

Lifestyle and Integrative Medicine: A Bridge Over Healthcare's Troubled Waters

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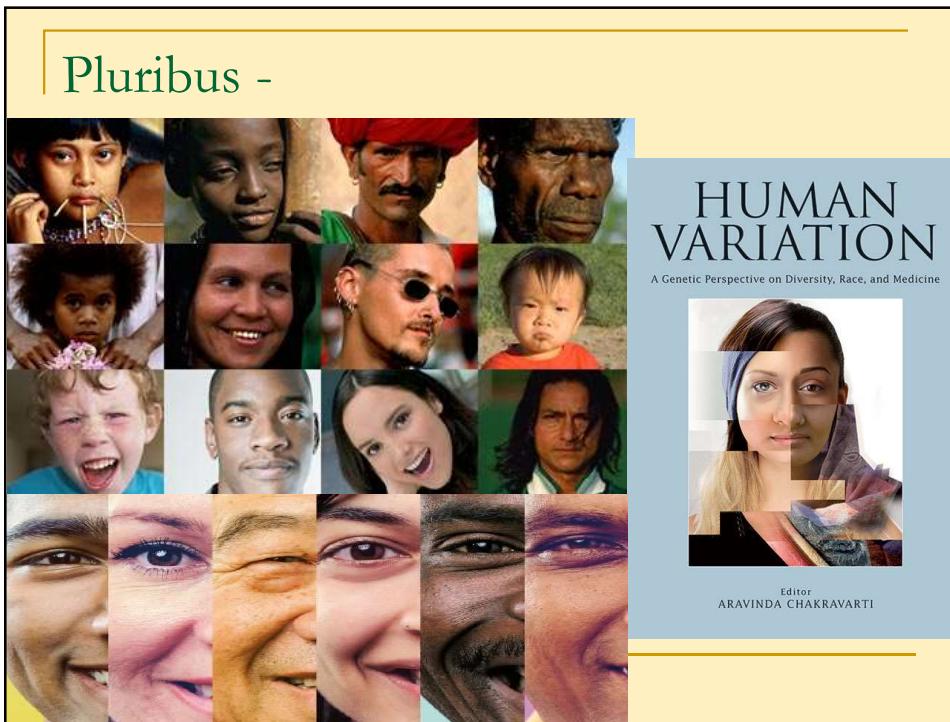
*Immediate Past-President, American College of Lifestyle Medicine
Founder, The True Health Initiative*

Nutraceuticals
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5/27/91

With the Arts
And Entertainment

*Nutritional Adaptations of
native Americans to
the effects of cultural
disruption*

Science Times
The New York Times

To Preserve Their Health and Heritage,
Arizona Indians Reclaim Ancient Foods

Desert's bounty cuts
overweight and
diabetes.

By JANE E. BRODY

TUCSON, Ariz. **G**OING back to one's roots could soon take on a more literal meaning for the Indians of the American Southwest, as well as for peoples elsewhere in the world who are poorly adapted to rich, refined foods.

For the sake of their health, as well as their cultural heritage, the Pima and Tohono O'odham tribes of Arizona are being urged to rediscover the desert foods their people traditionally consumed until as recently as the 1940's.

Bodies Remodeled for a Life at Sea

By [Carl Zimmer](#) April 19, 2018



<https://www.nytimes.com/2018/04/19/science/bajau-evolution-ocean-diving.html>

Connecting the dots within...

□ Article | OPEN | [Published: 02 October 2018](#)

- Longitudinal analysis of biomarker data from a **personalized nutrition platform** in healthy subjects

□ [Kenneth Westerman](#), [Ashley Reaver](#), [Catherine Roy](#), [Margaret Ploch](#), [Erin Sharoni](#), [Bartek Nogal](#), [David A. Sinclair](#), [David L. Katz](#), [Jeffrey B. Blumberg](#) & [Gil Blander](#)

SCIENTIFIC
REPORTS

nature



If the diet fits...

- Gardner CD, Trepanowski JF, Del Gobbo LC, Hauser ME, Rigdon J, Ioannidis JPA, Desai M, King AC. **Effect of Low-Fat vs Low-Carbohydrate Diet on 12-Month Weight Loss in Overweight Adults and the Association With Genotype Pattern or Insulin Secretion: The DIETFITS Randomized Clinical Trial.** *JAMA*. 2018 Feb 20;319(7):667-679

On the menu-

- Elephant Bits
- E Pluribus, Unum?
- The Dark Wood
- Archimedes' Lever(s)
- A Fork in the Road
- Choices
- The Big Spoon
- Tip of the Spear
- Voices
- A Fork in the Road, Revisited
- Elephant Bounds

Death, in the dark wood...

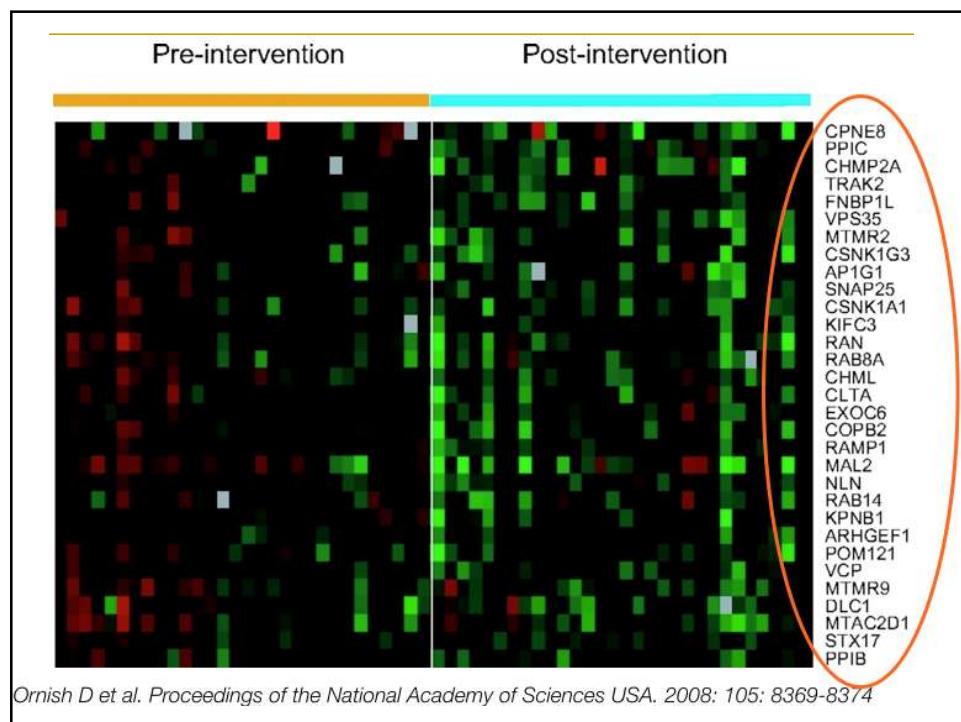
- McGinnis JM, Foege WH. **Actual causes of death** in the United States. *JAMA*. 1993;270:2207-12
- Mokdad AH, Marks JS, Stroup DF, Gerberding JL. **Actual causes of death** in the United States, 2000. *JAMA*. 2004;291:1238-45

The People in Potsdam-

- Ford ES, Bergmann MM, Kröger J, Schienkiewitz A, Weikert C, Boeing H. **Healthy living is the best revenge: findings from the European Prospective Investigation Into Cancer and Nutrition-Potsdam study.** *Arch Intern Med.* 2009 Aug 10;169(15):1355-62
- **Or the UK:**
 - Kvaavik E, Batty GD, Ursin G, Huxley R, Gale CR. **Influence of individual and combined health behaviors on total and cause-specific mortality in men and women: the United Kingdom health and lifestyle survey.** *Arch Intern Med.* 2010;170:711-8
- **Or the US**
 - McCullough ML, Patel AV, Kushi LH, Patel R, Willett WC, Doyle C, Thun MJ, Gapstur SM. **Following cancer prevention guidelines reduces risk of cancer, cardiovascular disease, and all-cause mortality.** *Cancer Epidemiol Biomarkers Prev.* 2011;20:1089-97

Fresher still? The beat goes on...

- Akesson A, Larsson SC, Discacciati A, Wolk A. **Low-Risk Diet and Lifestyle Habits in the Primary Prevention of Myocardial Infarction in Men: A Population-Based Prospective Cohort Study.** *J Am Coll Cardiol.* 2014 Sep 30;64(13):1299-306
- Hamman RF, Lachin JM, Walker EA, Nathan DM, Diabetes Prevention Program Research Group. **Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin.** *N Engl J Med.* 2002 Feb 7;346(6):393-403
- Chomistek AK, Chiave SE, Eliassen AH, Mukamal KJ, Willett WC, Rimm EB. **Healthy lifestyle in the primordial prevention of cardiovascular disease among young women.** *J Am Coll Cardiol.* 2015 Jan 6;65(1):43-51





Ornish D, Lin J, Chan JM, Epcel E, Kemp C, Weidner G, Marlin R, Frenda SJ, Magbanua MJ, Daubenmier J, Estay I, Hills NK, Chainani-Wu N, Carroll PR, Blackburn EH. Effect of **comprehensive lifestyle changes** on telomerase activity and telomere length in men with biopsy-proven low-risk prostate cancer: 5-year follow-up of a descriptive pilot study. *Lancet Oncol.* 2013 Oct;14(11):1112-20

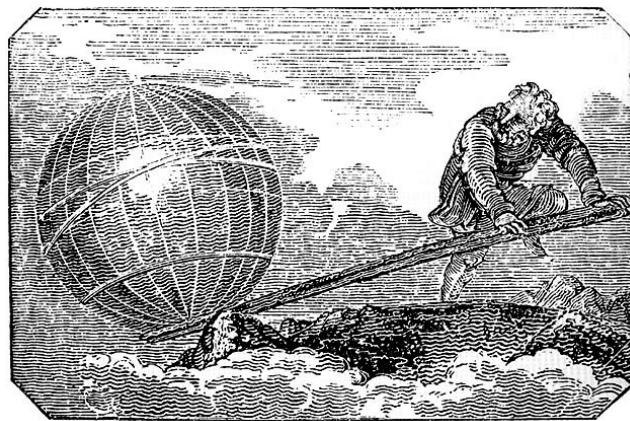
The epigenetic power of lifestyle -

- Khera AV, Emdin CA, Drake I, Natarajan P, Bick AG, Cook NR, Chasman DI, Baber U, Mehran R, Rader DJ, Fuster V, Boerwinkle E, Melander O, Orho-Melander M, Ridker PM, Kathiresan S. **Genetic Risk, Adherence to a Healthy Lifestyle, and Coronary Disease.** *N Engl J Med.* 2016 Dec 15;375(24):2349-2358

The Master Levers of Destiny-

- *Feet*
- *Forks*

- *Fingers*

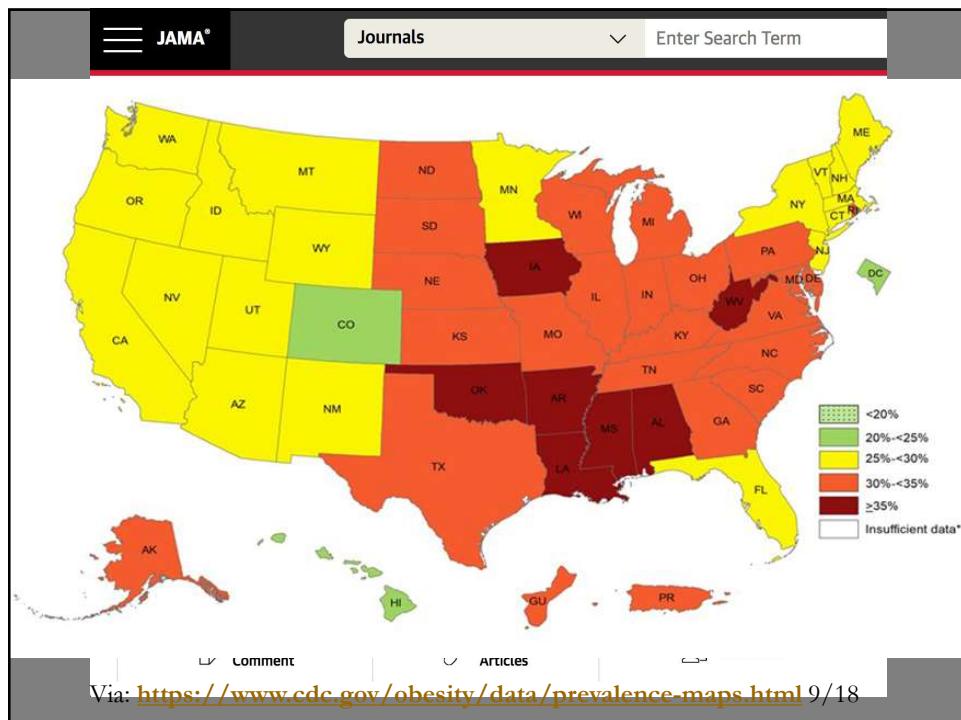


But...

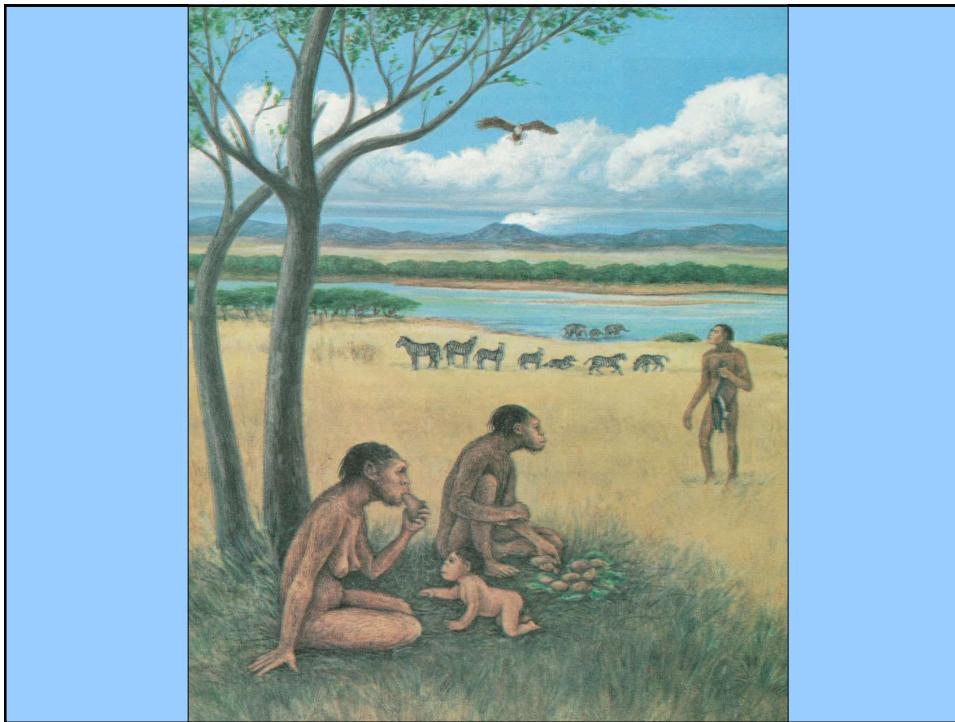
Lost in translation...

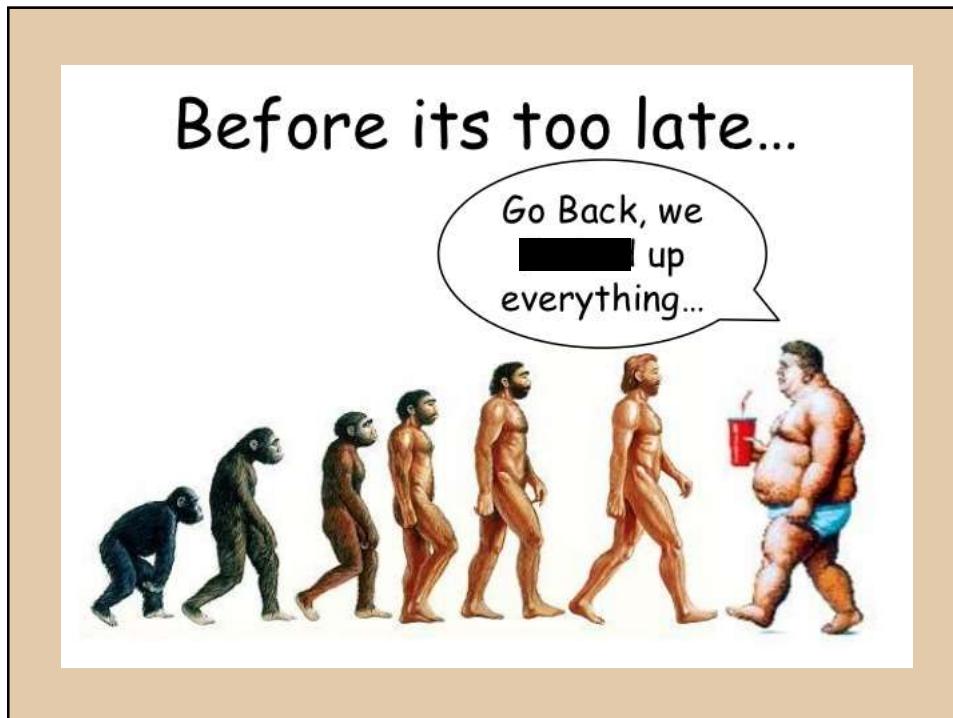
- Knowledge, alas, isn't power...

- Katz DL. **Life and death, knowledge and power: why knowing what matters isn't what's the matter.** *Arch Intern Med.* 2009 Aug 10;169(15):1362-3



The Problem-







When clear where “there” is-

(Can We Say What Diet Is "Best"? David L. Katz; Huffington Post, 9/7/11:
http://www.huffingtonpost.com/david-katz-md/best-diets_b_950672.html)

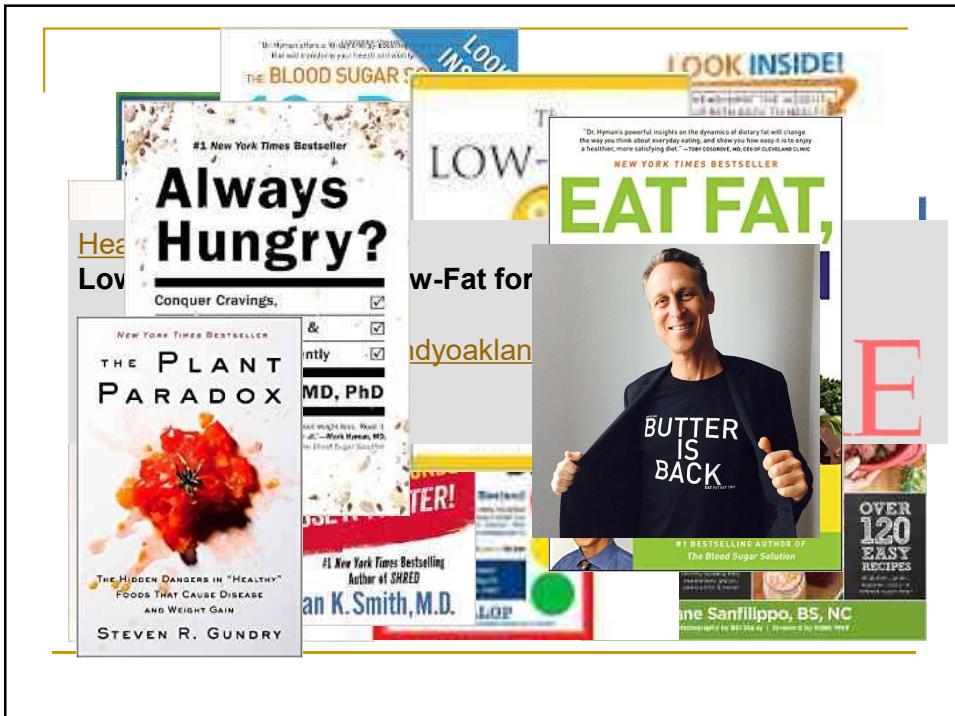
-it may still seem...

- you can't get **there** from **here**:

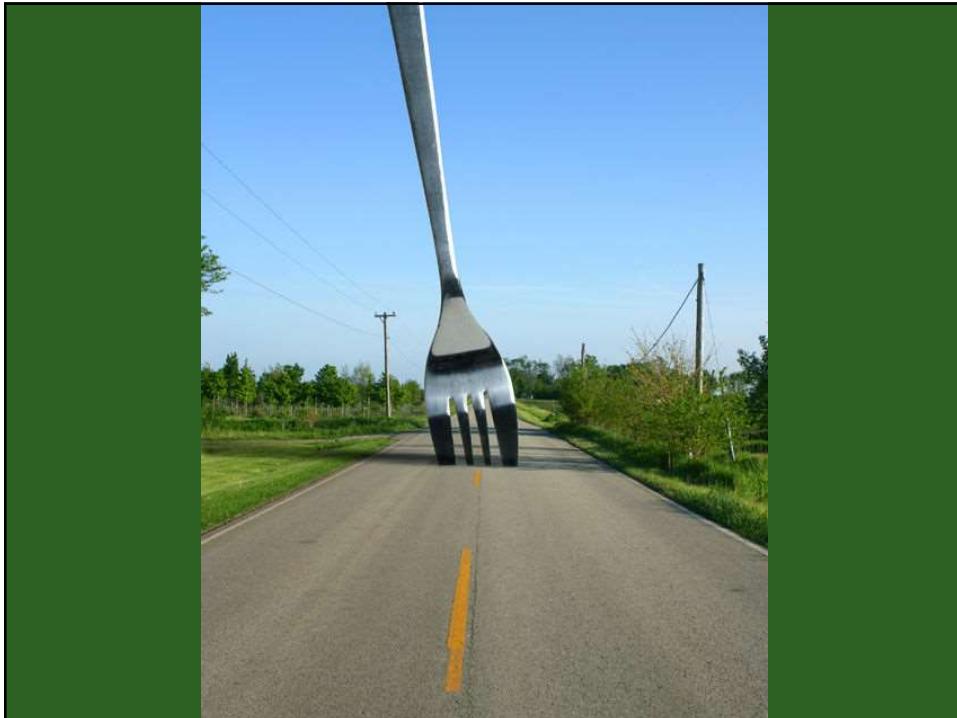


...& the other problem:

- Is it clear where “there” is?



W to T about F ?!?



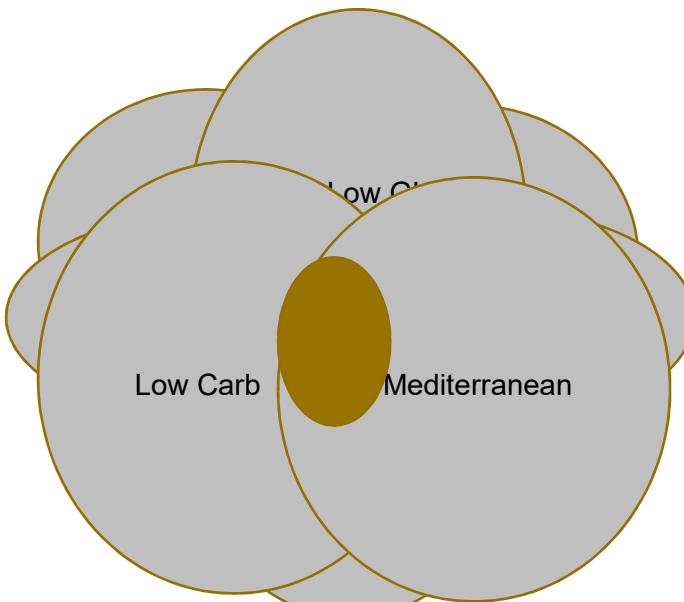
Bird's (Katz?) eye view-

- Katz DL et al. Can we say what diet is best for health? *Annu Rev Public Health*. 2014 Mar 18; 35:83-103
 - Science Compared Every Diet, and the Winner Is Real Food
 - Researchers asked if one diet could be crowned best in terms of health outcomes. If diet is a set of rigid principles, the answer is a decisive no. In terms of broader guidelines, it's a decisive yes.
 - [James Hamblin](#) Mar 24 2014, 1:14 PM ET
- Katz DL et al. **Nutrition in Clinical Practice, 3rd Edition.** Wolters Kluwer/Lippincott Williams & Wilkins. September, 2014

the Atlantic

Other eyes, on the same prize -

- Mozaffarian D. **Dietary and Policy Priorities for Cardiovascular Disease, Diabetes, and Obesity: A Comprehensive Review.** *Circulation.* 2016 Jan 12;133(2):187-225
 - Micha R, Peñalvo JL, Cudhea F, Imamura F, Rehm CD, Mozaffarian D. **Association Between Dietary Factors and Mortality From Heart Disease, Stroke, and Type 2 Diabetes in the United States.** *JAMA.* 2017 Mar 7;317(9):912-924
- Mann J et al. **Low carbohydrate diets: going against the grain.** *Lancet.* 2014 Oct 25;384:1479-80
- Ley SH, Hamdy O, Mohan V, Hu FB. **Prevention and management of type 2 diabetes: dietary components and nutritional strategies.** *Lancet.* 2014 Jun 7;383:1999-2007
 - Katz DL, Hu F. **Knowing what to eat, refusing to swallow it.** *Huffington Post.* 7/2/14



“Eat food, not too much, mostly plants.”

-Michael Pollan

And the same in 572 pages -

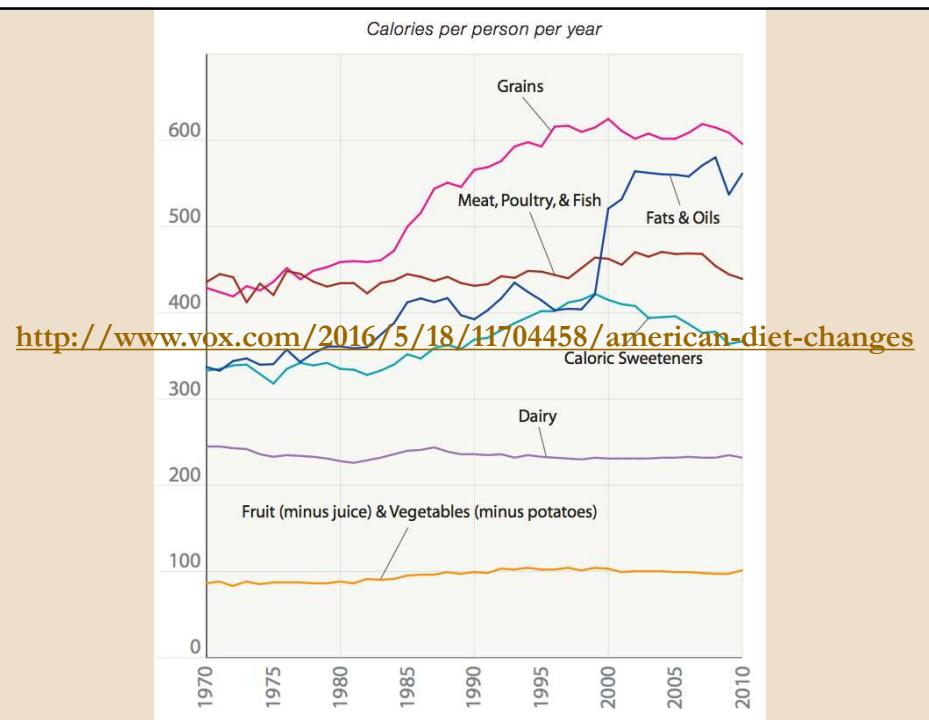
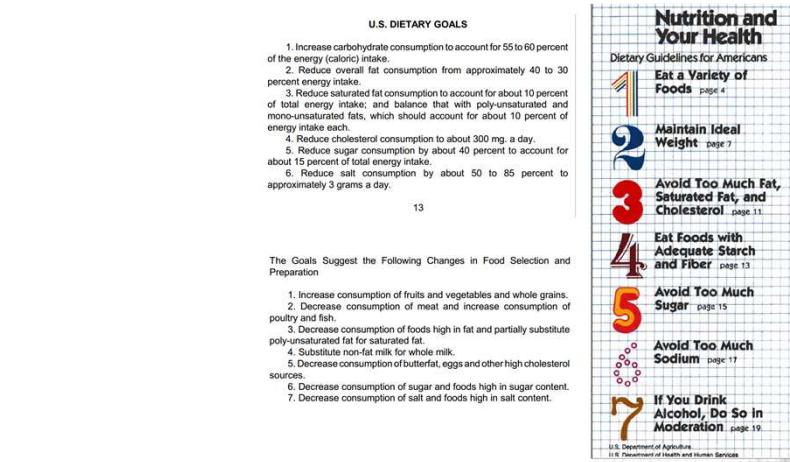
■ **Scientific Report of the 2015 Dietary Guidelines Advisory Committee**

<http://www.health.gov/dietaryguidelines/2015-scientific-report/>



And, by the way...

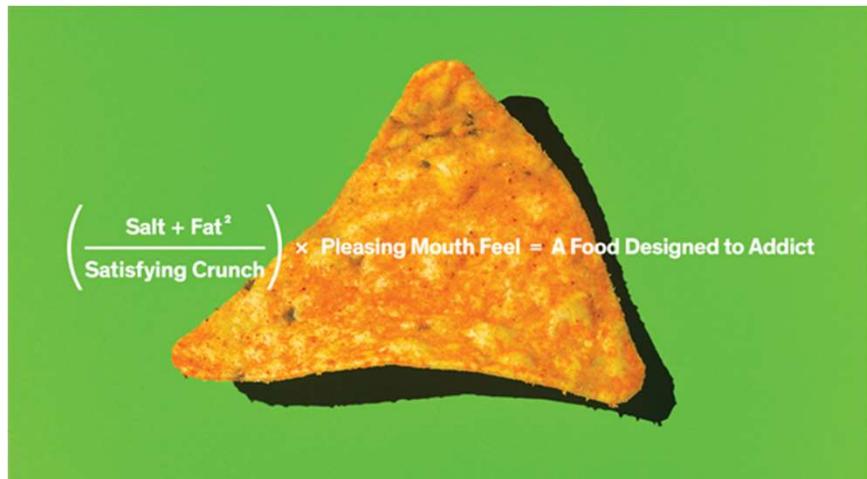
■ Dietary Guidelines...1980!



The Extraordinary Science of Addictive Junk Food -

By [MICHAEL MOSS](#) FEB. 20, 2013

The New York Times



We are constitutional **omnivores**, and SO...

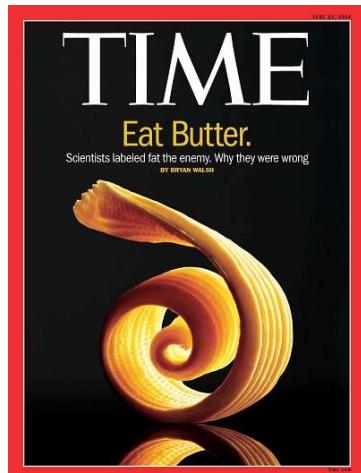


- we have **CHOICES** -
-

We have choices for fat -

Wang DD, Li Y, Chiuve SE, Stampfer MJ, Manson JE, Rimm EB, Willett WC, Hu FB. Association of **Specific Dietary Fats With Total and Cause-Specific Mortality**. *JAMA Intern Med*. 2016 Aug 1;176(8):1134-45

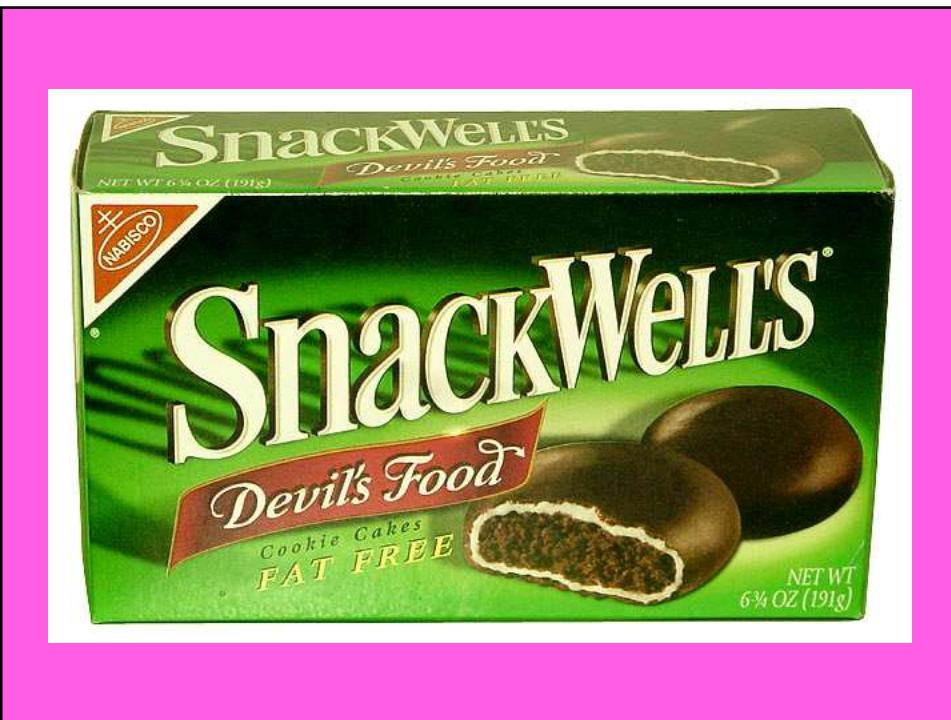
Yet, we wind up here...



Less pepperoni, more..._____?

- Siri-Tarino PW, Sun Q, Hu FB, Krauss RM. **Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease.** *Am J Clin Nutr.* 2010 Mar;91(3):535-46

- Chowdhury R, Warnakula S, Kunutsor S, Crowe F, Ward HA, Johnson L, Franco OH, Butterworth AS, Forouhi NG, Thompson SG, Khaw KT, Mozaffarian D, Danesh J, DiAngelantonio E. **Association of dietary, circulating, and supplement fatty acids with coronary risk: a systematic review and meta-analysis.** *Ann Intern Med.* 2014 Mar 18;160(6):398-406

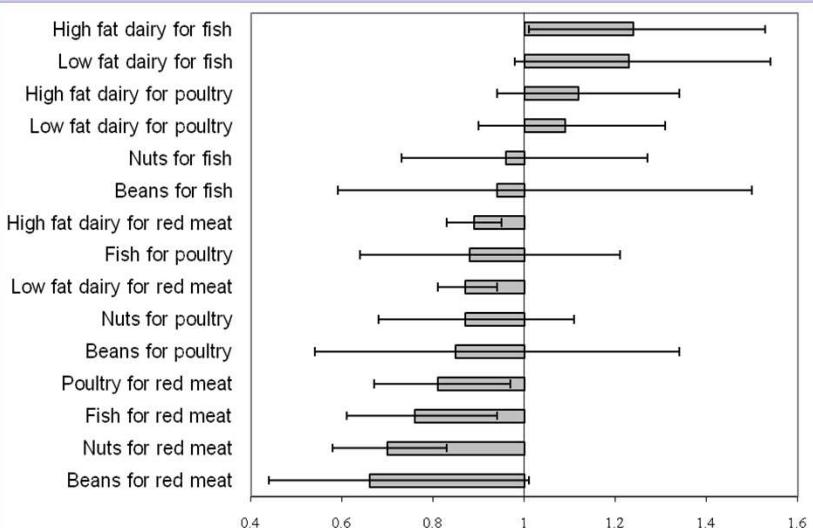


Li Y, Hruby A, Bernstein AM, Ley SH, Wang DD, Chiuve SE, Sampson L, Rexrode KM, Rimm EB, Willett WC, Hu FB. **Saturated Fats Compared With Unsaturated Fats and Sources of Carbohydrates in Relation to Risk of Coronary Heart Disease: A Prospective Cohort Study.** *J Am Coll Cardiol.* 2015 Oct 6;66(14):1538-48

We have choices for protein -

- Song M, Fung TT, Hu FB, Willett WC, Longo VD, Chan AT, Giovannucci EL. **Association of Animal and Plant Protein Intake With All-Cause and Cause-Specific Mortality.** *JAMA Intern Med.* 2016 Aug 1. doi: 10.1001/jamainternmed.2016.4182. [Epub ahead of print]

Substitution of Protein Sources (1 sv/day) and Risk of CHD in NHS, 1980-2006 (3162 cases)



9.202

(Bernstein et al. 2010)

We have choices for water preservation -



We have choices for the climate -

- **Meat is a complex health issue but a simple climate one: the world needs to eat less of it**

□ July 5, 2015 4.18pm EDT



We have choices for biodiversity-

- Machovina B, Feeley KJ, Ripple WJ.
Biodiversity conservation: The key is reducing meat consumption. *Sci Total Environ.* 2015 Dec 1;536:419-31



And the choice of a grand confluence -

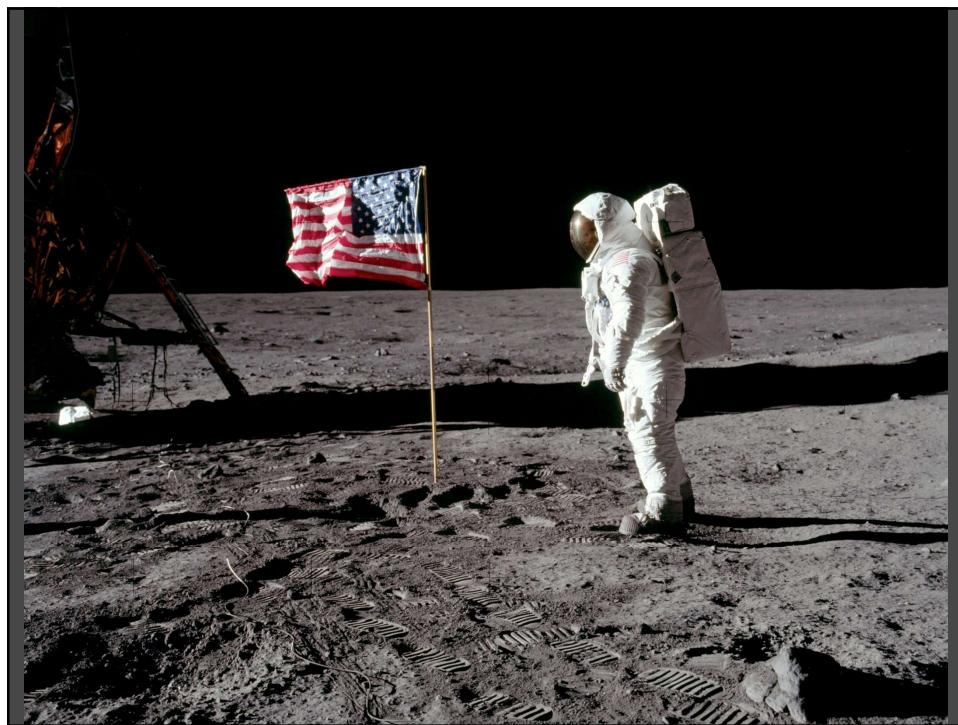
Walker C, Gibney ER, Hellweg S. **Comparison of Environmental Impact and Nutritional Quality among a European Sample Population** - findings from the Food4Me study. *Sci Rep.* 2018 Feb 5;8(1):2330

<https://www.nature.com/articles/s41598-018-20391-4>





New Kellogg's & General Mills Cereals introduced over the last six-months.





From -



To the Amazon -

- **Amazon men in their 80s have the arteries of Americans in their 50s**
 - **Lancet study shows diet low on processed carbs, sugar, cholesterol, while active living boosts heart health**
 - By Amina Zafar, [CBC News](#) Posted: Mar 17, 2017 12:24 PM ET Last Updated: Mar 19, 2017 10:20 AM ET



- **Coronary atherosclerosis in indigenous South American Tsimane: a cross-sectional cohort study. *Lancet*, Published: 17 March 2017**

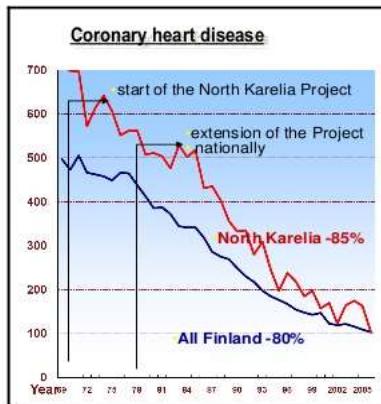
“The Finnish Town That Went on a Diet” -

- <http://www.theatlantic.com/health/archive/2015/04/finlands-radical-heart-health-transformation/389766/>



Change in age-adjusted mortality rates

North Karelia, males aged 35–64 (per 100 000 population)

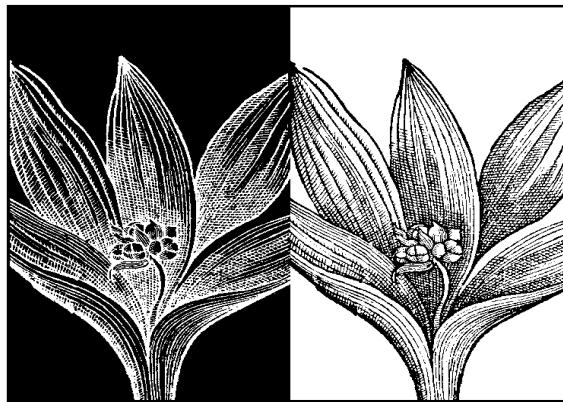


	Rate per 100 000		
	1969-1971	2006	Change from 1969-1971 to 2006
All causes	1509	572	-62%
All cardiovascular	855	182	-79%
Coronary heart disease	672	103	-85%
All cancers	271	96	-65%

Gain of nearly 10 healthy years
in North Karelian population

Jousilahti P, Laatikainen T, Peltonen M, Borodulin K, Männistö S, Jula A, Salomaa V, Harald K, Puska P, Vartiainen E. Primary prevention and risk factor reduction in coronary heart disease mortality among working aged men and women in eastern Finland over 40 years: population based observational study. *BMJ*. 2016 Mar 1;352:i721.





I N T E G R A T I V E
M E D I C I N E
C E N T E R
AT GRIFFIN HOSPITAL

The Spiral Stair-

■ Holistic Medicine: How To Define It

- Posted: 03/ 6/11 12:12 PM ET
- http://www.huffingtonpost.com/david-katz-md/holism-helicopters-spiral_b_828643.html

THE HUFFINGTON POST

More than either/or:

CARE construct: Clinical Applications of Research Evidence. Adapted from: Katz

DL, Ali A. Preventive Medicine, Integrative Medicine & The Health Of The Public. National Academies of Science. 2/09

Effectiveness	Safety	Support	Alternatives	Confluence with Patient Preference	Overall Rank
High	High	Strong	Absent	Yes	High
↔	↔	↔	↔	↔	↔
Low	Low	Weak	Numerous	No	Low

Circulation

AHA SCIENCE ADVISORY

Medical Nutrition Education, Training, and Competencies to Advance Guideline-Based Diet Counseling by Physicians

A Science Advisory From the American Heart Association

ABSTRACT: Growing scientific evidence of the benefits of heart-healthy dietary patterns and of the massive public health and economic burdens attributed to obesity and poor diet quality have triggered national calls to increase diet counseling in outpatients with atherosclerotic cardiovascular disease or risk factors. However, despite evidence that physicians are willing to undertake this task and are viewed as credible sources of diet information, they engage patients in diet counseling at less than desirable rates and often do so without evidence-based nutrition data. There is a gap between what is known about the effectiveness of diet counseling and what is available to support it. Now, major reforms in undergraduate and graduate medical education designed to incorporate advances in the science of learning and to better prepare physicians for 21st century healthcare delivery are providing a new impetus and novel ways to expand medical nutrition education and training. This scientific advisory provides guidance to advance the education and training of physicians in medical nutrition and diet counseling. The scientific advisory also highlights the gaps in the education and training of physicians in nutrition in the United States, summarizes enforcement support and facilitates more robust nutrition education and training, and outlines new opportunities for accomplishing this goal via multidimensional curricula, pedagogies, technologies, and competency-based assessments. Real-world examples of efforts to improve undergraduate and graduate medical education in nutrition by integrating formal learning with practical clinical inquiry, interprofessional education, and community health management activities are provided. The authors conclude that enhancing physician education and training in nutrition, as well as increasing collaborative nutrition care delivery by 21st century health systems, will reduce the health and economic burdens from atherosclerotic cardiovascular disease to a degree not previously realized.

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Penny Kris-Etherton, PhD,
RD, FAHA
On behalf of the American
Heart Association Nutrition
Committee of the
Council on Lifestyle and
Cardiometabolic Health;
Council on Cardiovascular
and Stroke Nursing;
Council on Cardiovascular
Radiology and Intervention; and Stroke
Council

Key Words: AHA Scientific Statement:
● diet ● nutrition ● obesity
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<http://circ.ahajournals.org>

Circulation. 2018;137:e00-00. DOI: 10.1161/CIR.0000000000000563

June 5, 2018 e1

 American College of
Lifestyle Medicine

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Lifestyle Medicine Core Competencies Program

Lifestyle Medicine Core Competencies Program

The Lifestyle Medicine Core Competency Online Program is an evidence-based program designed to provide a comprehensive foundation for doctors as well as nurses, nurse practitioners, physician assistants, dietitians, health coaches, and other allied health professionals with an interest in learning the basic foundational principles of lifestyle medicine. Maintenance of Certification (MOC) is available for [select medical specialties](#).

What is Lifestyle Medicine?

Lifestyle medicine is the evidence-based therapeutic approach to prevent, treat and reverse lifestyle-related chronic diseases. Comprehensive lifestyle interventions (including nutrition, physical activity, stress management, sleep, social support and environmental exposures) address underlying disease risks, thereby decreasing illness burden and improving clinical outcomes within value-based medicine. Lifestyle medicine should be seen as a core competency for preventive and primary care medicine.

Important examples of where these competencies have already been employed include:

- NIH's booklet "[Living Well With Heart Disease](#)"
- The [DASH Diet](#), based on research by the National Heart, Lung, and Blood Institute (NHLBI)
- Dozens of articles available in MedlinePlus on [healthy living](#) that underpin lifestyle medicine

OPINION CULTURE

Cooking With Your Doctor: The New Culinary Medicine

February 18, 2016 · 11:40 AM ET

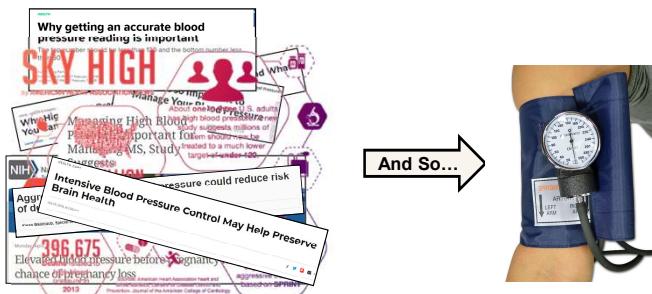
BARBARA J. KING



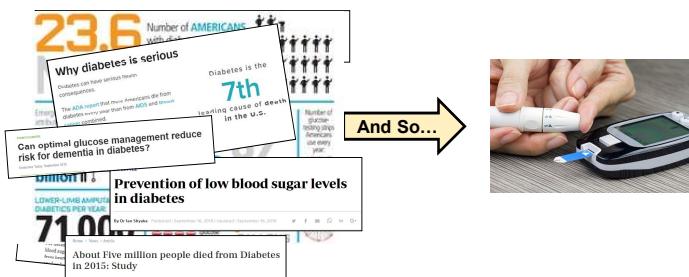
connection...



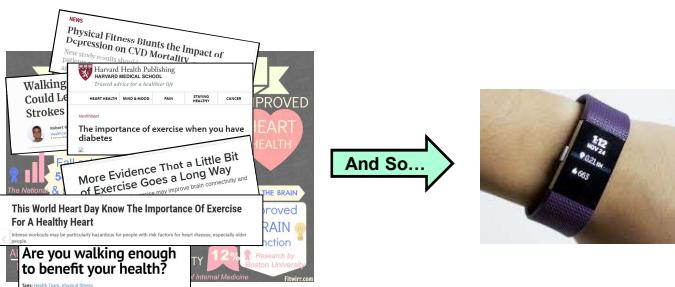
Blood pressure is enormously important to health...



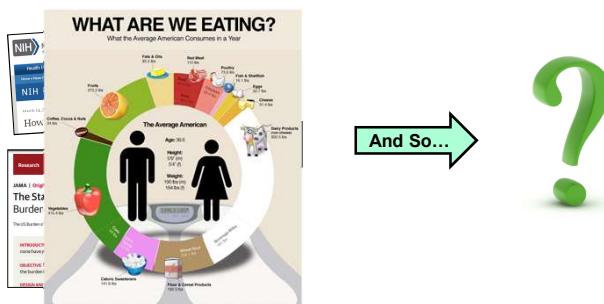
Blood glucose is enormously important to health...



Fitness is enormously important to health...



But DIET is MOST important to health ...



There WAS no good way to measure and track the most important variable in the health equation...

<p>PAGE NUMBER:</p> <p>DRAFT CHANGES:</p> <p>1. What is your favorite food?</p> <p>If yes, how many pieces?</p> <p>2. If you eat at a restaurant, what kind of place do you like?</p> <p>3. How many times a week do you eat meat?</p> <p>4. Do you eat meat?</p> <p>5. Do you eat eggs?</p> <p>6. Do you eat fruit?</p> <p>7. Do you eat vegetables?</p> <p>8. Do you eat bread?</p> <p>9. Do you eat sweets?</p> <p>10. Use the table you have been given to change the following words.</p>	<p>STANDARD QUESTIONS:</p> <p>1. What was the name of your first pet?</p> <p>2. What was the name of your first teacher?</p> <p>3. What was the name of your first school?</p> <p>4. What was the name of your first job?</p> <p>5. What was the name of your first car?</p> <p>6. What was the name of your first house?</p> <p>7. What was the name of your first love?</p> <p>8. What was the name of your first date?</p> <p>9. What was the name of your first kiss?</p> <p>10. What was the name of your first vacation?</p>	<p>ANSWER SECTION:</p> <p>1. Food we eat:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Butter <input type="checkbox"/> Margarine <input type="checkbox"/> Red meat <input type="checkbox"/> Fish <input type="checkbox"/> Eggs <input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Bread <input type="checkbox"/> Sweets <p>2. Food we don't eat:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Butter <input type="checkbox"/> Margarine <input type="checkbox"/> Red meat <input type="checkbox"/> Fish <input type="checkbox"/> Eggs <input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Bread <input type="checkbox"/> Sweets <p>3. Food we eat every day:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Butter <input type="checkbox"/> Margarine <input type="checkbox"/> Red meat <input type="checkbox"/> Fish <input type="checkbox"/> Eggs <input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Bread <input type="checkbox"/> Sweets <p>4. Food we eat once a week:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Butter <input type="checkbox"/> Margarine <input type="checkbox"/> Red meat <input type="checkbox"/> Fish <input type="checkbox"/> Eggs <input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Bread <input type="checkbox"/> Sweets <p>5. Food we eat once a month:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Butter <input type="checkbox"/> Margarine <input type="checkbox"/> Red meat <input type="checkbox"/> Fish <input type="checkbox"/> Eggs <input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Bread <input type="checkbox"/> Sweets <p>6. Food we eat once a year:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Butter <input type="checkbox"/> Margarine <input type="checkbox"/> Red meat <input type="checkbox"/> Fish <input type="checkbox"/> Eggs <input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Bread <input type="checkbox"/> Sweets
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THE FUNDAMENTALS FOR GOOD NUTRITION
HAVEN'T CHANGED FOR DECADES



THE CASE FOR A TRUE HEALTH COALITION

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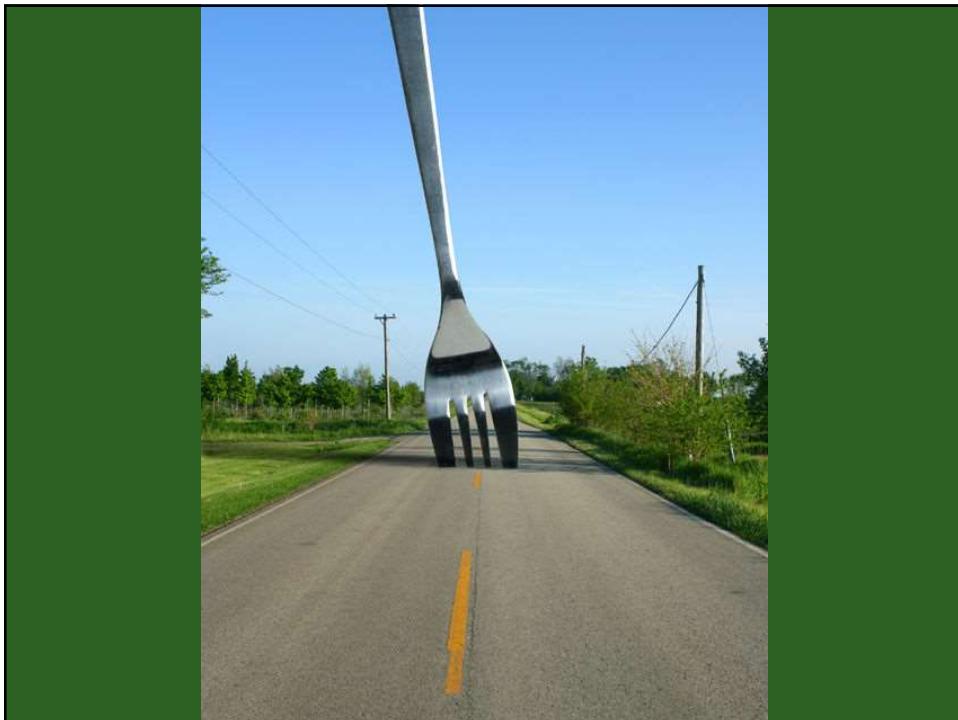
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Thank you!

David L. Katz, MD, MPH, FACPM, FACP, FACLM
Director, Yale Prevention Research Center
Founder, True Health Initiative

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Derby, CT 06418
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Thank you!

It's not what we don't know about diet that most threatens our health; it's the constant, wild misrepresentations of what we do know.