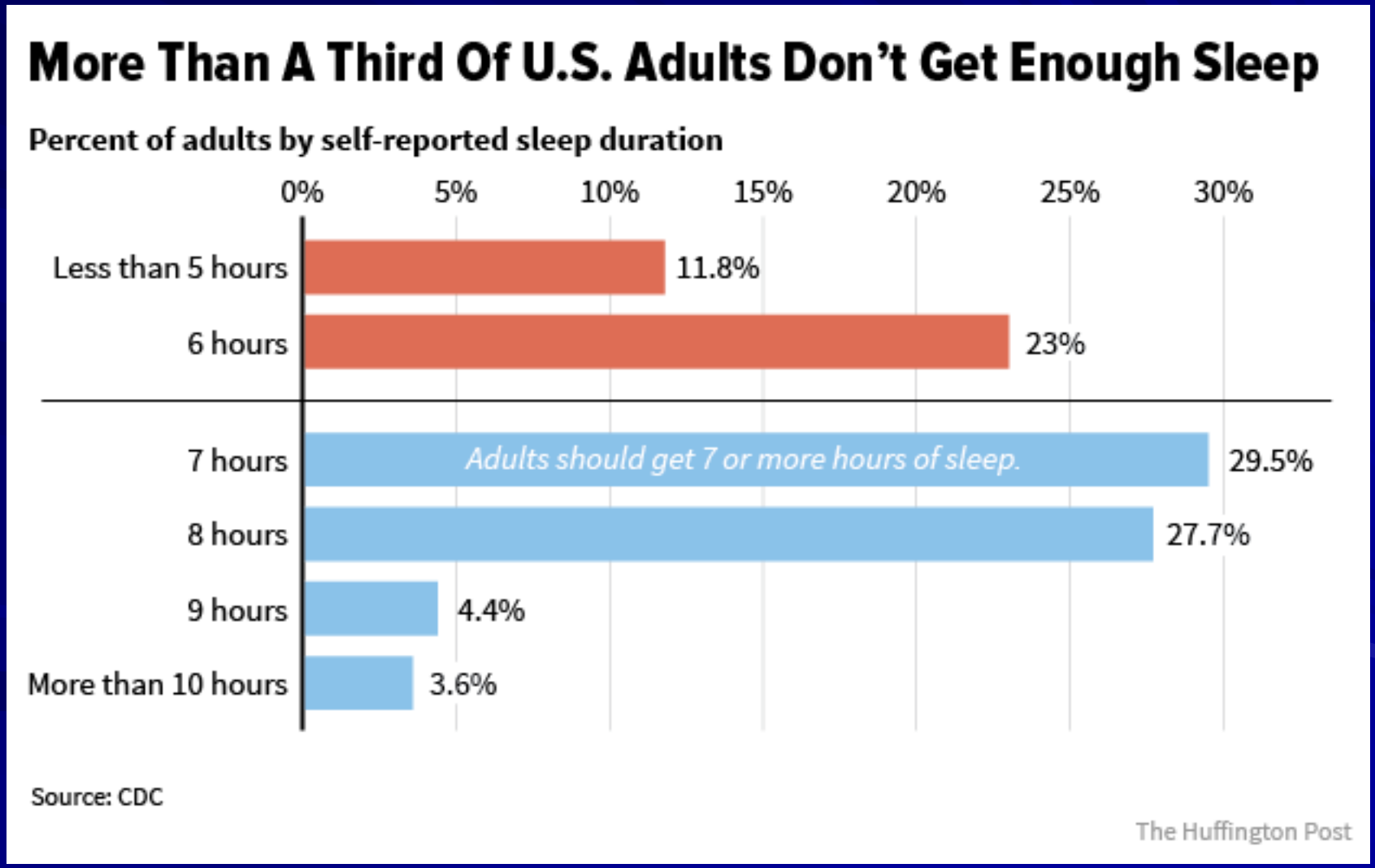
Summary

- Eat more veggies.
- Limit, or eliminate, red meat and pork.
- Healthy snacks-no potatoes.
- Be active. Exercise.
- Sleep more.
- There are good & bad carbs.
- There are good & bad fats.

Sleep-the new cross training!

TRAIN LIKE AN ATHLETE,
EAT LIKE A NUTRITIONIST,
SLEEP LIKE A BABY,
WIN... LIKE A CHAMPION

Sleep, the new cross-training!

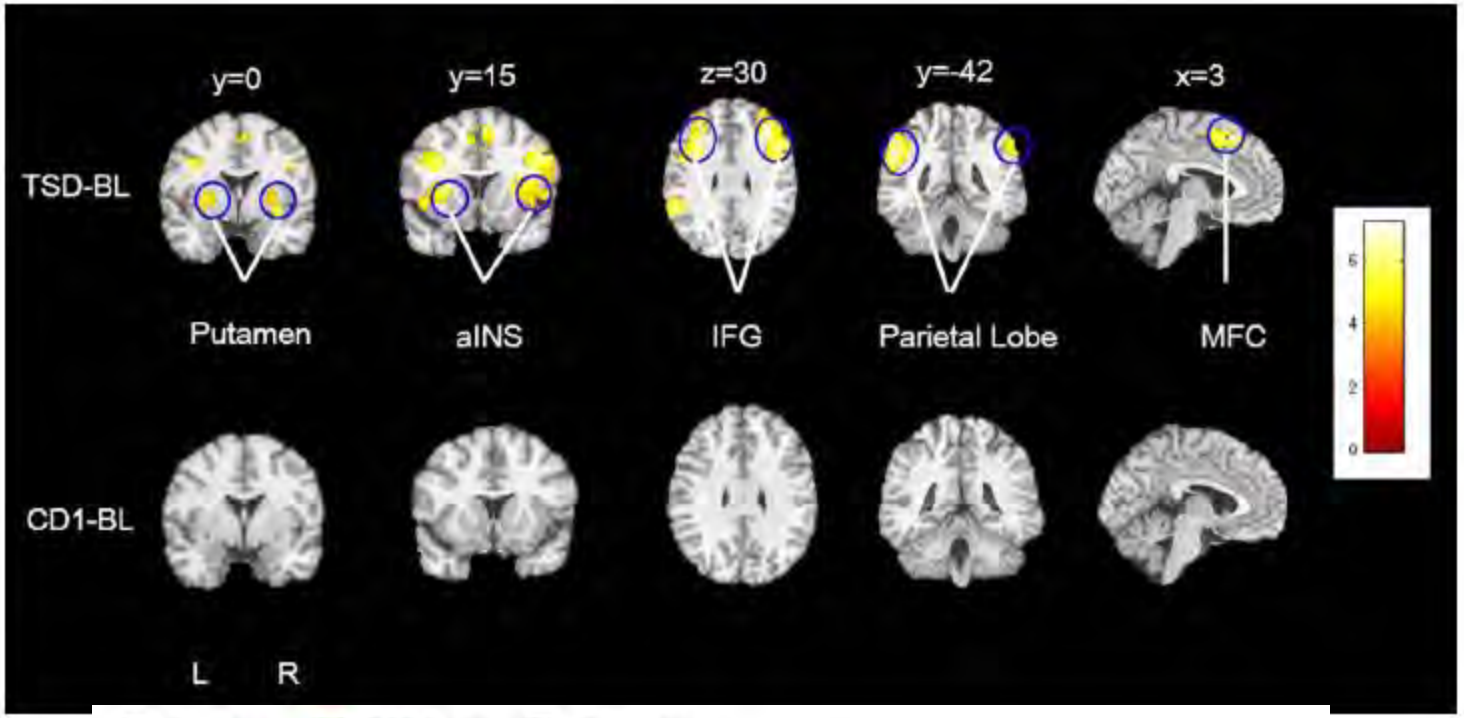


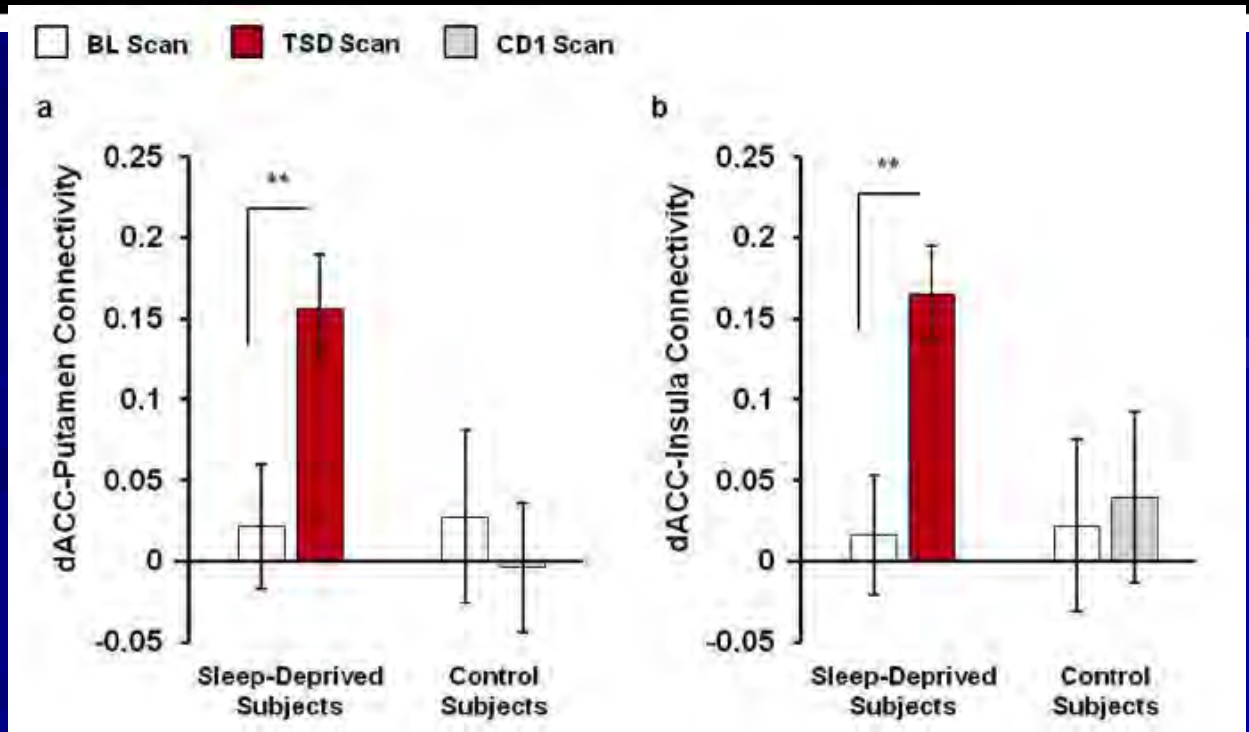
Altered salience network connectivity predicts macronutrient intake after sleep deprivation

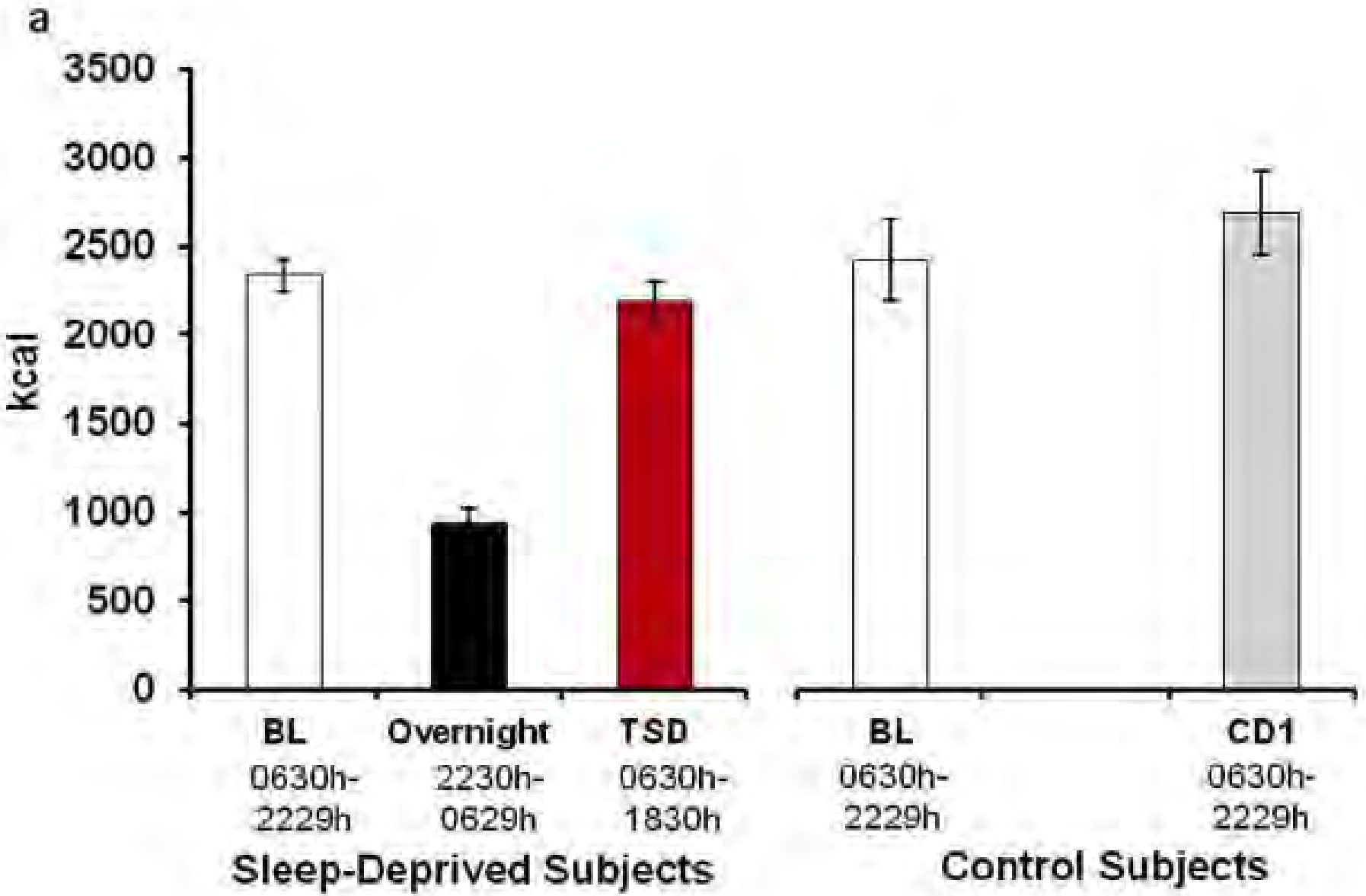
Zhuo Fang[1]*, Andrea M. Spaeth[2]*, Ning Ma[1], Senhua Zhu[1], Siyuan Hu[1], Namni Goel[3], John A. Detre[1], David F. Dinges[3] & Hengyi Rao[1,3]

[1]Center for Functional Neuroimaging, Department of Neurology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, [2]Center for Sleep and Circadian Neurobiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, [3]Division of Sleep and Chronobiology, Department of Psychiatry, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA.

- Poor sleep lowers will power.
- It also increases caloric consumption, fat intake, etc the next day.
- How / why?


y=0
y=15
z=30
y=-42
x=3
TSD-BL
CD1-BL
Putamen
aINS
IFG
Parietal Lobe
MFC
L
R
6
4
2
0


BL Scan
TSD Scan
CD1 Scan
a
b
dACC-Putamen Connectivity
dACC-Insula Connectivity
0.25
0.2
0.15
0.1
0.05
0
-0.05
**
**
Sleep-Deprived Subjects
Control Subjects
Sleep-Deprived Subjects
Control Subjects


a
3500
3000
2500
2000
1500
1000
500
0
kcal
BL
0630h-
2229h
Overnight
2230h-
0629h
TSD
0630h-
1830h
Sleep-Deprived Subjects
BL
0630h-
2229h
CD1
0630h-
2229h
Control Subjects

ornish lifestyle medicine


I run long distances for the worst possible reason:
I run to eat.
I punish my body outdoors to atone for my atrocities indoors.
Seriously?! Gladiator AGAIN?! Also, I *really* don't think it's good for you to keep eating like that.
NONSENSE!
I RAN TWENTY MILES TODAY!
Nutella


I know I should stop,
but I'm not going to.
SLURRRRP!
ARE YOU NOT ENTERTAINED?!
Nutella

“Your mission if you should choose to accept it…”

Disparities in State-Specific Adult Fruit and Vegetable Consumption — United States, 2015

	Median fruit servings	Median veg servings	% meeting fruit rec	% meeting veg rec
USA	1.0	1.7	12.2%	7.3%
Ohio	1.0	1.6	10.6%	6.6%
WV (lowest)			7.3%	5.8%
DC (highest)			15.5%	
Alaska (highest				12.0%

Weekly / November 17, 2017 / 66(45);1241–1247
https://www.cdc.gov/mmwr/volumes/66/wr/mm6645a1.htm

PURE Study

Fruit, vegetable, and legume intake, and cardiovascular disease and deaths in 18 countries (PURE): a prospective cohort study

*Victoria Miller, Andrew Mente, Mahshid Dehghan, Sumathy Rangarajan, Xiaohe Zhang, Sumathi Swaminathan, Gilles Dagenais, Rajeev Gupta, Viswanathan Mohan, Scott Lear, Shrikant I Bangdiwala, Aletta E Schutte, Edelweiss Wentzel-Viljoen, Alvaro Avezum, Yuksel Altuntas, Khalid Yusoff, Noorhassim Ismail, Nasheeta Peer, Jephat Chifamba, Rafael Diaz, Omar Rahman, Noushin Mohammadifard, Fernando Lana, Katarzyna Zatonska, Andreas Wielgosz, Afzalhussein Yusufali, Romaina Iqbal, Patricio Lopez-Jaramillo, Rasha Khatib, Annika Rosengren, V Raman Kutty, Wei Li, Jiankang Liu, Xiaoyun Liu, Lu Yin, Koon Teo, Sonia Anand, Salim Yusuf, on behalf of the Prospective Urban Rural Epidemiology (PURE) study investigators**

Lancet 2017; 390: 2037–49

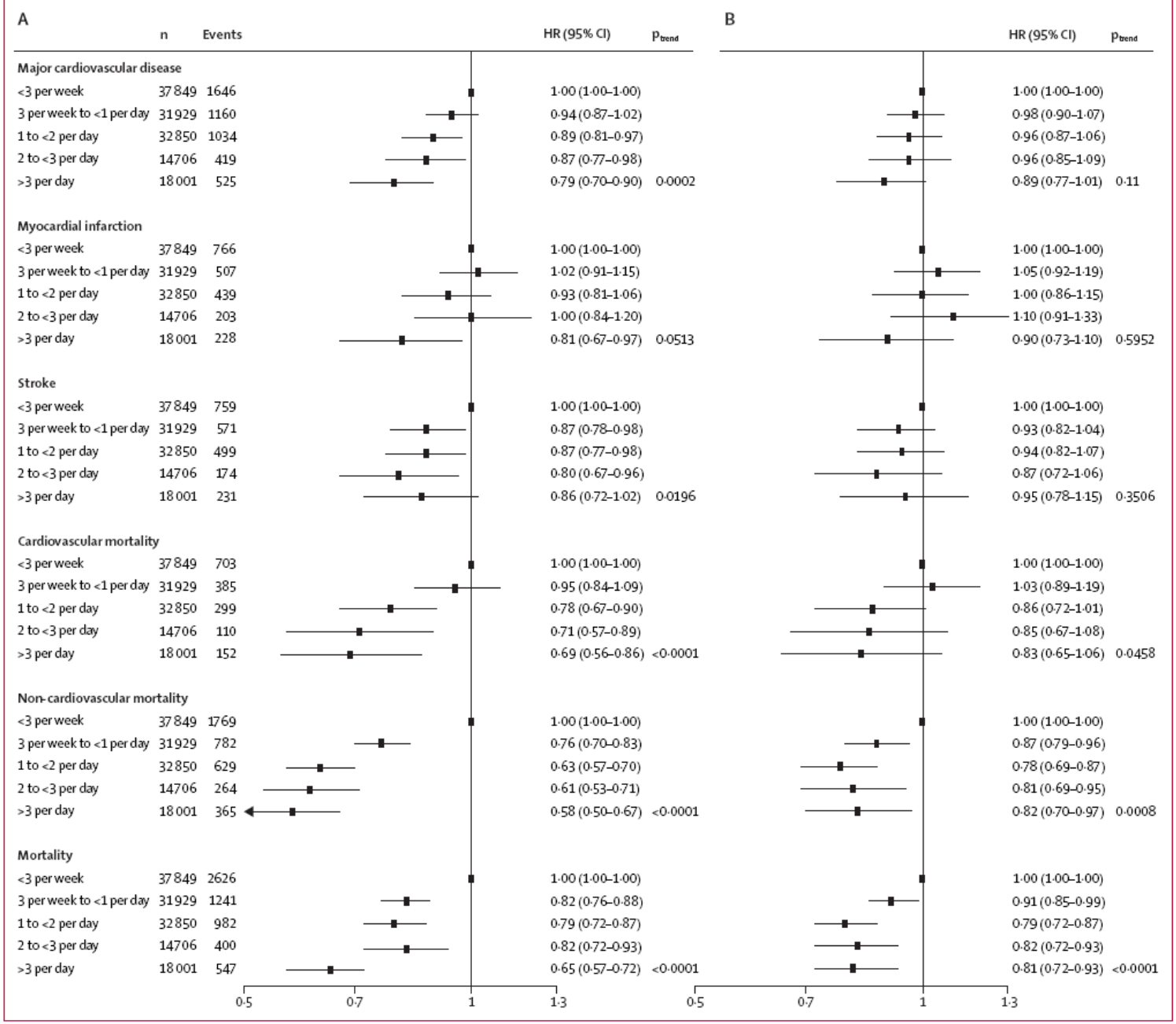


Figure 2: **Association of fruit intake with cardiovascular outcomes and mortality**

(A) Adjusted for age, sex, and centre (random effect). (B) Adjusted for age, sex, centre (random effect), energy intake, current smoker, diabetes, urban or rural location, physical activity, education level, and tertiles of white meat, red meat, and intake of breads, cereals, and vegetables. Crude event rates are shown. Additional sensitivity analyses with waist-to-hip ratio, hypertension status, and statin medication used in the model did not substantially change estimates of association (appendix). HR=hazard ratio. Major cardiovascular disease events=death from cardiovascular causes and non-fatal myocardial infarction, stroke, and heart failure.

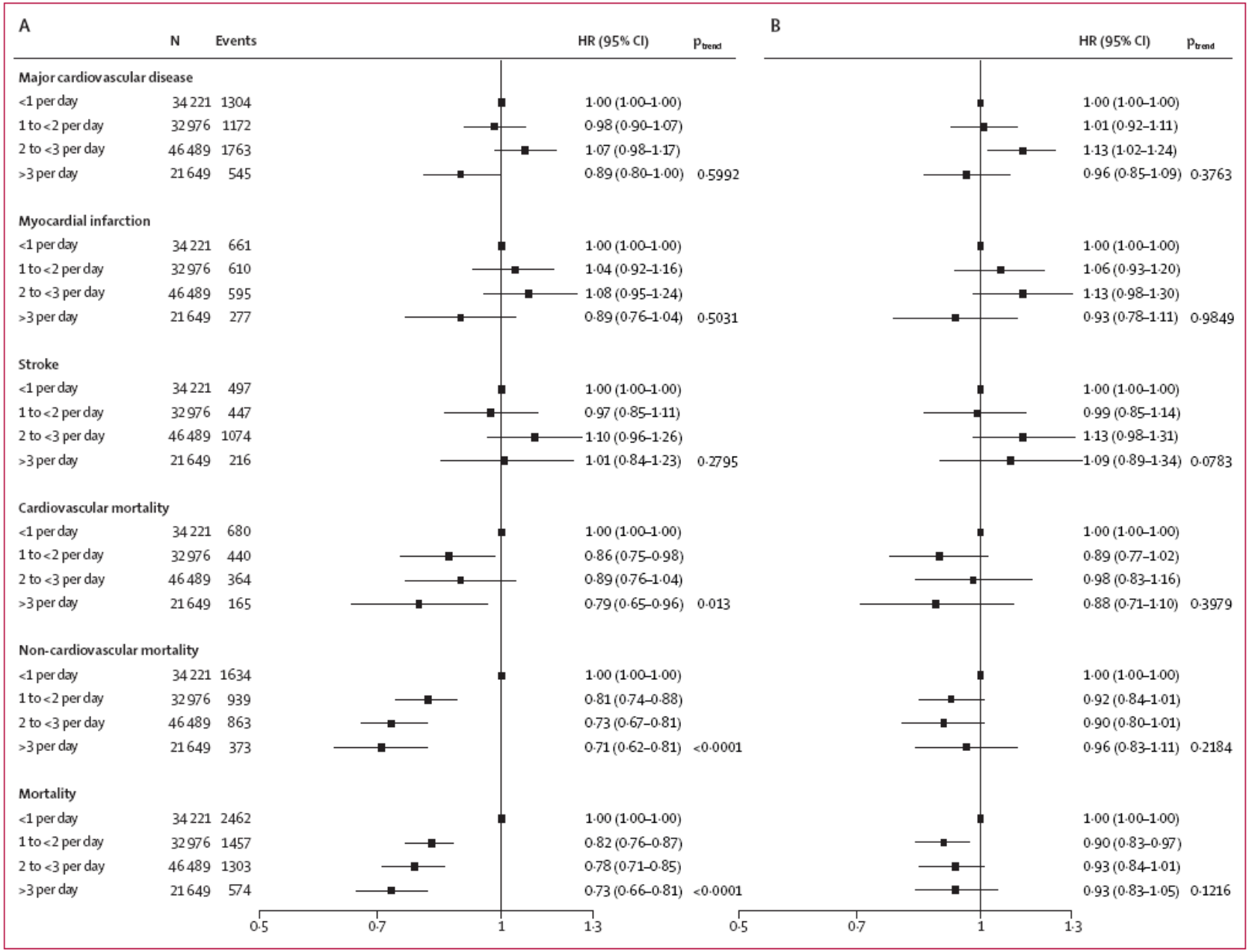


Figure 3: **Association of vegetable intake with cardiovascular outcomes and mortality**

(A) Adjusted for age, sex, and centre (random effect). (B) Adjusted for age, sex, centre (random effect), energy intake, current smoker, diabetes, urban/rural location, physical activity, education level, and tertiles of white meat, red meat, and intake of breads, cereals, and fruit. Crude event rates are shown. Additional sensitivity analyses with waist-to-hip ratio, hypertension status, and statin medication used in the model did not substantially change estimates of association (appendix). HR=hazard ratio. Major cardiovascular disease events=death from cardiovascular causes and nonfatal myocardial infarction, stroke, and heart failure.

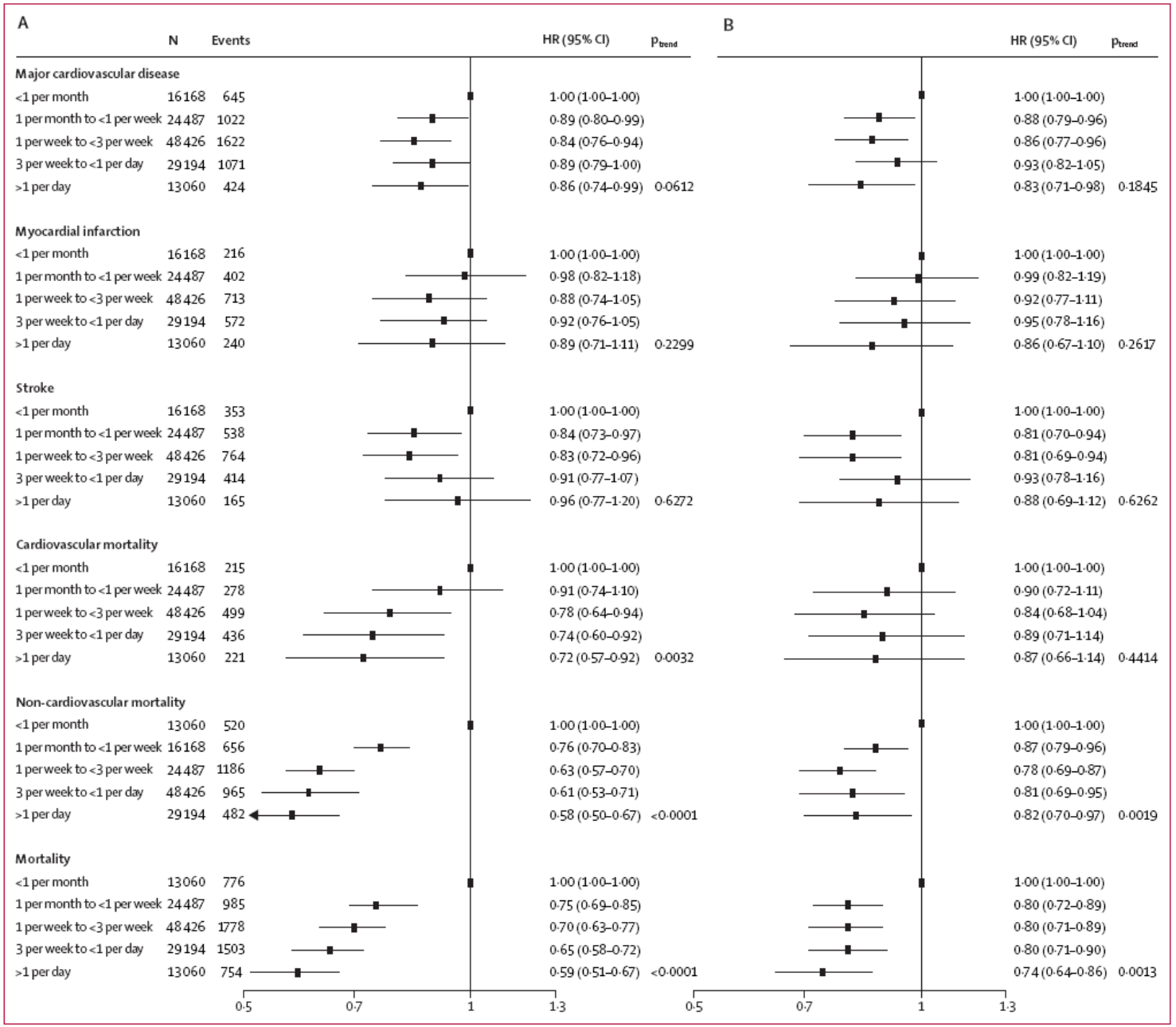


Figure 4: **Association of legume intake with cardiovascular outcomes and mortality**

(A) Adjusted for age, sex, and centre (random effect). (B) Adjusted for age, sex, centre (random effect), energy intake, current smoker, diabetes, urban/rural location, physical activity, education level, and tertiles of white meat, red meat, and intake of breads and cereals. Crude event rates are shown. Additional sensitivity analyses with waist-to-hip ratio, hypertension status, and statin medication used in the model did not substantially change estimates of association (appendix). HR=hazard ratio. Major cardiovascular disease events=death from cardiovascular causes and nonfatal myocardial infarction, stroke, and heart failure.

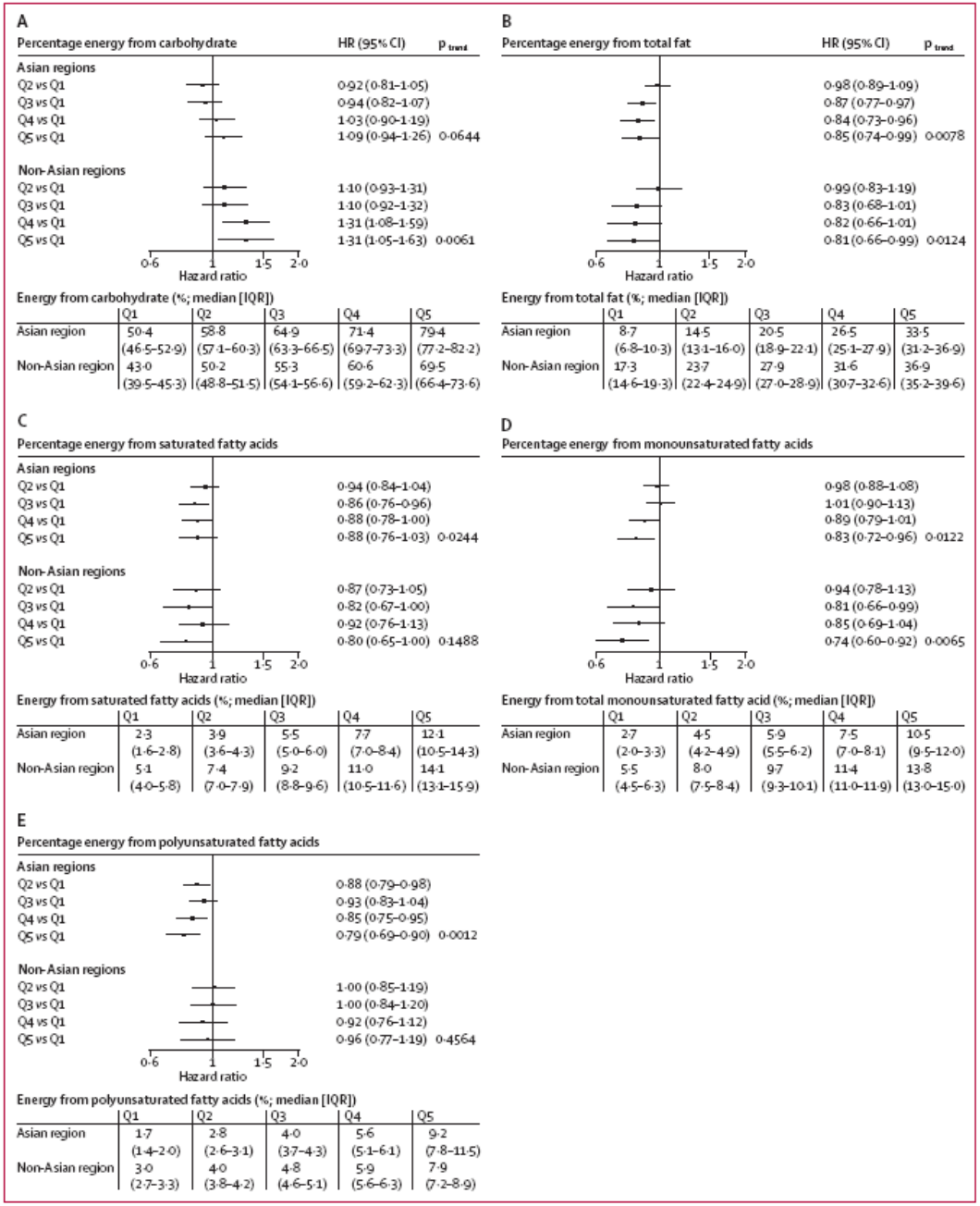
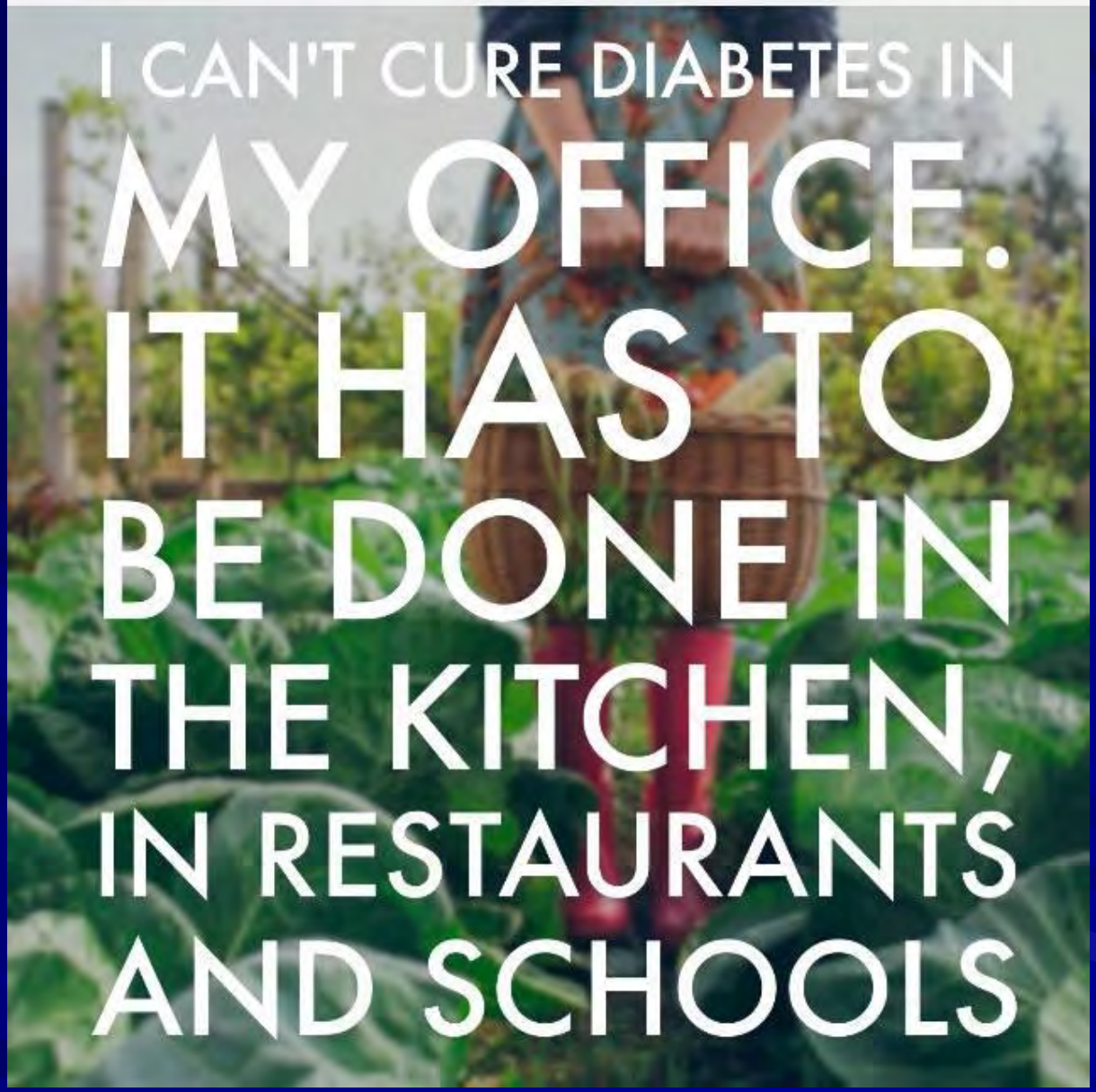


Figure 2: Associations between (A) carbohydrate, (B) total fat, (C) saturated fatty acids, (D) monounsaturated fatty acids, and (E) polyunsaturated fatty acids with risk of total mortality in Asia and other regions

Hazard ratios (HRs) and 95% CIs are adjusted for age, sex, education, waist-to-hip ratio, smoking, physical activity, diabetes, urban or rural location, and energy intake. Centre was also included as a random effect and frailty models were used (p for heterogeneity >0·2 for total fat and >0·5 for carbohydrate, saturated fatty acids, monounsaturated fatty acids, and polyunsaturated fatty acids). Q1–Q5=quintiles 1–5.

- **The world has changed.**
- Low fat foods…
- High carb / sugar instead.


I CAN'T CURE DIABETES IN
MY OFFICE.
IT HAS TO
BE DONE IN
THE KITCHEN,
IN RESTAURANTS
AND SCHOOLS

AND WORK!

Where should you live if you want to be healthy?

In reality…

CONTACTS

Dr. Harold Goldstein, California Center for Public Health Advocacy
(530) 400-9106 or hg@publichealthadvocacy.org

Dr. Susan Babey, UCLA Center for Health Policy Research
(310) 794-6961 or sbabey@ucla.edu

EMBARGOED UNTIL MARCH 10, 2016

PREDIABETES

Majority of California Adults Have Prediabetes or Diabetes

A Third of Young Adults Prediabetic, Putting a Generation in Jeopardy

DAVIS, CALIF., MARCH 10, 2016 … Nearly half of California adults – including one out of every three young adults – have prediabetes, a precursor to life-threatening type 2 diabetes, or undiagnosed diabetes, according to a UCLA study released today. The research provides the first analysis and breakdown of California

It’s not just California…

- **"This is the clearest indication to date that the type 2 diabetes epidemic is out of control and getting worse. With limited availability of healthy food in low income communities, a preponderance of soda and junk food marketing, and urban neighborhoods lacking safe places to play, we have created a world where diabetes is the natural consequence.”**
- - Dr. Harold Goldstein, Executive Director of the California Center for Public Health Advocacy

“I’ ll just work it off…”

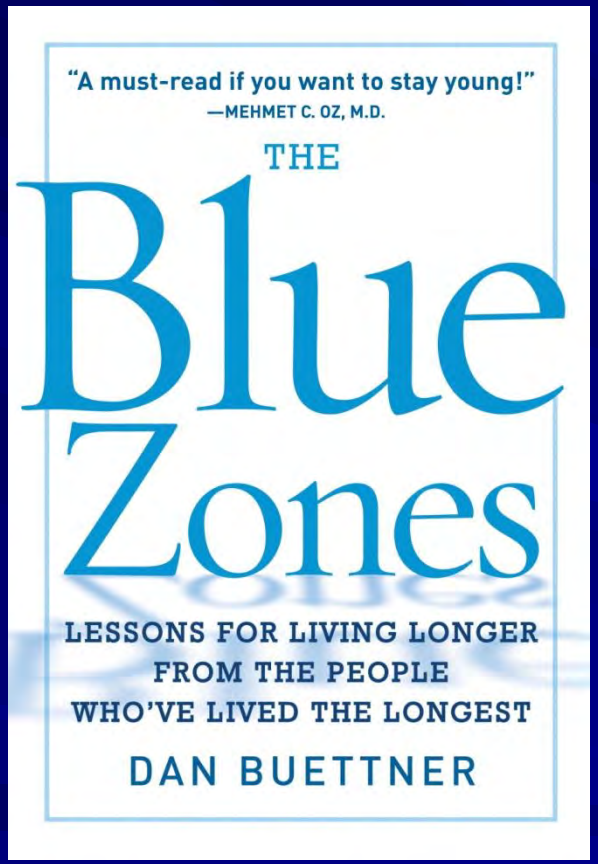
FROM **LAURIE DAVID** PRODUCER OF **AN INCONVENIENT TRUTH**
AND **KATIE COURIC**

Before you take another bite...

It's time to get real about food.

IN THEATERS MAY 9

Get Blue…Blue Zones



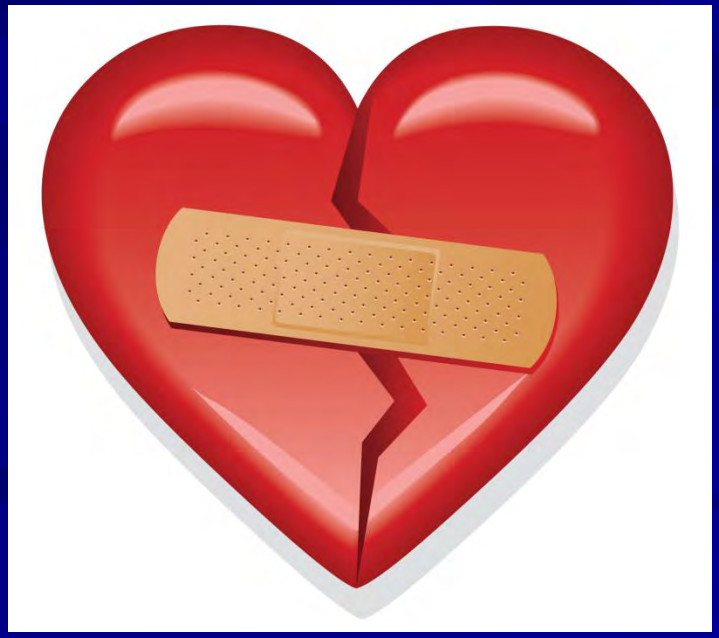
1. Just move.
2. Purpose Now.
3. Down shift.
4. 80% rule.
5. Plant slant.
6. Belong.
7. Loved Ones 1st.
8. Right Tribe.

Okinawa, Sardinia Italy, Loma Linda, Nicoya, Costa Rica, and Ikaria, Greece

Priorities-set them. 1st things 1st!

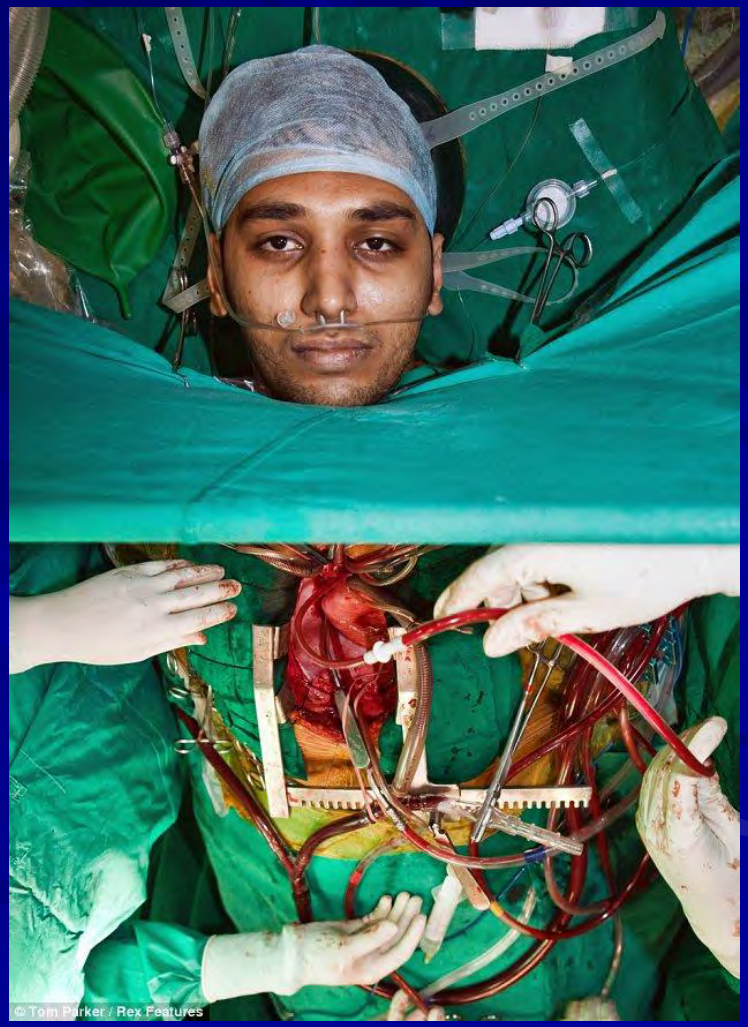
Food is FUEL!
What are you going to put into your tank?

Are we going to treat the symptoms or treat the cause?



What way is easier?

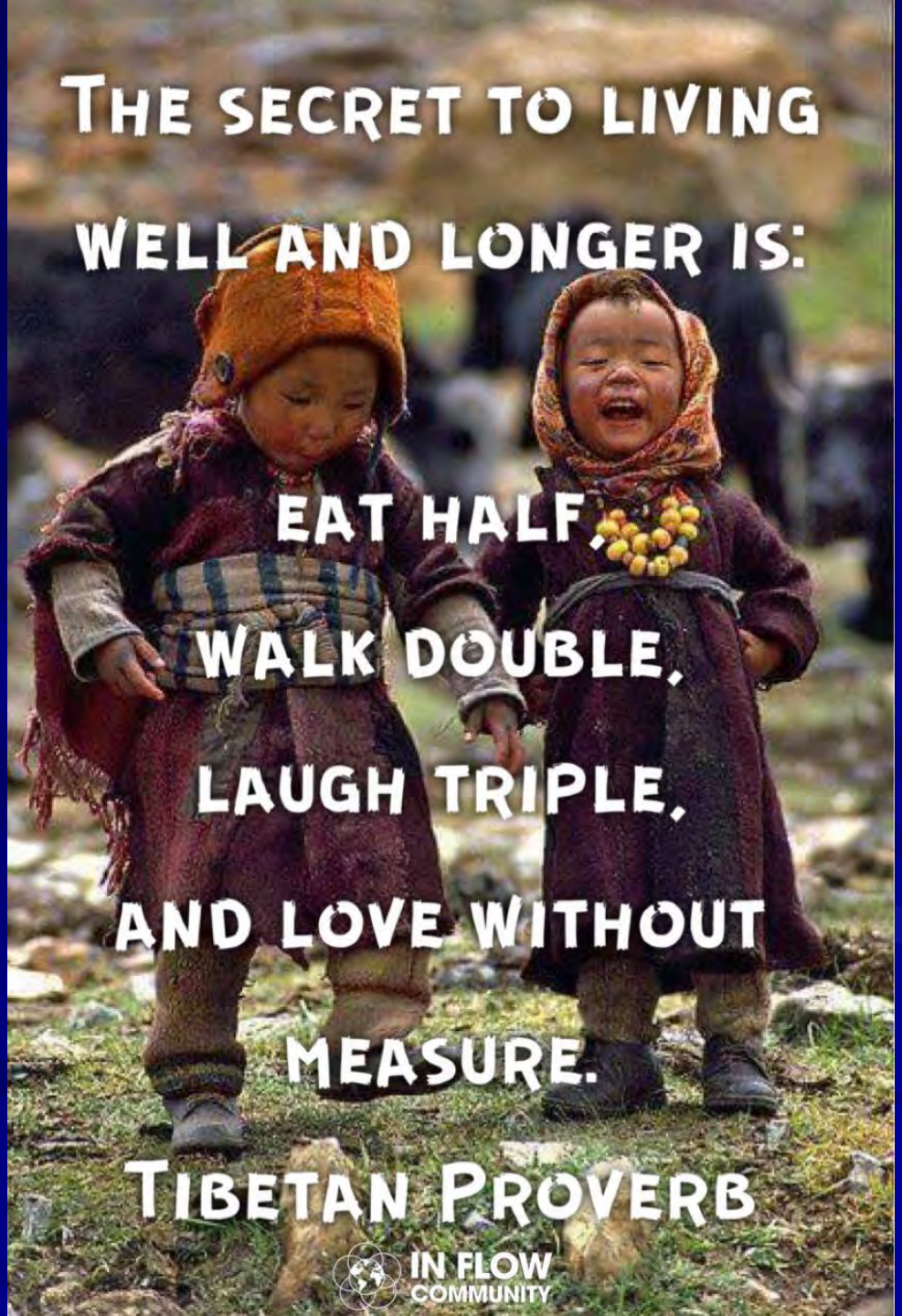
What way is easier?



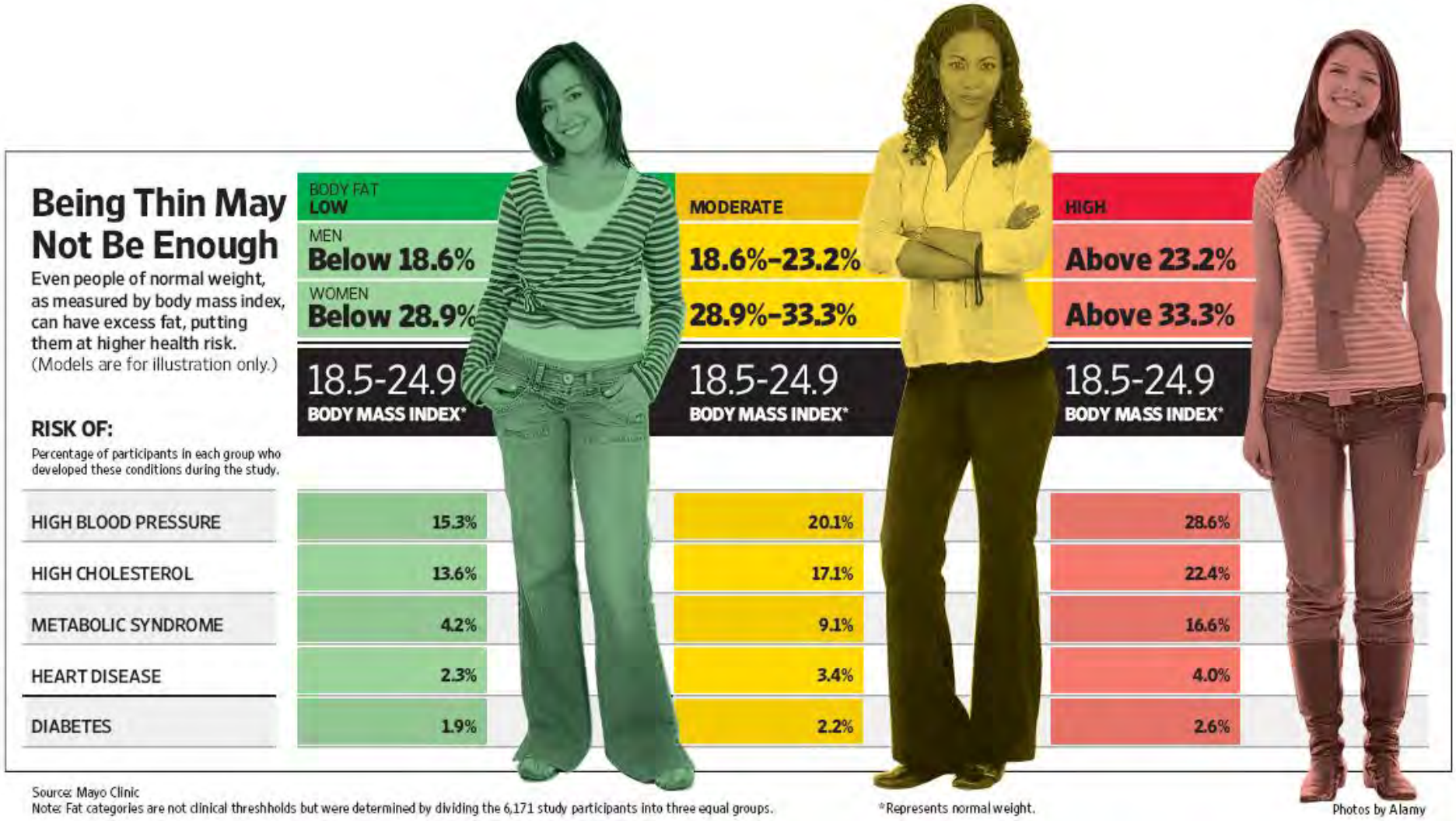
- Marlon Gibson wei
  heaviest
- He lost 245 pounds
  unhealthy food and

510-350= Jacqueline Adan

http://www.today.com/health/woman-drops-350-pounds-encourages-others-never-give-t101862


THE SECRET TO LIVING
WELL AND LONGER IS:
EAT HALF,
WALK DOUBLE,
LAUGH TRIPLE,
AND LOVE WITHOUT
MEASURE.
TIBETAN PROVERB
IN FLOW
COMMUNITY

Risk by % fat



Source: Mayo Clinic
Note: Fat categories are not clinical threshholds but were determined by dividing the 6,171 study participants into three equal groups.

*Represents normal weight.

Photos by Alamy

YOU shape YOUR destiny with every choice YOU make…

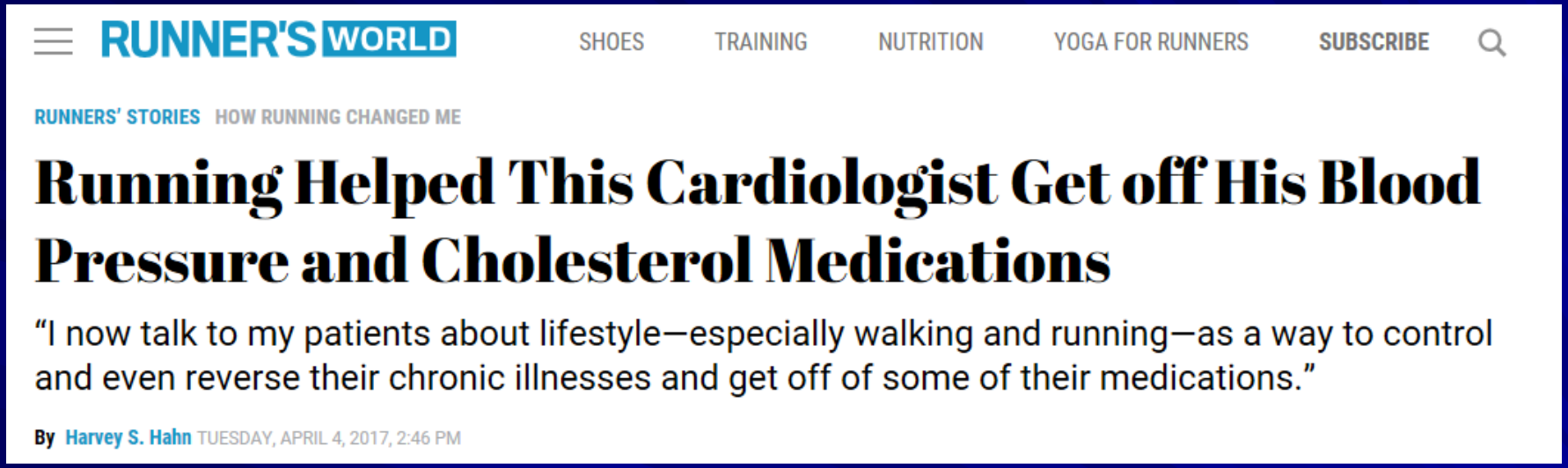
You can choose your destiny…

VS

Healthy

“Medically Healthy”

My personal choice!



RUNNER'S WORLD SHOES TRAINING NUTRITION YOGA FOR RUNNERS SUBSCRIBE

RUNNERS' STORIES HOW RUNNING CHANGED ME

Running Helped This Cardiologist Get off His Blood Pressure and Cholesterol Medications

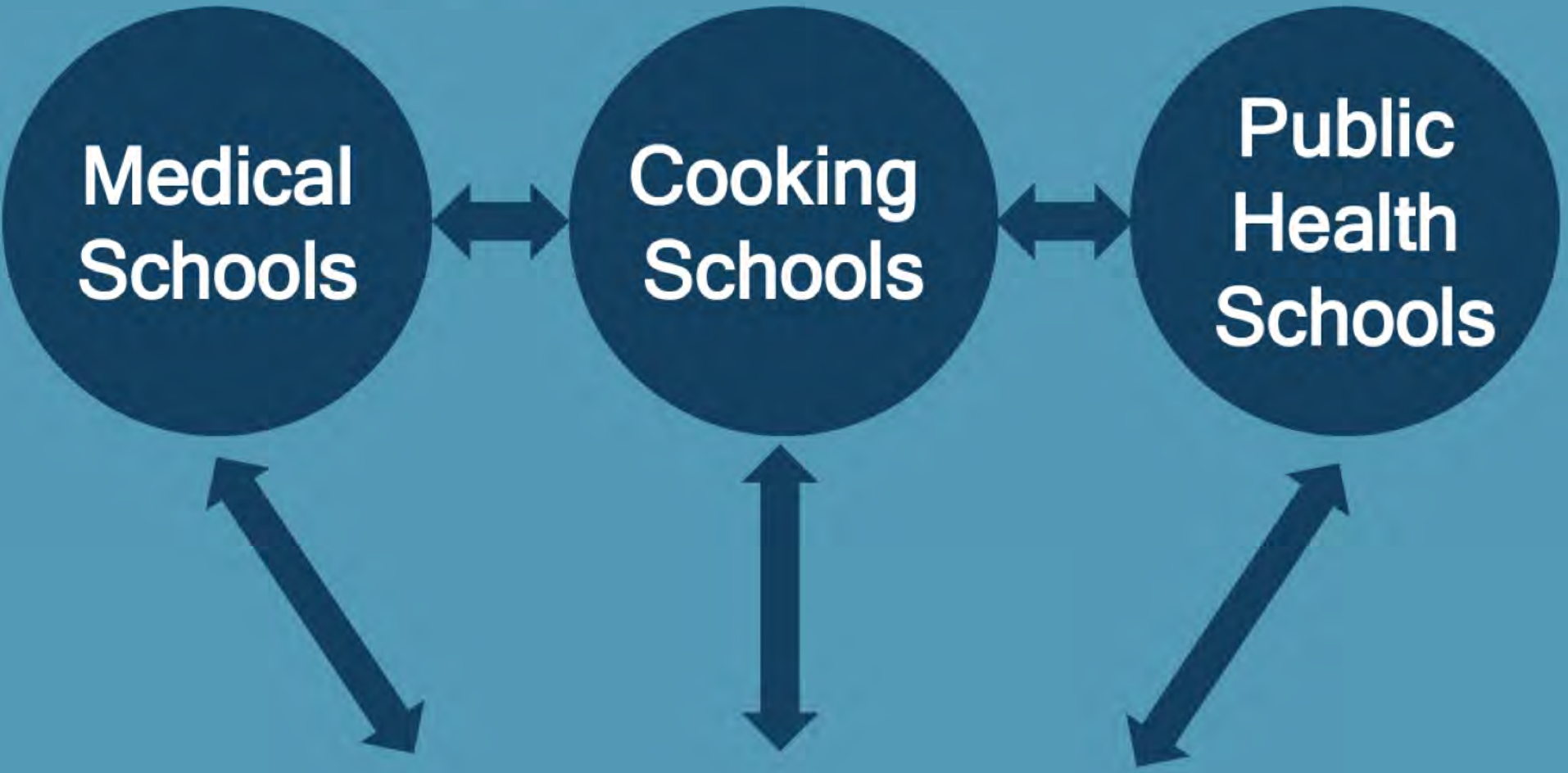
"I now talk to my patients about lifestyle—especially walking and running—as a way to control and even reverse their chronic illnesses and get off of some of their medications."

By Harvey S. Hahn TUESDAY, APRIL 4, 2017, 2:46 PM

My personal choice!

Instant 6 pack!

Imagine



Barrier: Eating healthy costs too much!

Open Access Research

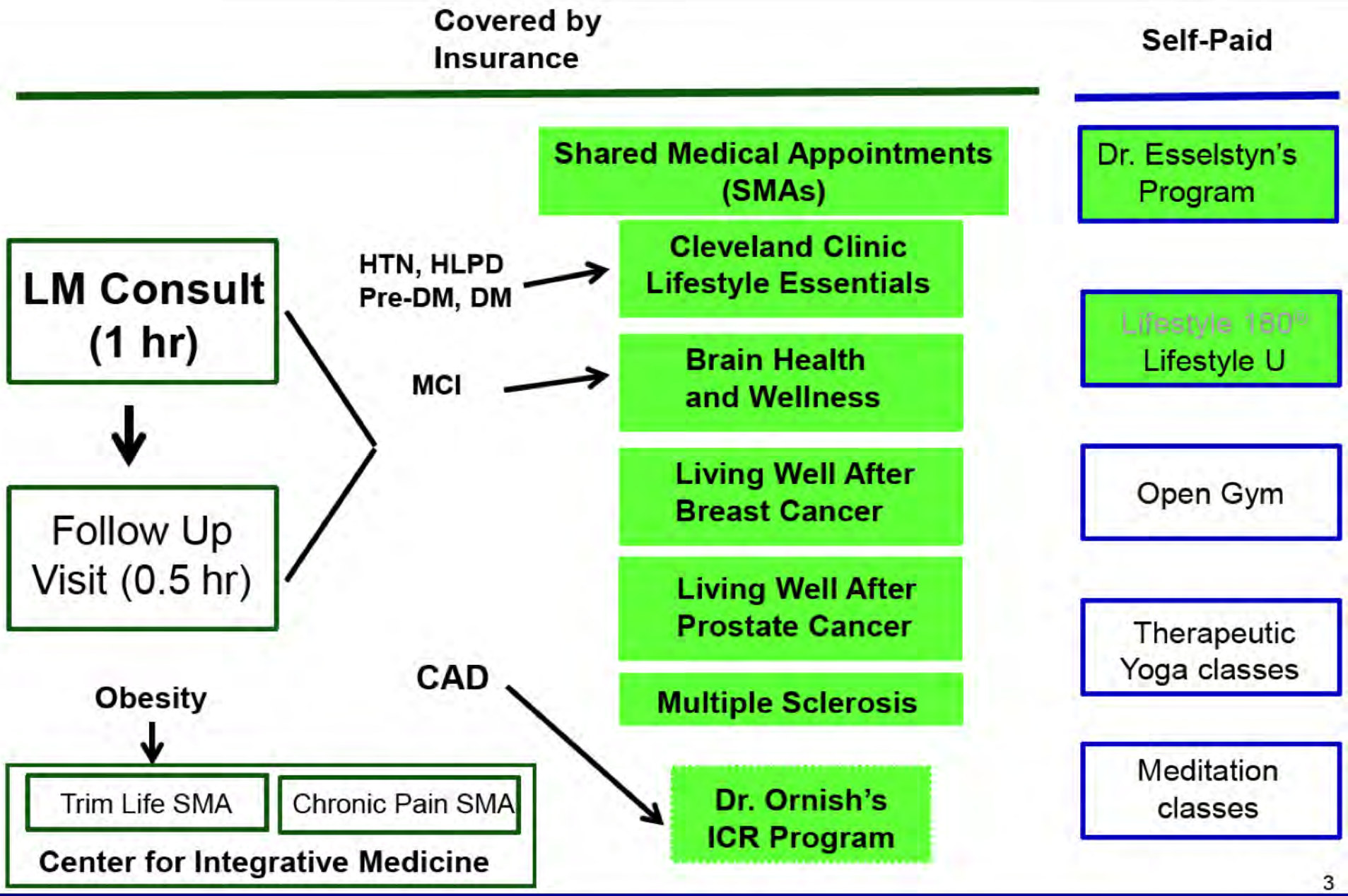
BMJ Open

Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis

Mayuree Rao,[1,2] Ashkan Afshin,[2] Gitanjali Singh,[3] Dariush Mozaffarian[2,3,4]

Costs an extra $550 per person per year (so $2200 a year for a family of four).

This works out to only $1.50 per person per day!


Covered by Insurance
Self-Paid
Shared Medical Appointments (SMAs)
Dr. Esselstyn's Program
LM Consult (1 hr)
HTN, HLPD
Pre-DM, DM
Cleveland Clinic Lifestyle Essentials
Lifestyle 180® Lifestyle U
MCI
Brain Health and Wellness
Follow Up Visit (0.5 hr)
Living Well After Breast Cancer
Open Gym
Living Well After Prostate Cancer
Therapeutic Yoga classes
CAD
Multiple Sclerosis
Obesity
Meditation classes
Trim Life SMA
Chronic Pain SMA
Dr. Ornish's ICR Program
Center for Integrative Medicine

Cleveland Clinic



Cleveland Clinic

Lifestyle U

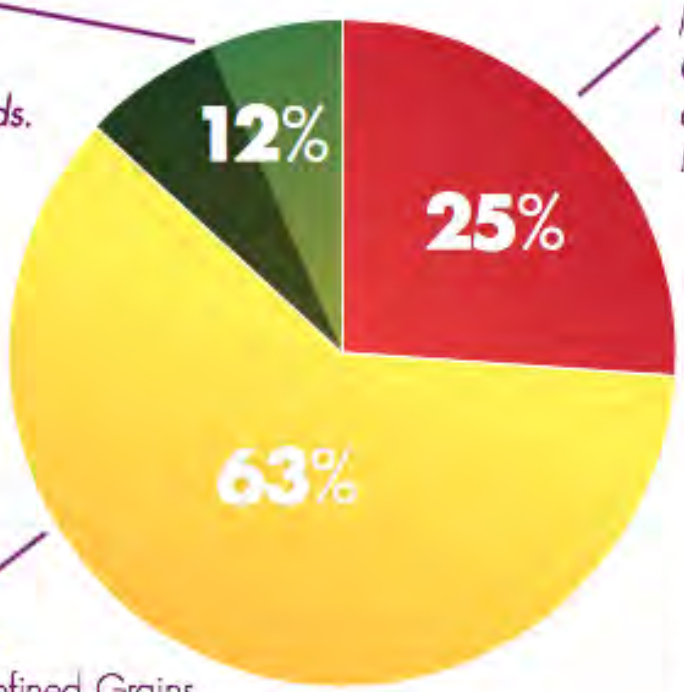
A Cleveland Clinic Wellness Program


Cleveland Clinic
Prevent and Reverse
Heart Disease
The Esselstyn Program

U.S. FOOD CONSUMPTION
AS A % OF CALORIES

PLANT FOOD:
Vegetables, Fruits, Legumes, Nuts & Seeds, Whole Grains
***Fiber** is only found in plant foods.*

NOTE: Up to half of this category may be processed, for example almonds in candy bars, apples in apple pies or spinach in frozen spinach soufflé, and of course these would not be healthy choices. The focus should be on whole unprocessed vegetables, fruits, legumes, nuts and seeds and whole grains.



PROCESSED FOOD:
Added Fats & Oils, Sugars, Refined Grains

ANIMAL FOOD:
Meat, Dairy, Eggs, Fish, Seafood
***Cholesterol** is only found in animal foods. Animal foods are the PRIMARY source of saturated fat.*

GUIDE TO HEALTHY EATING:
Much easier to understand than the USDA Food Pyramid, with no food industry influence.

Eat **LESS** from the animal and processed food groups and **MORE** whole foods from the plant food group.

In general, food from the animal and processed food group contribute to disease, while **WHOLE** foods from the plant group contribute to good health.

Source: USDA Economic Research Service, 2009; www.ers.usda.gov/publications/FB33; www.ers.usda.gov/Data/FoodConsumption/FoodGuideIndex.htm#calories
New York Coalition for Healthy School Food * www.healthyschoolfood.org
Special thanks to Joel Fuhrman, MD, author of ***Disease Proof Your Child: Feeding Kids Right*** * Graphics by MichelleBondo.com

Eat Smart!

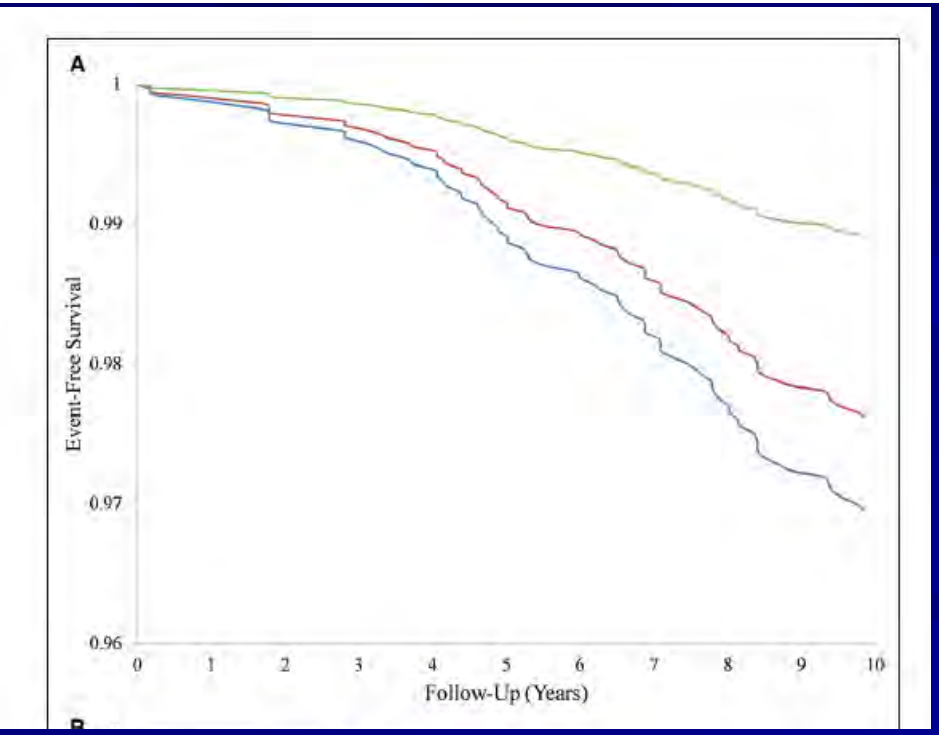
Add Color

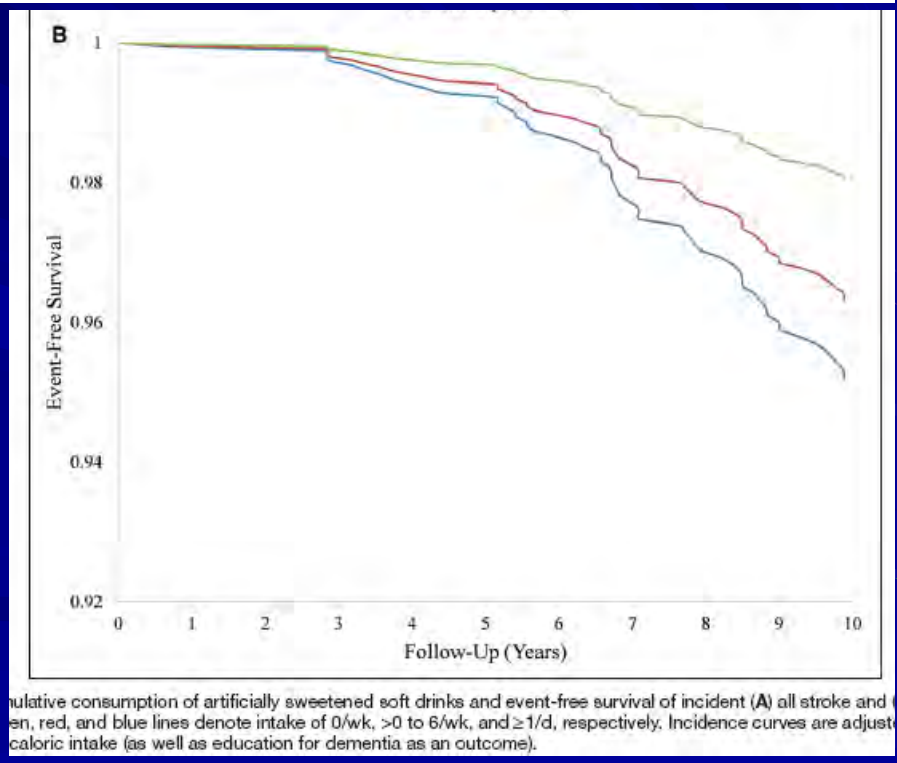
Original Contribution

Sugar- and Artificially Sweetened Beverages and the Risks of Incident Stroke and Dementia

A Prospective Cohort Study

Matthew P. Pase, PhD; Jayandra J. Himali, PhD; Alexa S. Beiser, PhD; Hugo J. Aparicio, MD; Claudia L. Satizabal, PhD; Ramachandran S. Vasan, MD; Sudha Seshadri, MD*; Paul F. Jacques, DSc*

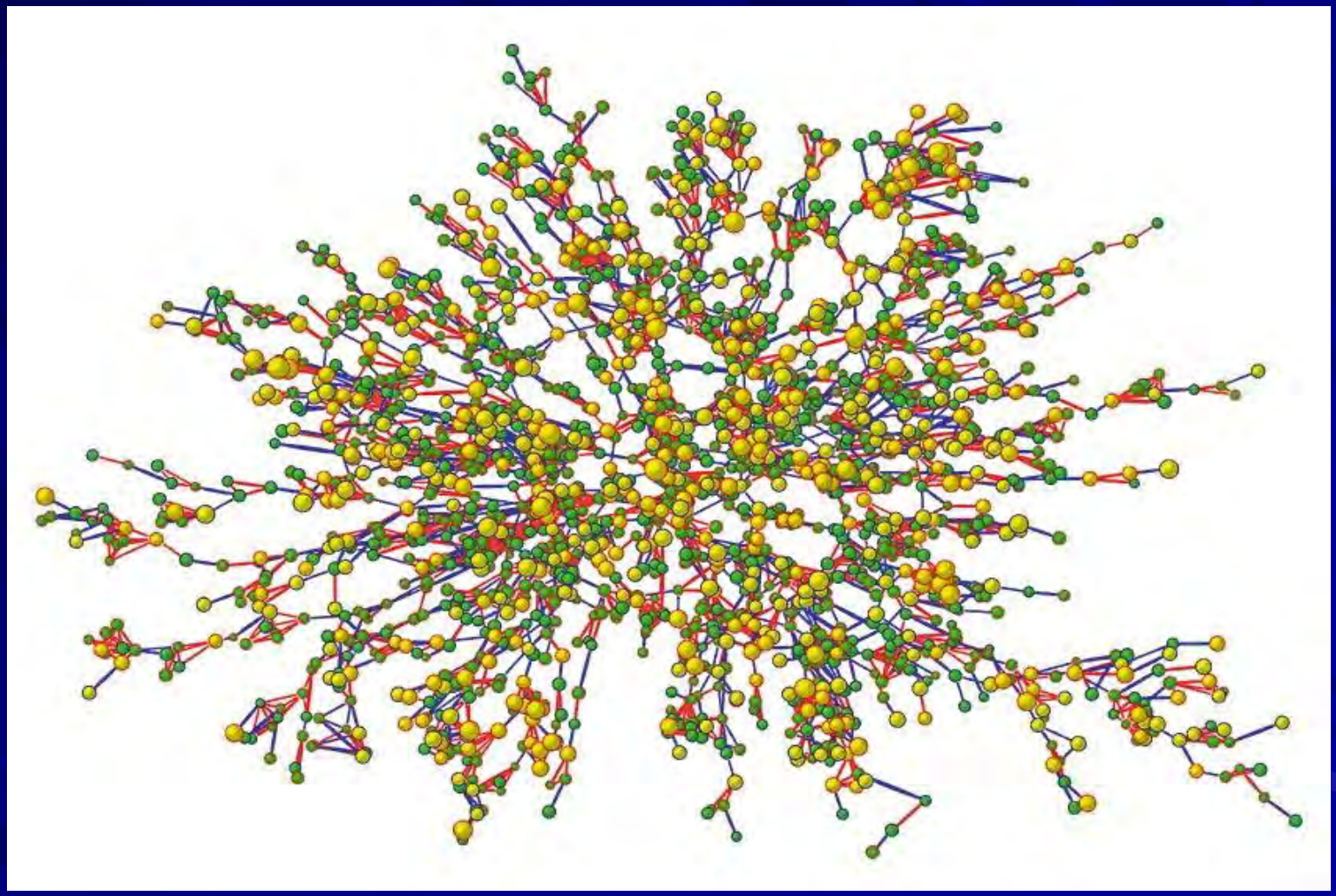




ılative consumption of artificially sweetened soft drinks and event-free survival of incident (A) all stroke and (
en, red, and blue lines denote intake of 0/wk, >0 to 6/wk, and ≥1/d, respectively. Incidence curves are adjust
caloric intake (as well as education for dementia as an outcome).

(*Stroke*. 2017;48:00-00. DOI: 10.1161/STROKEAHA.116.016027.)

Largest Connected Subcomponent of the Social Network in the Framingham Heart Study in the Year 2000.

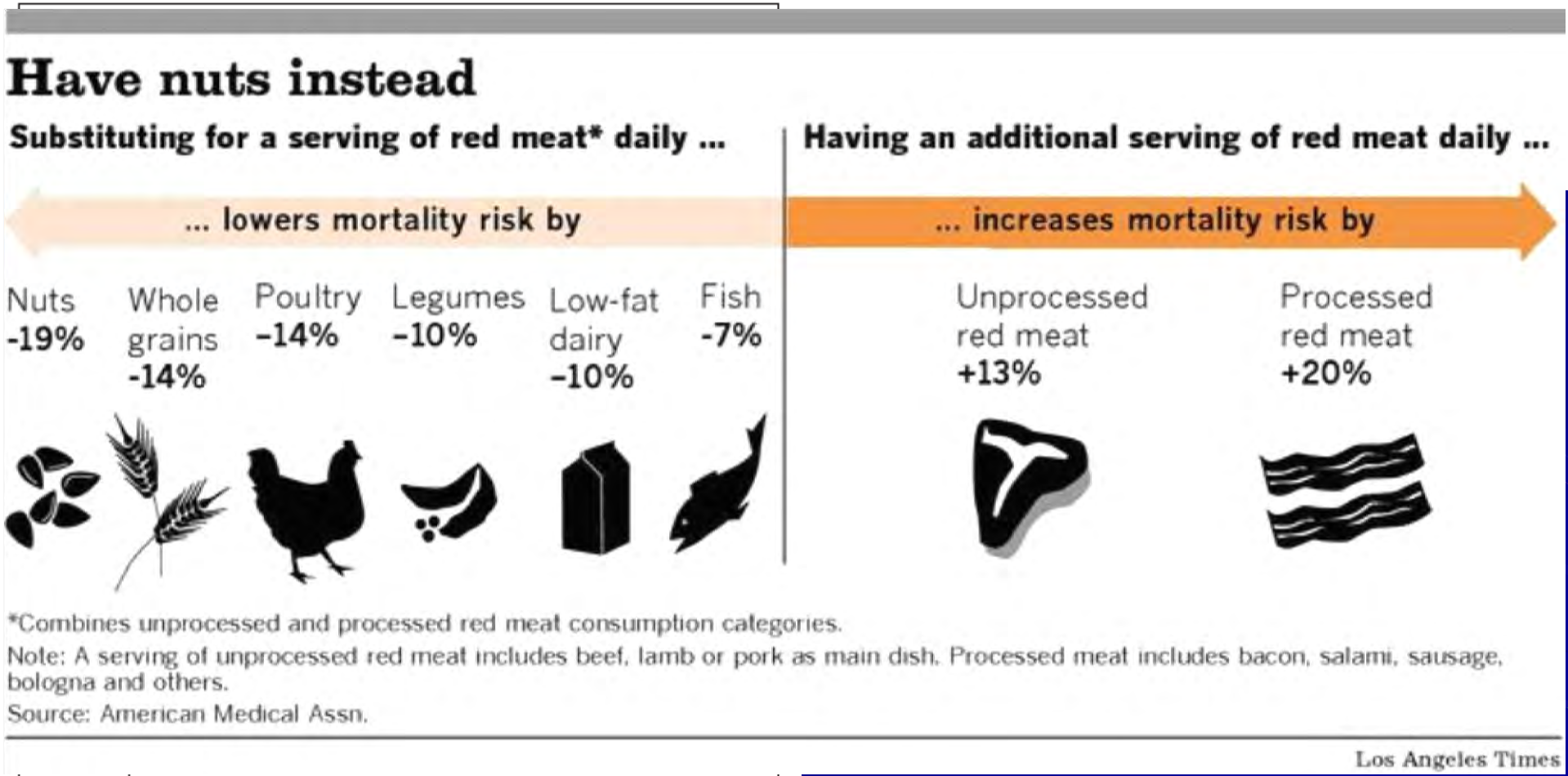


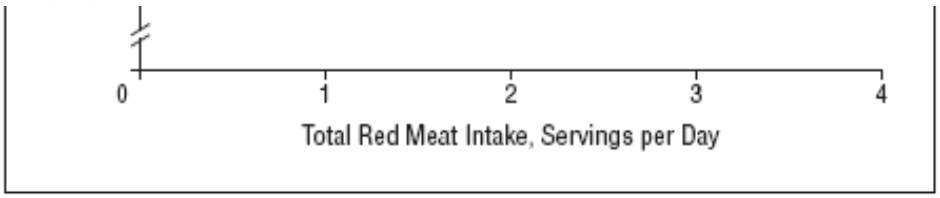
Christakis NA, Fowler JH. N Engl J Med 2007;357:370-379.

The NEW ENGLAND JOURNAL of MEDICINE

ONLINE FIRST

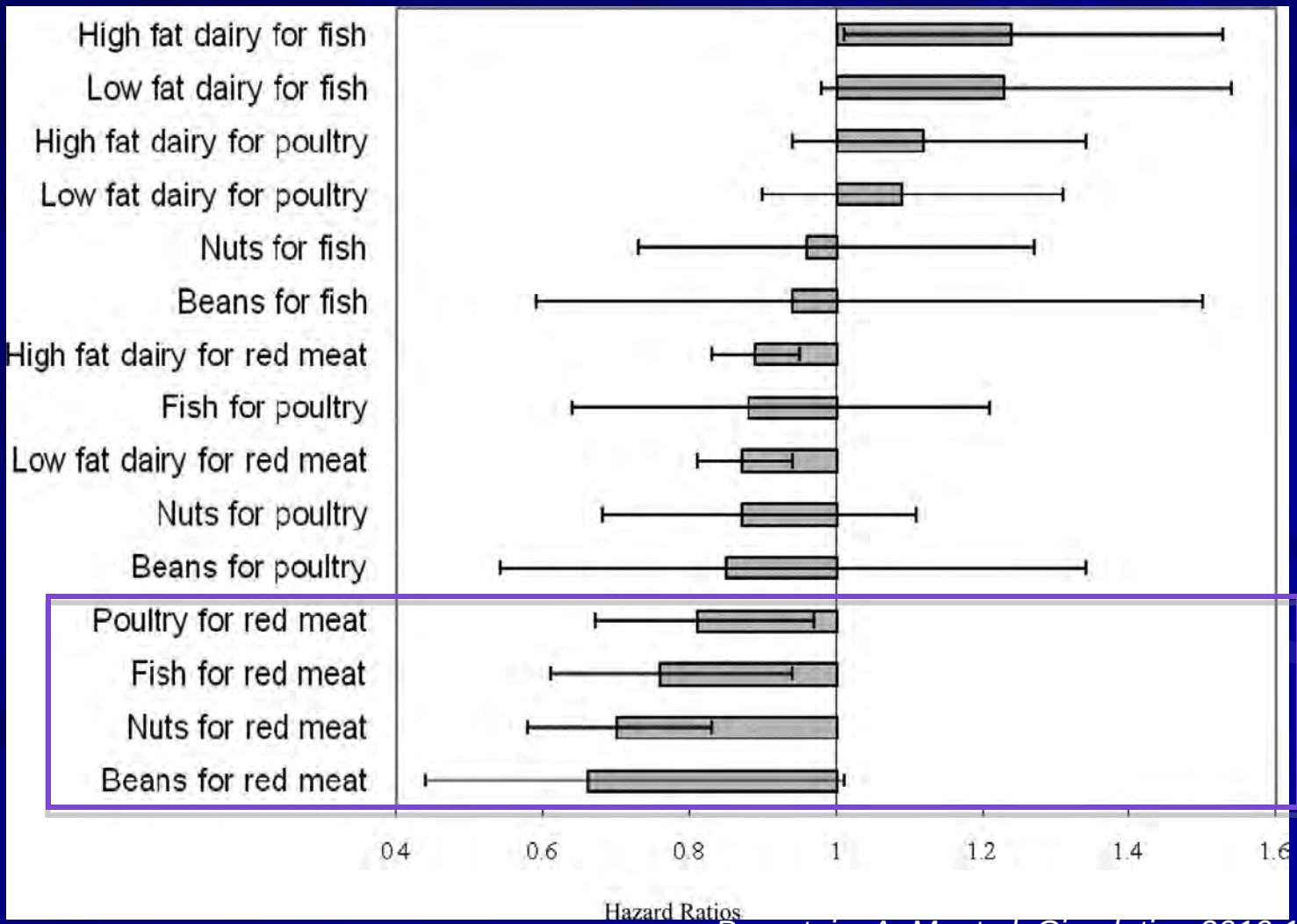
Red Meat Consumption and Mortality





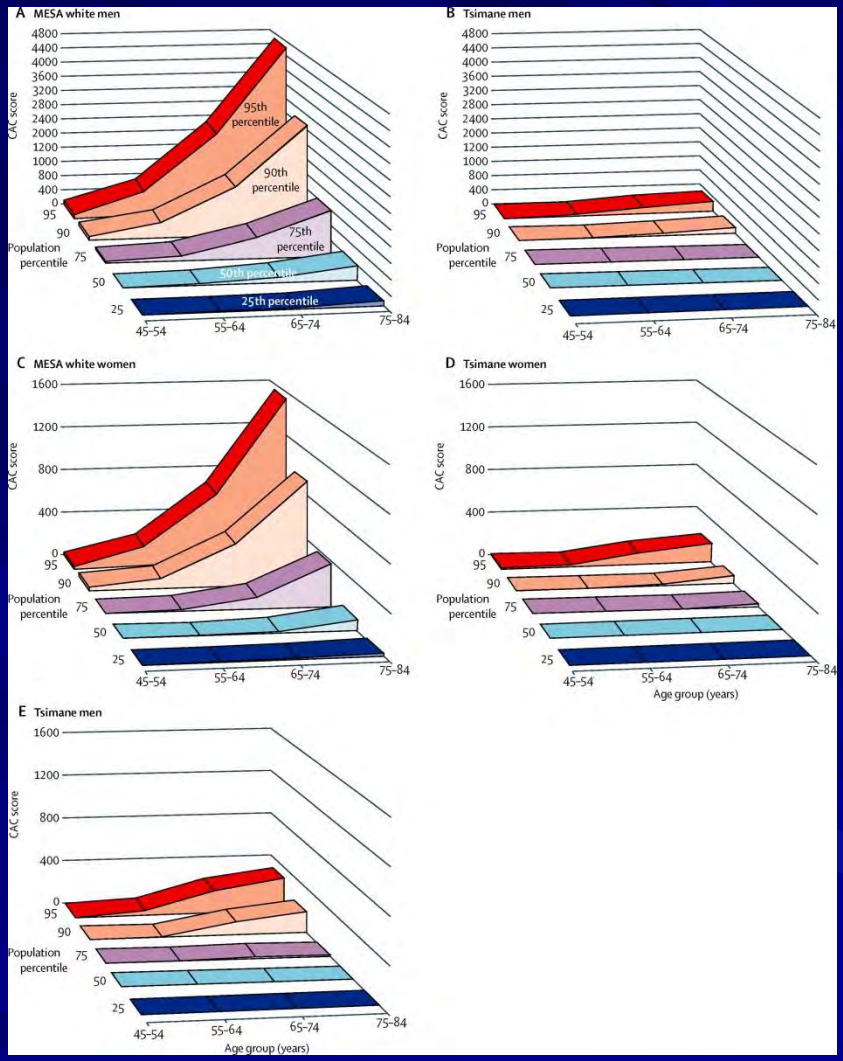
You can run, but you can’t hide…

Risk of CHD associated with replacement of a major dietary protein source with another



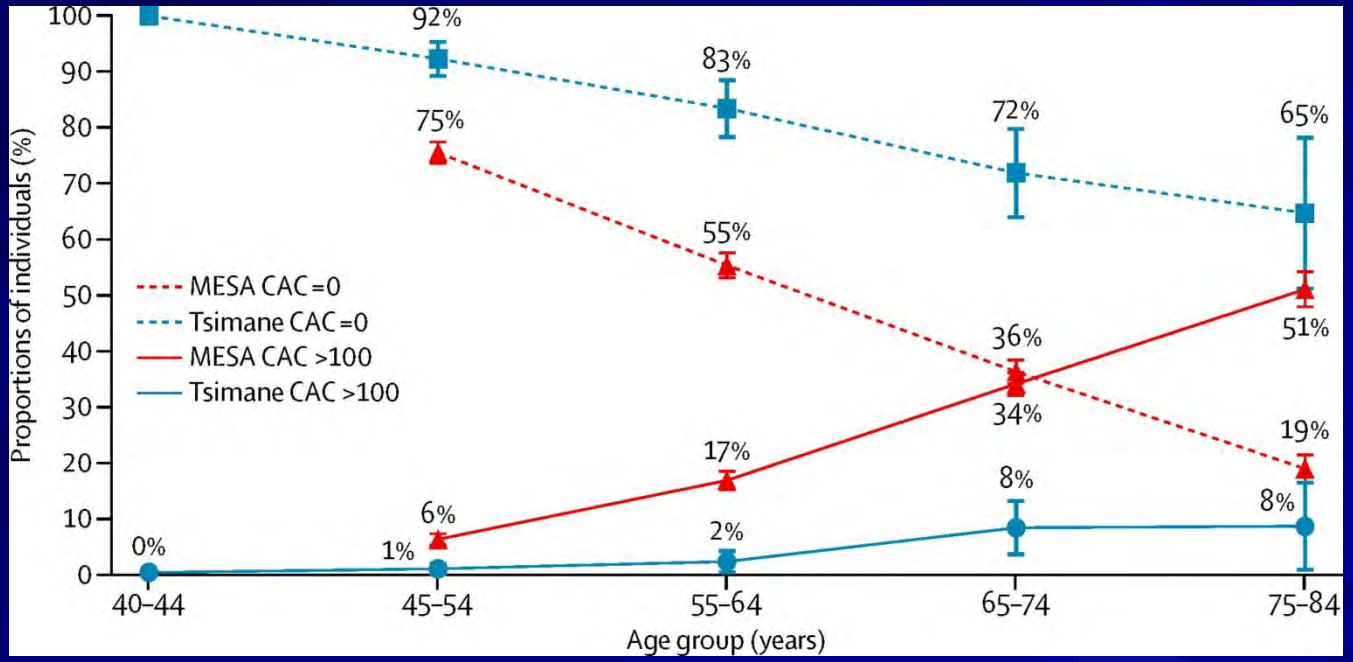
Bernstein, A. M. et al. Circulation 2010;122:876-883

Figure 3



The Lancet 2017 389, 1730-1739DOI: (10.1016/S0140-6736(17)30752-3)

Figure 2



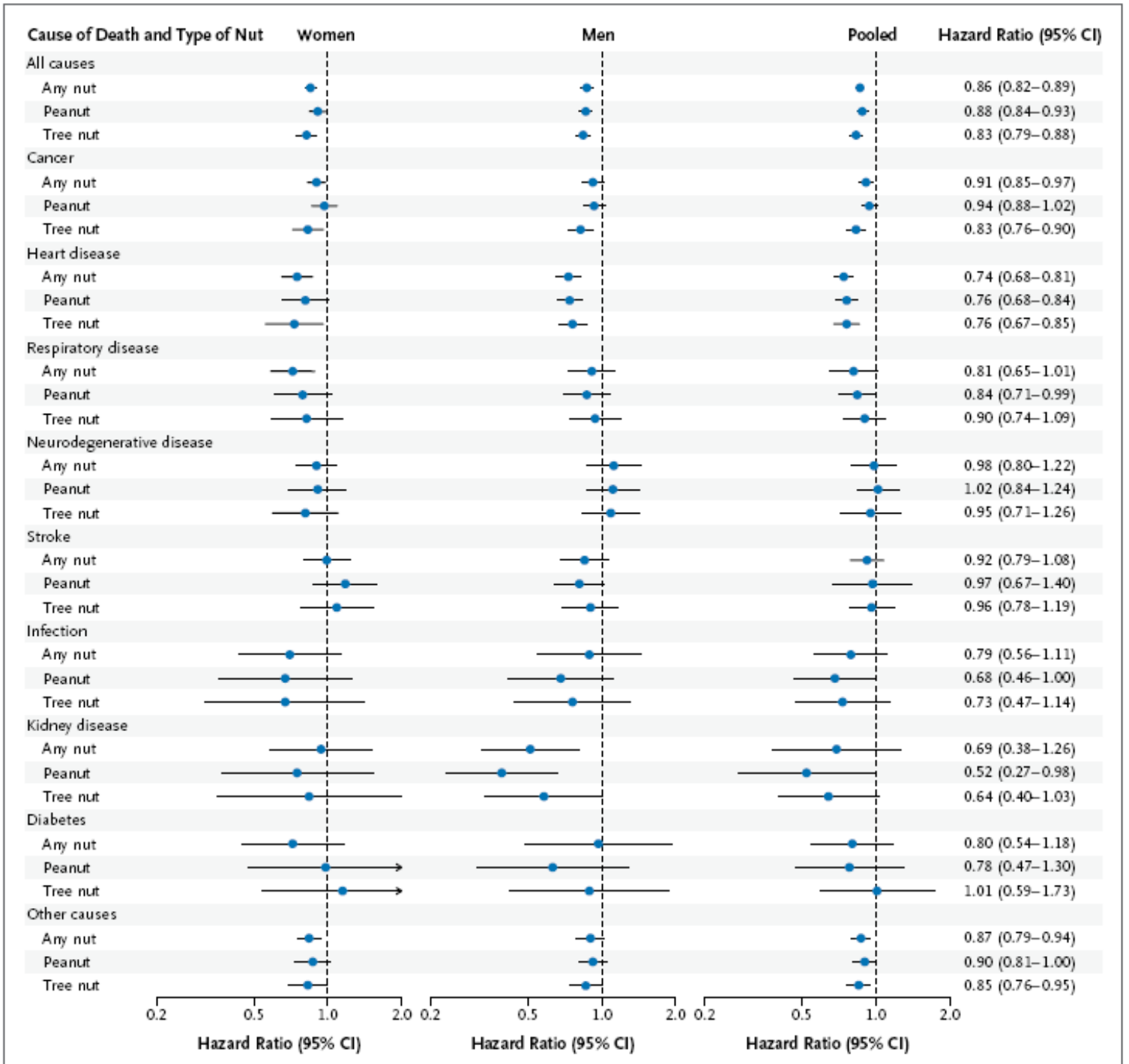
The Lancet 2017 389, 1730-1739DOI: (10.1016/S0140-6736(17)30752-3)

The NEW ENGLAND JOURNAL of MEDICINE

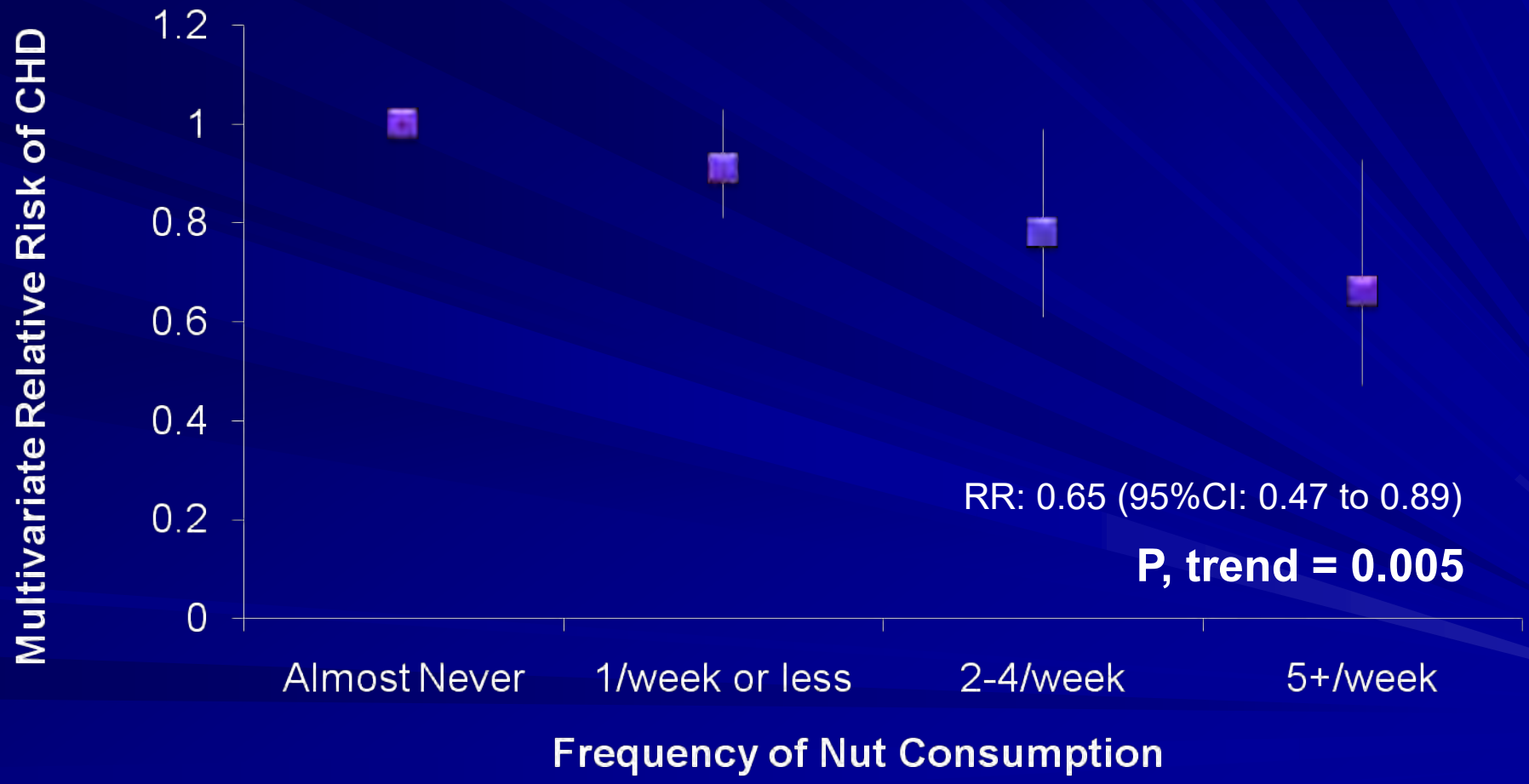
ORIGINAL ARTICLE

Association of Nut Consumption with Total and Cause-Specific Mortality

Ying Bao, M.D., Sc.D., Jiali Han, Ph.D., Frank B. Hu, M.D., Ph.D., Edward L. Giovannucci, M.D., Sc.D., Meir J. Stampfer, M.D., Dr.P.H., Walter C. Willett, M.D., Dr.P.H., and Charles S. Fuchs, M.D., M.P.H.


Cause of Death and Type of Nut
Women
Men
Pooled
Hazard Ratio (95% CI)
All causes
Any nut 0.86 (0.82–0.89)
Peanut 0.88 (0.84–0.93)
Tree nut 0.83 (0.79–0.88)
Cancer
Any nut 0.91 (0.85–0.97)
Peanut 0.94 (0.88–1.02)
Tree nut 0.83 (0.76–0.90)
Heart disease
Any nut 0.74 (0.68–0.81)
Peanut 0.76 (0.68–0.84)
Tree nut 0.76 (0.67–0.85)
Respiratory disease
Any nut 0.81 (0.65–1.01)
Peanut 0.84 (0.71–0.99)
Tree nut 0.90 (0.74–1.09)
Neurodegenerative disease
Any nut 0.98 (0.80–1.22)
Peanut 1.02 (0.84–1.24)
Tree nut 0.95 (0.71–1.26)
Stroke
Any nut 0.92 (0.79–1.08)
Peanut 0.97 (0.67–1.40)
Tree nut 0.96 (0.78–1.19)
Infection
Any nut 0.79 (0.56–1.11)
Peanut 0.68 (0.46–1.00)
Tree nut 0.73 (0.47–1.14)
Kidney disease
Any nut 0.69 (0.38–1.26)
Peanut 0.52 (0.27–0.98)
Tree nut 0.64 (0.40–1.03)
Diabetes
Any nut 0.80 (0.54–1.18)
Peanut 0.78 (0.47–1.30)
Tree nut 1.01 (0.59–1.73)
Other causes
Any nut 0.87 (0.79–0.94)
Peanut 0.90 (0.81–1.00)
Tree nut 0.85 (0.76–0.95)
0.2
0.5
1.0
2.0
Hazard Ratio (95% CI)
Hazard Ratio (95% CI)
Hazard Ratio (95% CI)

Nut Consumption and Risk of Coronary Heart Disease (NHS, 1980-1994)



Hu et al. 1997

Original Investigation

Vegetarian Diets and Blood Pressure
A Meta-analysis

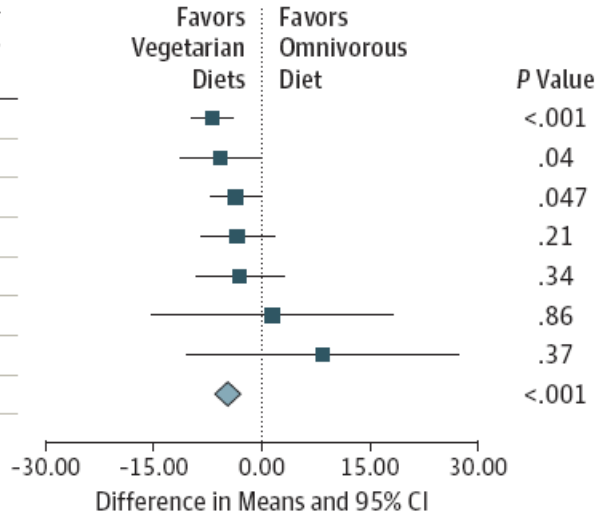
Yoko Yokoyama, PhD, MPH; Kunihiro Nishimura, MD, PhD, MPH; Neal D. Barnard, MD; Misa Takegami, RN, PhD, MPH; Makoto Watanabe, MD, PhD; Akira Sekikawa, MD, PhD; Tomonori Okamura, MD, PhD; Yoshihiro Miyamoto, MD, PhD

JAMA Intern Med. doi:10.1001/jamainternmed.2013.14547
Published online February 24, 2014.

Figure 2. Pooled Systolic and Diastolic Blood Pressure (BP) Responses to Vegetarian Diets in Clinical Trials

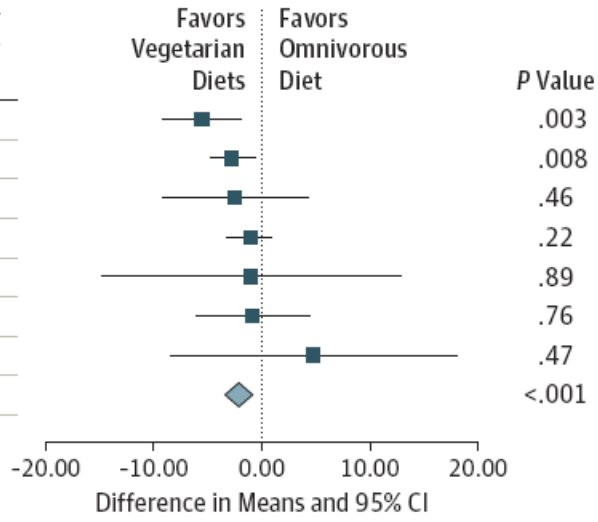
A

Source	Subgroup Within Study	Comparison	Statistics for Each Study: Difference in Mean	Lower Limit	Upper Limit	*P* Value
Rouse et al,[6] 1983	Lacto-ovo	Omnivorous	-6.8	-9.6	-4.0	<.001
Ferdowsian et al,[12] 2010	Vegan	Omnivorous	-5.7	-11.1	-0.3	.04
Margetts et al,[7] 1986	Lacto-ovo	Omnivorous	-3.5	-6.9	-0.1	.047
Hakala and Karvetti,[15] 1989	Lacto	Omnivorous	-3.3	-8.3	1.8	.21
Kestin et al,[8] 1989	Lacto-ovo, men	Omnivorous	-3.0	-9.1	3.1	.34
Sciarrone et al,[14] 1993	Lacto-ovo, men	Omnivorous	1.5	-15.3	18.3	.86
Nicholson et al,[13] 1999	Vegan	Omnivorous	8.5	-10.2	27.2	.37
Total			-4.8	-6.6	-3.1	<.001



B

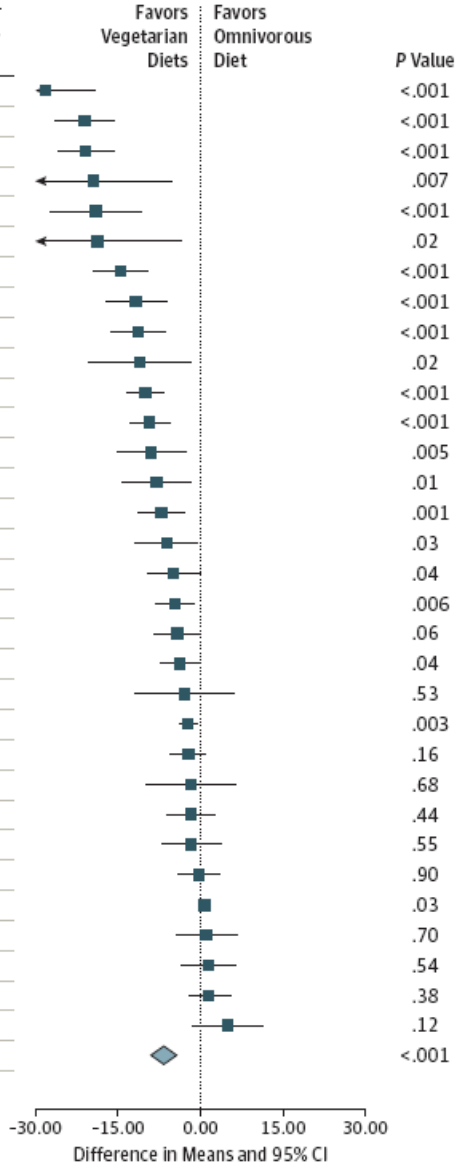
Source	Subgroup Within Study	Comparison	Statistics for Each Study: Difference in Mean	Lower Limit	Upper Limit	*P* Value
Ferdowsian et al,[12] 2010	Vegan	Omnivorous	-5.5	-9.1	-1.9	.003
Rouse et al,[6] 1983	Lacto-ovo	Omnivorous	-2.7	-4.7	-0.7	.008
Hakala and Karvetti,[15] 1989	Lacto	Omnivorous	-2.5	-9.2	4.2	.46
Margetts et al,[7] 1986	Lacto-ovo	Omnivorous	-1.2	-3.1	0.7	.22
Sciarrone et al,[14] 1993	Lacto-ovo, men	Omnivorous	-1.0	-14.8	12.8	.89
Kestin et al,[8] 1989	Lacto-ovo, men	Omnivorous	-0.8	-6.0	4.4	.76
Nicholson et al,[13] 1999	Vegan	Omnivorous	4.8	-8.3	17.9	.47
Total			-2.2	-3.5	-1.0	<.001



Effects on systolic BP (A) and on diastolic BP (B) are depicted as squares; error bars indicate 95% CIs. Meta-analysis yielded pooled estimates of −4.8 mm Hg (95% CI, −6.6 to −3.1) for systolic BP and −2.2 mm Hg (−3.5 to −1.0) for diastolic BP, which are depicted as blue diamonds. Vegan diets were defined as omitting all animal products; vegetarian diets may include some animal products as indicated by the terms *lacto* (dairy products) and *ovo* (eggs).

Figure 3. Pooled Systolic Blood Pressure (BP) Among Vegetarians in Observational Studies

Source	Subgroup Within Study	Comparison	Statistics for Each Study: Difference in Mean	Lower Limit	Upper Limit	P Value
Fontana et al,[27] 2007	Vegan	Omnivorous	-28.0	-36.8	-19.2	<.001
Teixeira et al,[28] 2007	Mixed	Omnivorous	-21.0	-26.3	-15.7	<.001
Ophir et al,[43] 1983	Lacto-ovo	Omnivorous	-20.8	-25.8	-15.8	<.001
Rodenas et al,[21] 2011	Mixed, women	Omnivorous	-19.4	-33.6	-5.2	.007
Kim and Bae,[16] 2012	Lacto-ovo, women	Omnivorous	-19.0	-27.3	-10.8	<.001
Orlov et al,[39] 1994	Vegan	Omnivorous	-18.8	-33.9	-3.7	.02
Slavícek et al,[26] 2008	Lacto-ovo	Omnivorous	-14.5	-19.3	-9.7	<.001
Nakamoto et al,[25] 2008	Combined	Omnivorous	-11.7	-17.2	-6.3	<.001
Lu et al,[33] 2000	Combined	Omnivorous	-11.3	-16.2	-6.5	<.001
Goff et al,[31] 2005	Vegan	Omnivorous	-11.0	-20.3	-1.7	.02
Yang et al,[22] 2011	Lacto-ovo, men	Omnivorous	-10.0	-13.3	-6.7	<.001
Yang et al,[18] 2012	Lacto, men	Omnivorous	-9.2	-12.6	-5.7	<.001
Fernandes Dourado et al,[20] 2011	Lacto-ovo	Omnivorous	-8.9	-15.1	-2.7	.005
Haines et al,[46] 1980	Combined	Omnivorous	-8.0	-14.1	-1.9	.01
Wyatt et al,[37] 1995	Lacto-ovo	Omnivorous	-7.1	-11.1	-3.1	.001
Armstrong et al,[47] 1979	Lacto-ovo	Omnivorous	-6.1	-11.7	-0.5	.03
Lin et al,[23] 2010	Vegan, women	Omnivorous	-4.9	-9.6	-0.2	.04
Pettersen et al,[17] 2012	Mixed	Omnivorous	-4.6	-7.9	-1.3	.006
Sebeková et al,[29] 2006	Lacto-ovo	Omnivorous	-4.1	-8.3	0.1	.06
Melby et al,[40] 1989	Combined	Omnivorous	-3.7	-7.2	-0.2	.04
Wiseman et al,[42] 1987	Mixed	Omnivorous	-2.8	-11.6	6.0	.53
Williams et al,[36] 1997	Combined	Omnivorous	-2.2	-3.7	-0.7	.003
Rouse et al,[44] 1983	Combined	Omnivorous	-2.2	-5.3	0.9	.16
Harman et al,[35] 1998	Combined	Omnivorous	-1.7	-9.8	6.4	.68
Melby et al,[38] 1994	Mixed	Omnivorous	-1.7	-5.9	2.6	.44
Pitla and Nagalla,[24] 2009	Combined	Omnivorous	-1.6	-7.0	3.7	.55
Burr et al,[45] 1981	Combined	Omnivorous	-0.2	-3.8	3.4	.90
Appleby et al,[32] 2002	Combined	Omnivorous	0.8	0.1	1.5	.03
Su et al,[30] 2006	Mixed, women	Omnivorous	1.1	-4.4	6.6	.70
Famodu et al,[34] 1998	Mixed	Omnivorous	1.5	-3.3	6.4	.54
Chen et al,[19] 2011	Lacto-ovo, women	Omnivorous	1.7	-2.0	5.4	.38
Sanders and Key,[41] 1987	Combined	Omnivorous	5.0	-1.3	11.3	.12
Total			-6.9	-9.1	-4.7	<.001



Effects on systolic BP are depicted as squares; error bars indicate 95% CIs. Meta-analysis yielded a pooled estimate of −6.9 mm Hg (95% CI, −9.1 to −4.7) for systolic BP, which is depicted as a blue diamond. Arrows indicate that the 95% CI exceeds the left line. Vegan diets were defined as omitting all animal products; vegetarian diets may include some animal products as indicated by the terms *lacto* (dairy products) and *ovo* (eggs).

Figure 2. Pooled Systolic and Diastolic Blood Pressure (BP) Responses to Vegetarian Diets in Clinical Trials

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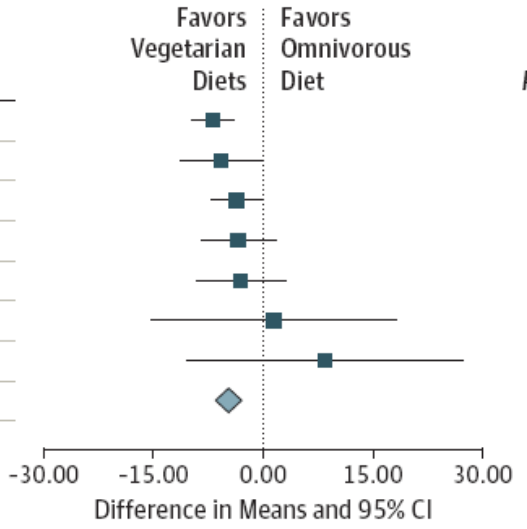

B

Source	Subgroup Within Study	Comparison	Statistics for Each Study: Difference in Mean	Lower Limit	Upper Limit	*P* Value
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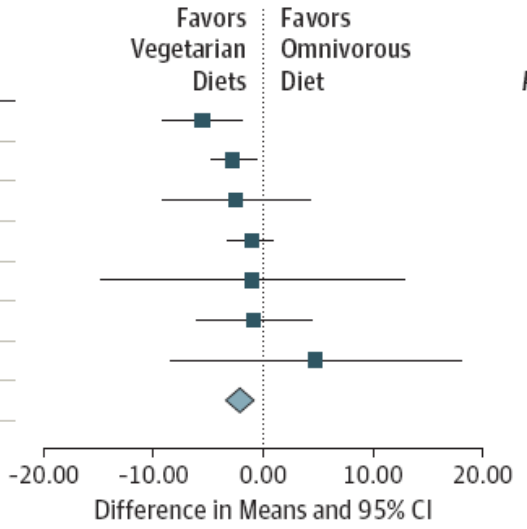
Margetts et al,[7] 1986	Lacto-ovo	Omnivorous	-1.2	-3.1	0.7	.22
Sciarrone et al,[14] 1993	Lacto-ovo, men	Omnivorous	-1.0	-14.8	12.8	.89
Kestin et al,[8] 1989	Lacto-ovo, men	Omnivorous	-0.8	-6.0	4.4	.76
Nicholson et al,[13] 1999	Vegan	Omnivorous	4.8	-8.3	17.9	.47
Total			-2.2	-3.5	-1.0	<.001

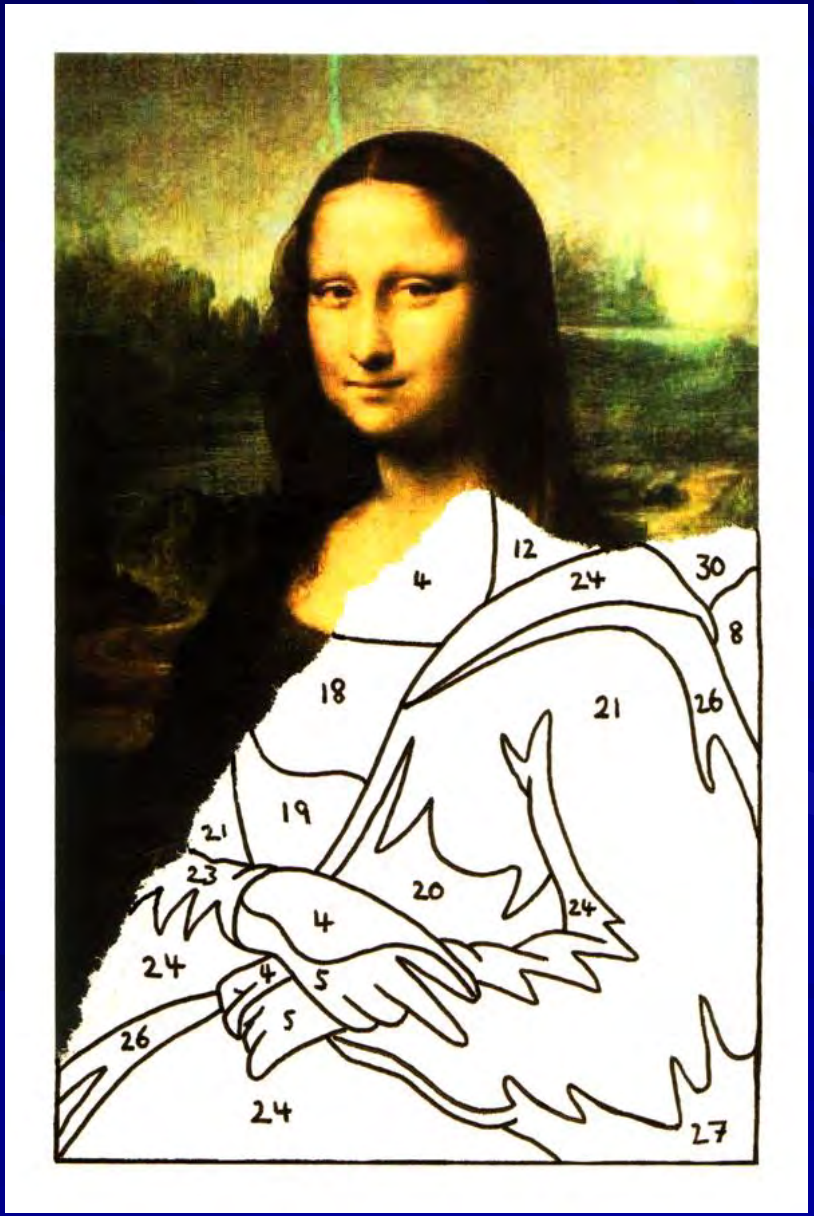


Drop in SBP -6.9 mmHg (CI -9.1 to -4.7)

Figure 5

The Lancet 2017 389, 1730-1739DOI: (10.1016/S0140-6736(17)30752-3)

By the numbers…



Cooking by numbers…

TIME march 21,2016

Plated and Blue Apron

Kroger's Prep + Pared!

February 9-12, 2017 • Napa Valley, California

Healthy Kitchens, Healthy Lives®

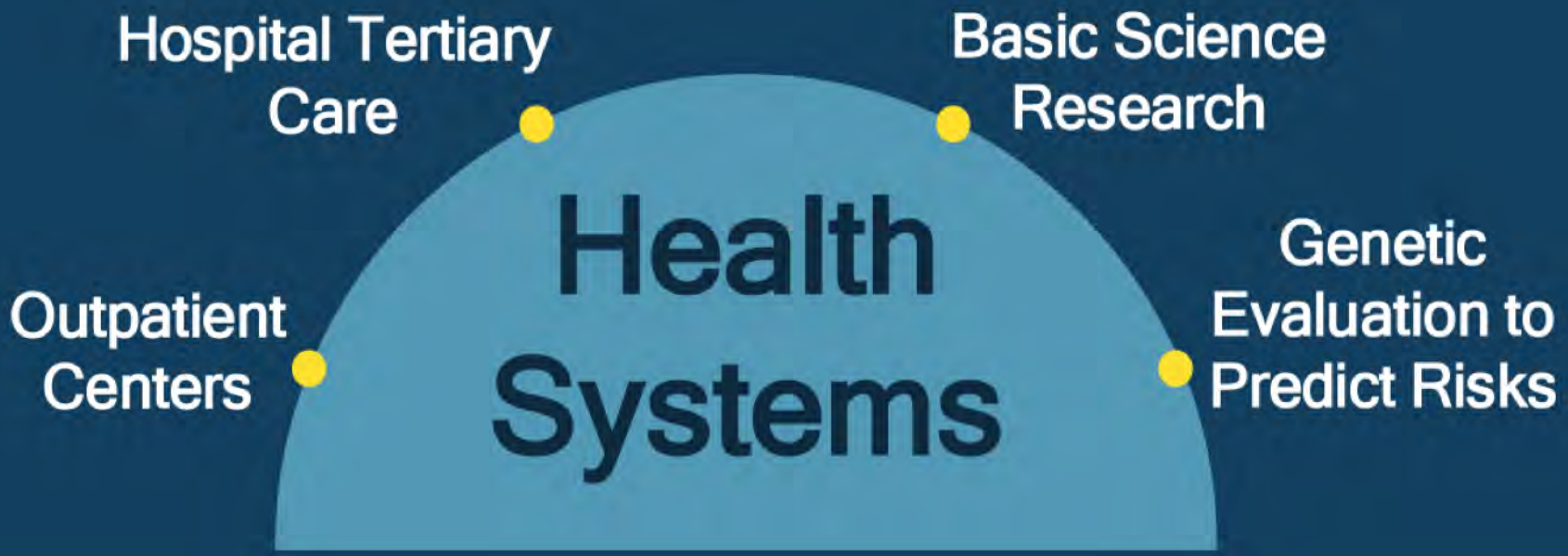
The Culinary Institute of America | HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH Department of Nutrition

Caring for Our Patients and Ourselves

REGISTER
FOR THE CONFERENCE

A Leadership Conference Bridging Nutrition Science, Healthcare, and the Culinary Arts

Slice Shine Design & Development



Adapted from Eisenberg, D Burgess, J
Academic Med 2015

Hospital Tertiary Care

Basic Science Research

Outpatient Centers

Genetic Evaluation to Predict Risks

Exercise Therapy Centers

Mindfulness Centers
Health Coaching
Psychotherapy/Pharm

Teaching Kitchens and New Food Business Innovations

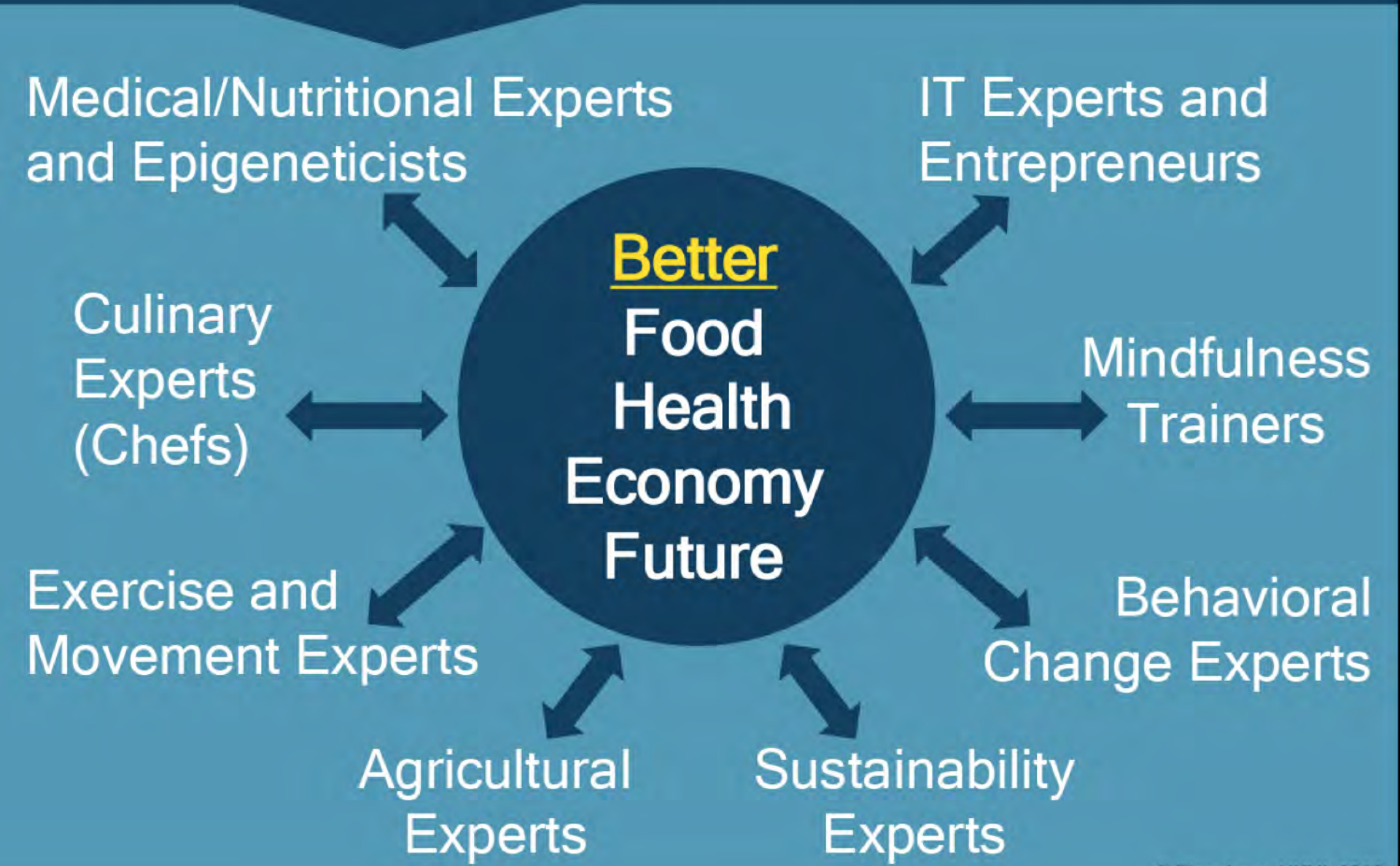
Adapted from Eisenberg, D Burgess, J Academic Med 2015

Sage Advice

"Identify experts from disciplines different from your own, with whom you do not share a common language, but with whom you share a common question. Join them to build a bridge. From this bridge you will make your greatest professional contributions and experience some of your greatest personal satisfaction."

Howard Hiatt, MD, Former Dean,
Harvard School of Public Health

Who Will Build this Futuristic "Bridge"?

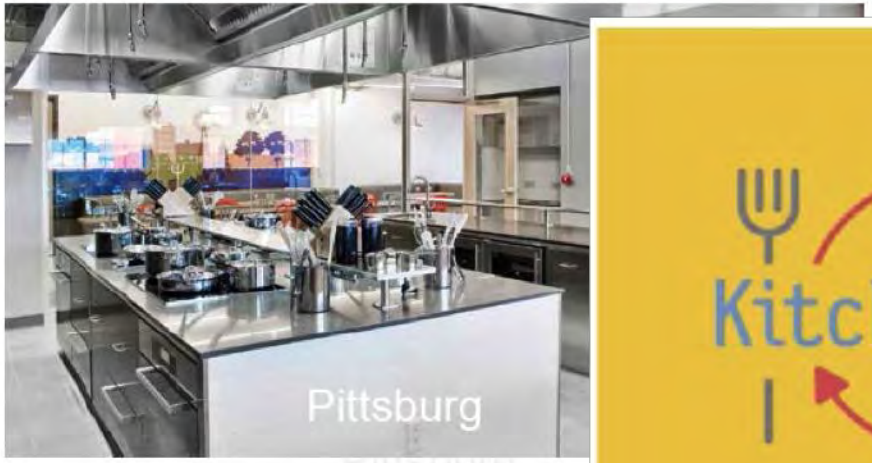


Solution? Let's Google it…

Michelle Hatzis, PhD
Google Food: Global Health & Wellness

Liv Wu
Google Food: Teaching Kitchen

Google's Food program fuels Google's sustainable high performance

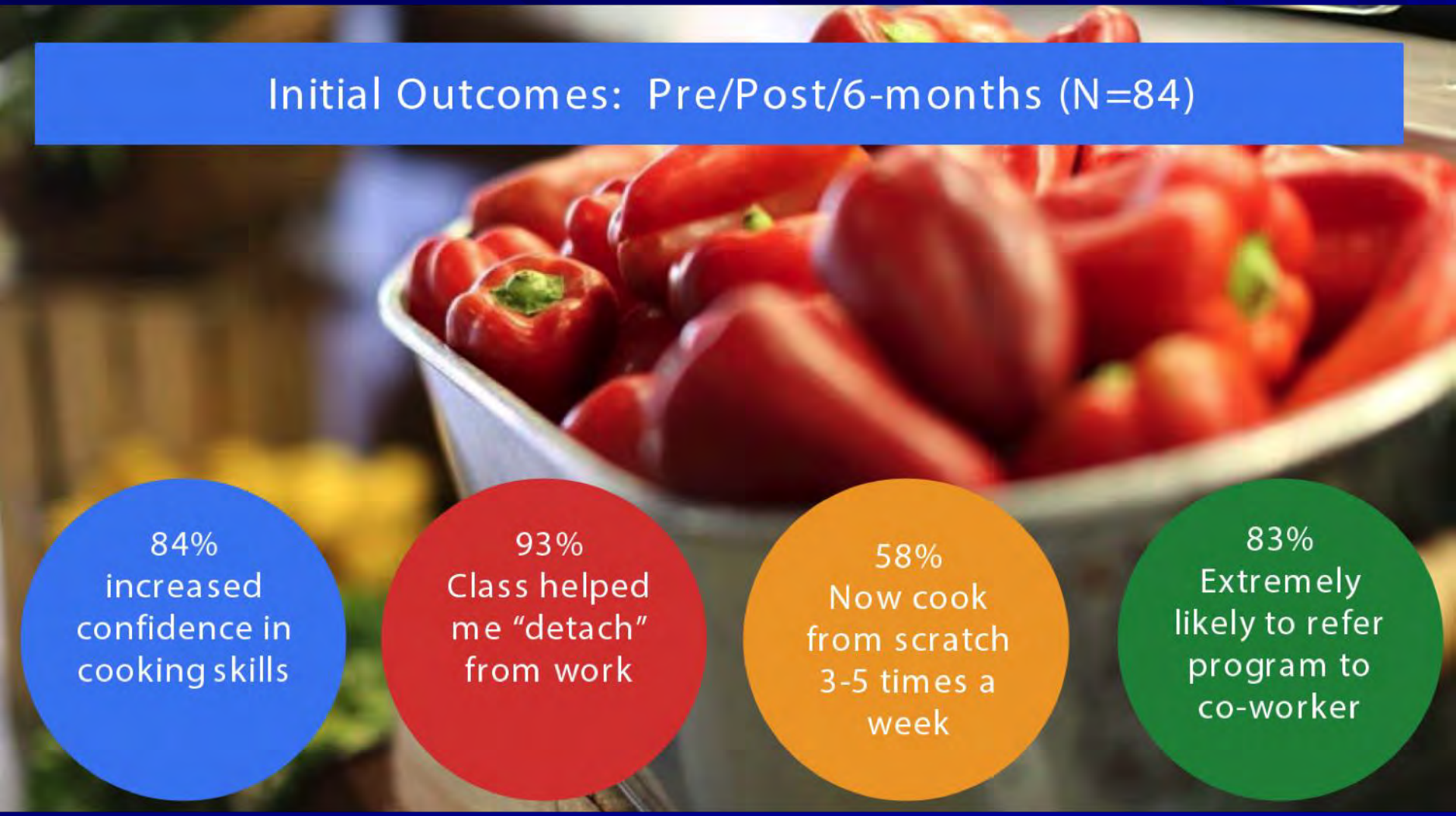


KitchenSync

THE DOWNLOAD ON FOOD

Code for Cooks

Initial Outcomes: Pre/Post/6-months (N=84)

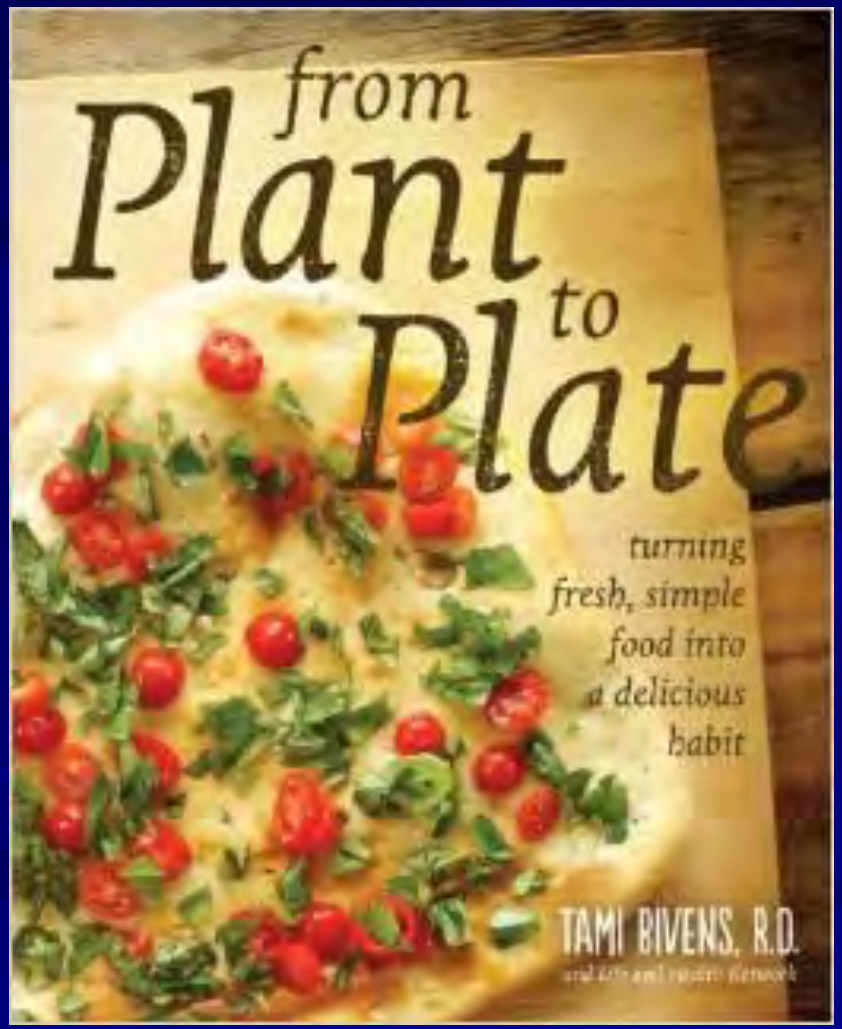


- Lack of knowledge.
- Lack of skill.
- Lack of time.
- Fear of wasting time.
- Fear of wasting money.
- Calorie density?

Only in America…

could you make cooking into a spectator sport!

Cookbooks…video cookbooks!



- www.lifeandhealth.org

SCRATCH FOOD

MEALS FROM scratch

cal = calories

ww = weight watchers

cal 450 ww 12

Homestyle Meat Lasagna G D E

with Fresh Green Beans

Layers of pasta held together with fluffy Ricotta and gooey Provolone.Topped with our own Roasted Tomato Marinara. Served with Fresh, lightly seasoned Green Beans.

cal 880 ww 23

Mom's Mac n' Cheese G D

with Cinnamon Apples

When simply nothing else will do! The owner's Mother used to make this cheesy classic for all her kids birthdays, paired with slow-cooked, "candied" Apples.

cal 830 ww 18

Old World Chicken Cake G E soy

with Succotash

Chicken Breast bound together with bread crumbs, eggs and seasoning. Served with our Special Succotash of Corn, White Beans, Sweet Potatoes and just a bit of braised Kale.

cal 410 ww 14

Orange Chicken G D E soy

with Grains & Rice Blend and Fresh Broccoli

The subtle sweetness and orange fragrance draws you in and the lightly battered Chicken grabs you . Served with our House Grains and Rice Blend and Fresh Broccoli.

cal 760 ww 19

Homestyle Meatloaf G E soy D

with Mac n' Cheese and Cinnamon Dulce Carrots

Meatloaf that Mom would approve of- with a hint of onion and a traditional brown sugar glaze. We rounded out this dish with our own Mac n' Cheese and Signature Glazed Carrots.

cal 610 ww 16

Chicken Parmesan G D E

with Pasta and Fresh Green Beans

Lightly breaded all natural Chicken Breast served with a healthy scoop of our own Roasted Tomato Marinara. Served over Curly Cavatappi Pasta and lightly seasoned Fresh Green Beans.

cal 340 ww 8

Black Cherri Teriyaki Chicken G soy

with Fresh Broccoli and House Grains & Rice

A unique combination of sweet Black Cherries and savory Soy Sauce drizzled over carved Chicken Breast served with Fresh Broccoli and our our House Grains and Rice Blend.

kids

smaller portions - basic flavors

cal 230 ww

Kids Meat Lasagna G D E

with Fresh Green Beans

Layers of pasta held together with fluffy Ricotta and gooey Provolone. Topped with Kid Friendly Marinara. Served with simply prepared Green Beans.

cal 420 ww

Mom's Mac n' Cheese G D

with Cinnamon Apples

When simply nothing else will do! The owner's Mother used to make this cheesy classic for all her kids birthdays, paired with slow-cooked, "candied" Apples.

cal 320 ww

Homestyle Meatloaf G E soy

with Mac n' Cheese and Carrots

Meatloaf that Mom would approve of- with a traditional brown sugar glaze. We rounded out this dish with our own Mac n' Cheese and simply prepared Carrots.

cal 300 ww

Chicken Parmesan G D E

with Pasta and Green Beans

Lightly breaded all natural Chicken Breast served with our kid friendly Marinara. Served over Curly Cavatappi Pasta with simply prepared Green Beans.

MEALS FROM scratch

cal 632 ww 17

cal = calories

ww = weight watch

healthy lifestyle

lower calorie . diabetic friendly . heart healthy

cal 420 ww 10

Southwestern Chicken Bowl

with House Grains & Rice and Black Bean Mashup

We use Hand Carved, All Natural Chicken Breast. The accompanying Black Bean Mashup consits ofRoasted Corn, Black Beans and Zucchini.

cal 460 ww 11

Roma Chicken Bowl

Whole Grains Risotto & Italian Green Bean Mashup

We combined all of our most nutritous and delicious vegetable and grain combinations to create a perfect meal. We paired it with a nutrient dense blend that includes Green Beans, Navy Beans and Red Peppers.

cal 380 ww 9

Asian Chicken Bowl G D soy

with House Grains & Rice and Asian East Mashup

We use Hand Carved, All Natural Chicken Breast. Served with our House Grains and Rice Blend, and Green Bea Kale and Shiitake Mushrooms in a Miso-Soy Marinade.

cal 370 ww 10

Sesame Flat Iron Steak soy

with Broccoli & Kale Slaw

This inspired dish is a simple, clean presentation Carved, Seasoned Flat Iron Steak over a Ginger and Sesame Slaw of Broccoli, Kale and Cabbage.

cal 80 ww 7

Steak and Green Bean Stew

To meet the classic Southern Tastes of our clientele, we re-enginnered the Green Bean Stew of our youth. We have introduced lean Steak to the mix and replaced tradtional Russet Potatoes with seasoned Sweet Potatoes. Classic Comfort Food !

cal 240 ww 6

Chicken Cabbage Roll E

Scratch Foods has taken the classic Cabbage Roll and cle The soft Cabbage exterior paired with a naturally rich Ton European style sauce enhances the savory Chicken filling

cal 50 ww 5

Carved Chicken and Roasted Vegetables

Simple and Delicious. Tender, all Natural Chicken Breast served with perfectly Roasted Zucchini, Cauliflower, Asparagus and Red Pepper. Seasoned with Fresh Garlic

cal 290 ww 5

Chicken Curry with Vegetables S

served with House Grains and Rice

This Inspired Dish will satisfy your jones for Indian Food, still keep things healthy. All Natural Chicken with classic Garam Masala spice tossed with Peas, Cauliflower and Sw

vegetarian

contains no meat

Spaghetti Squash with Marinara

with Tuscan Vegetables

The natural sweetness of Spaghetti Squash pairs perfectly with the sweetness and acidity of Scratch's fabulous marinara. With the addition of Sweet Potatoes, Kale and Portabellas. This one is clean comfort food !

cal 230 ww 6

Tofu and Broccoli Pad Kapow soy

served with House Grains & Rice

We season and slow roast the tofu to achieve a nice firm Then we toss it with a slightly sweet Asian brown sauce f and broccoli to achieve this classic Thai dish.

American Heart Association®

My Heart. My Life.®

American Cancer Society®

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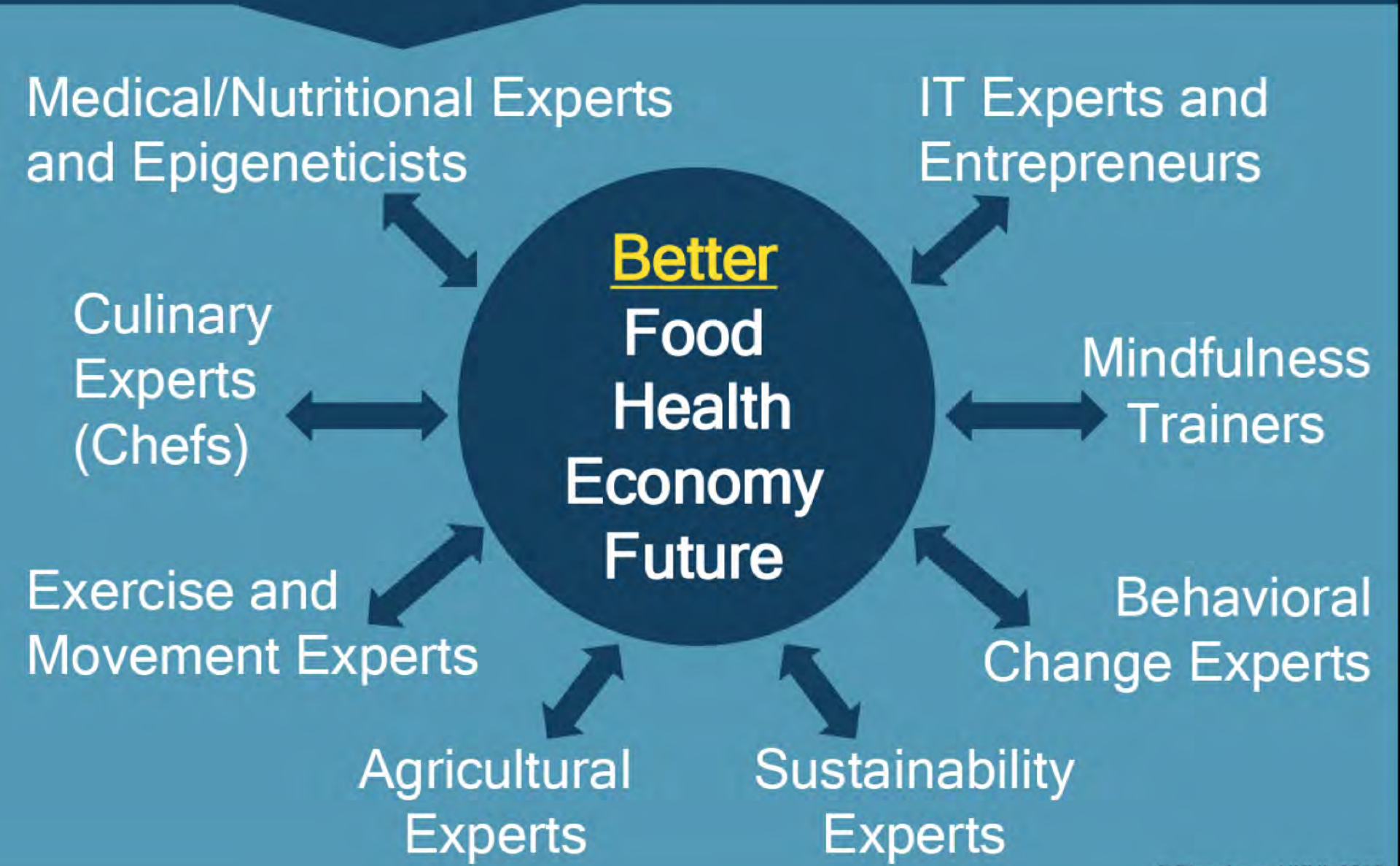
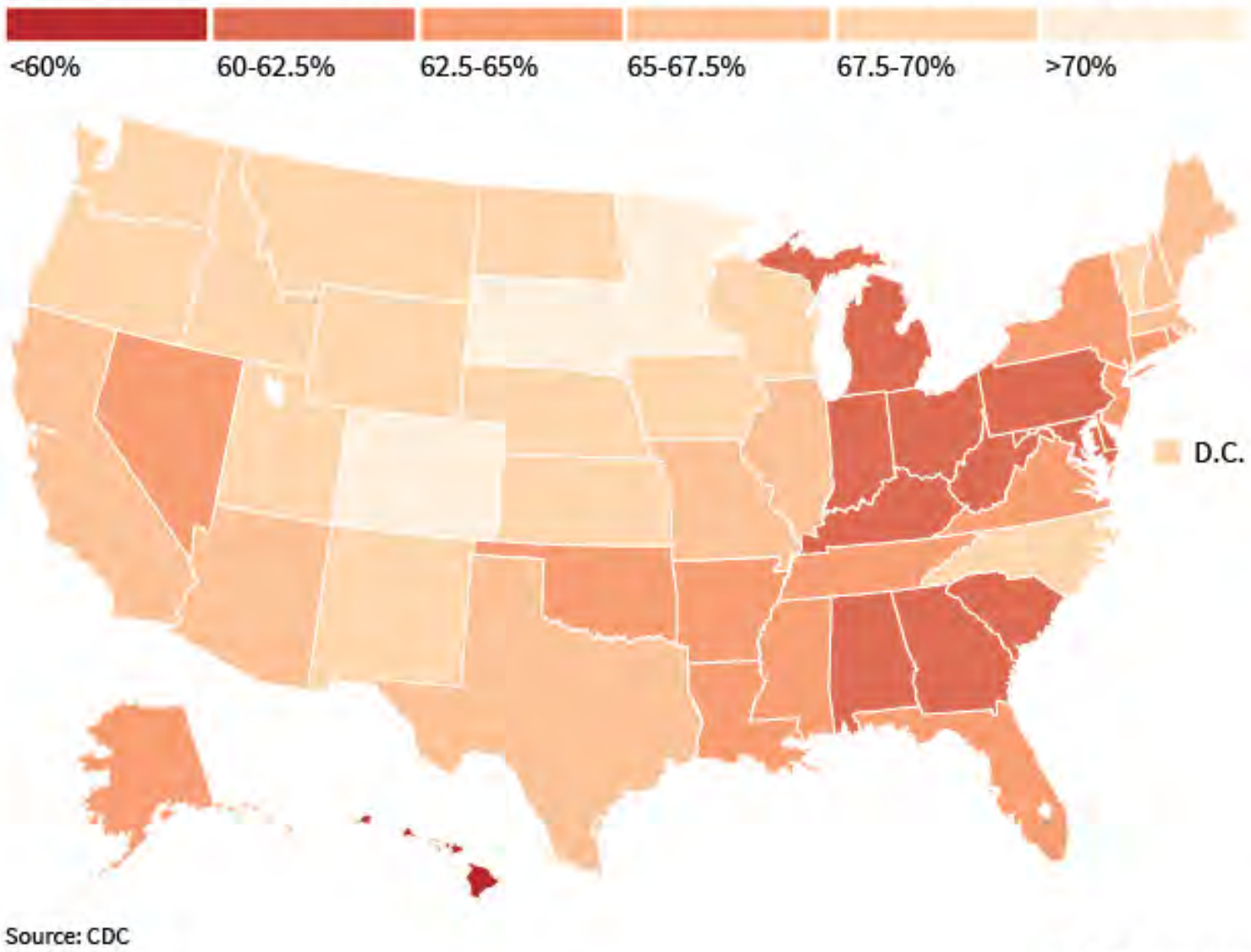


CALERIE Study

- Comprehensive Assessment of Long-term Effects of Reducing Intake of Energy
- Reduced caloric intake by 25%.
- Average caloric reduction was ~12%.
- Resulted in 10% wt loss.
- BP dropped by 4%, total cholesterol 6%, CRP 47%.

Where Americans Need More Sleep

The CDC recommends adults get at least seven hours a night.



Source: CDC

The Huffington Post