

Post-Covid Strategies: Connecting Pandemic Outcomes, Health Equity and Fiscal Sustainability

October 26, 2021

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SOA Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants. The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

Presentation Disclaimer

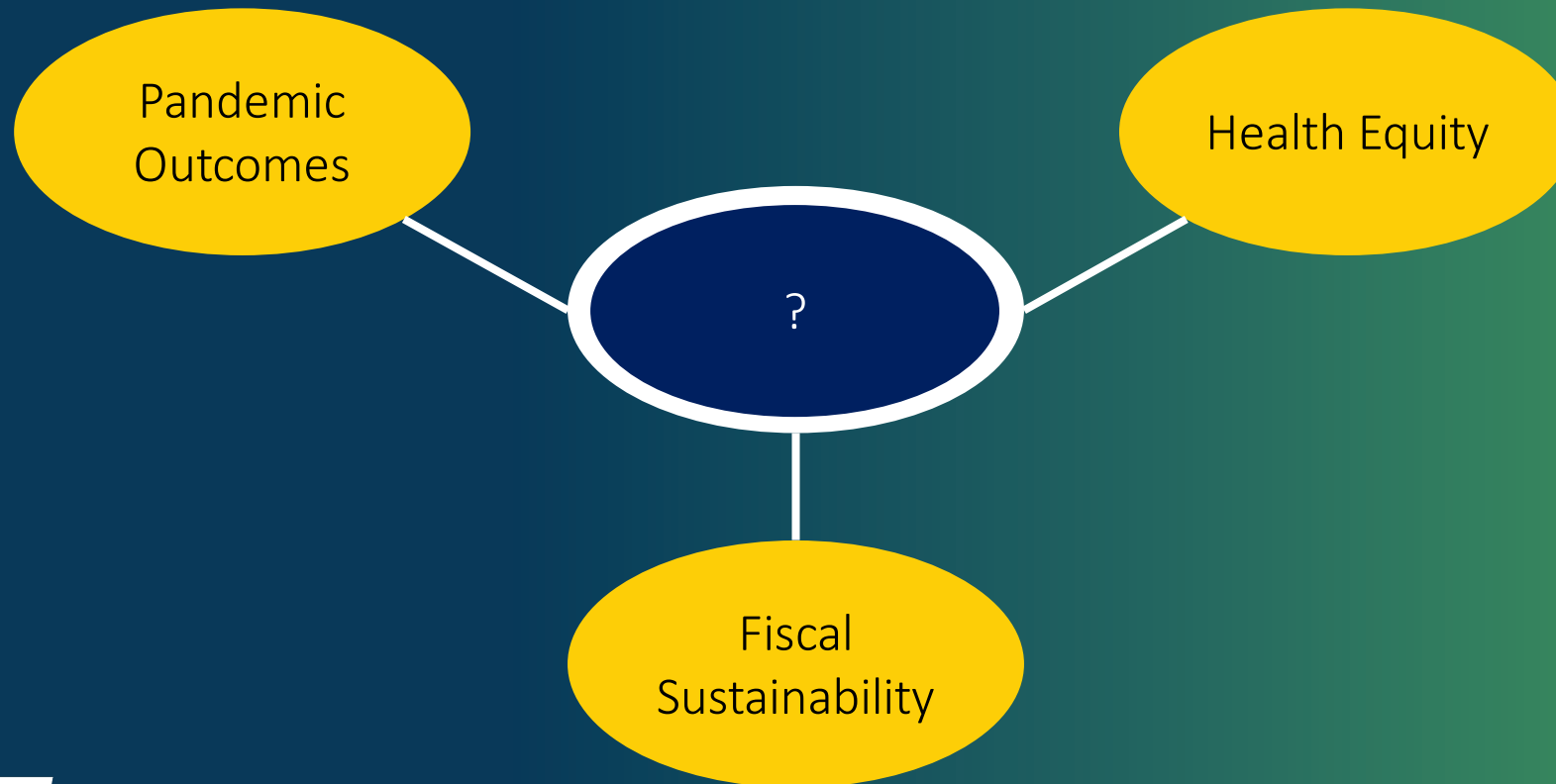
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WARM-UP QUESTION

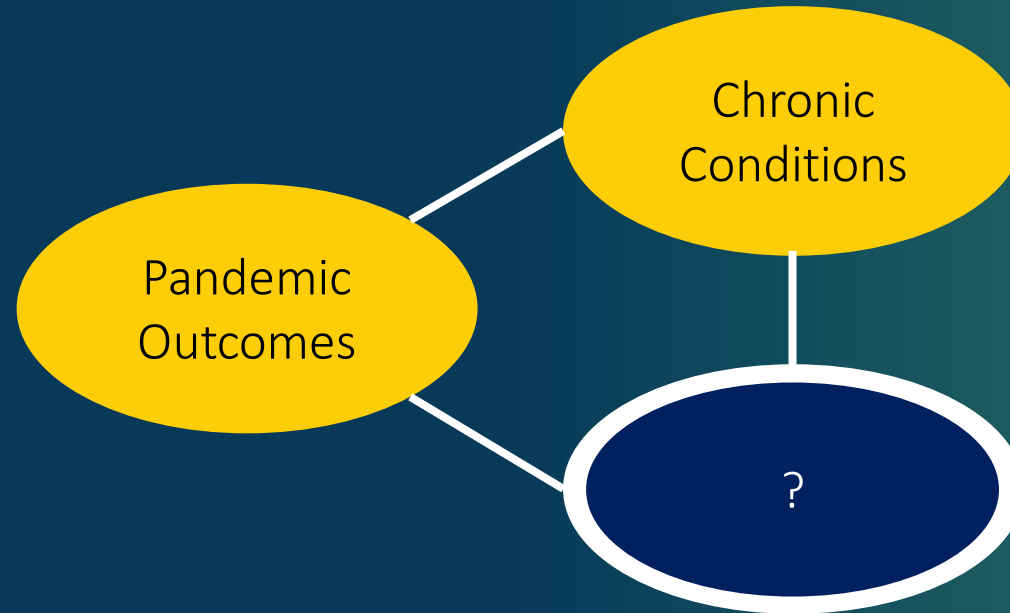
Where are you located?

- a) Asia
- b) Australia
- c) Europe
- d) Africa
- e) South America
- f) North America (except US)
- g) US

Connecting the Dots



Connecting the Dots



QUESTION 1

U.S. Center for Disease Control analysis

What percentage of the individuals hospitalized due to COVID-19 had an underlying chronic health condition, such as high blood pressure, diabetes, obesity, or heart disease?

a) 73%

b) 84%

c) 92%

d) 97%

Source: https://gis.cdc.gov/grasp/covidnet/COVID19_5.html

QUESTION 2

Global Burden of Disease Study analysis of U.S. Health from 1990-2016

Which of the following is the #1 risk factor for death and the #3 risk factor for disability?

- a) Tobacco use
- b) Dietary habits
- c) Alcohol or drug use
- d) Insufficient levels of exercise and physical activity

Source: <https://jamanetwork.com/journals/jama/fullarticle/2678018>

Figure 2. Number of Deaths and Percentage of Disability-Adjusted Life-Years Related to the 17 Leading Risk Factors in the United States, 2016

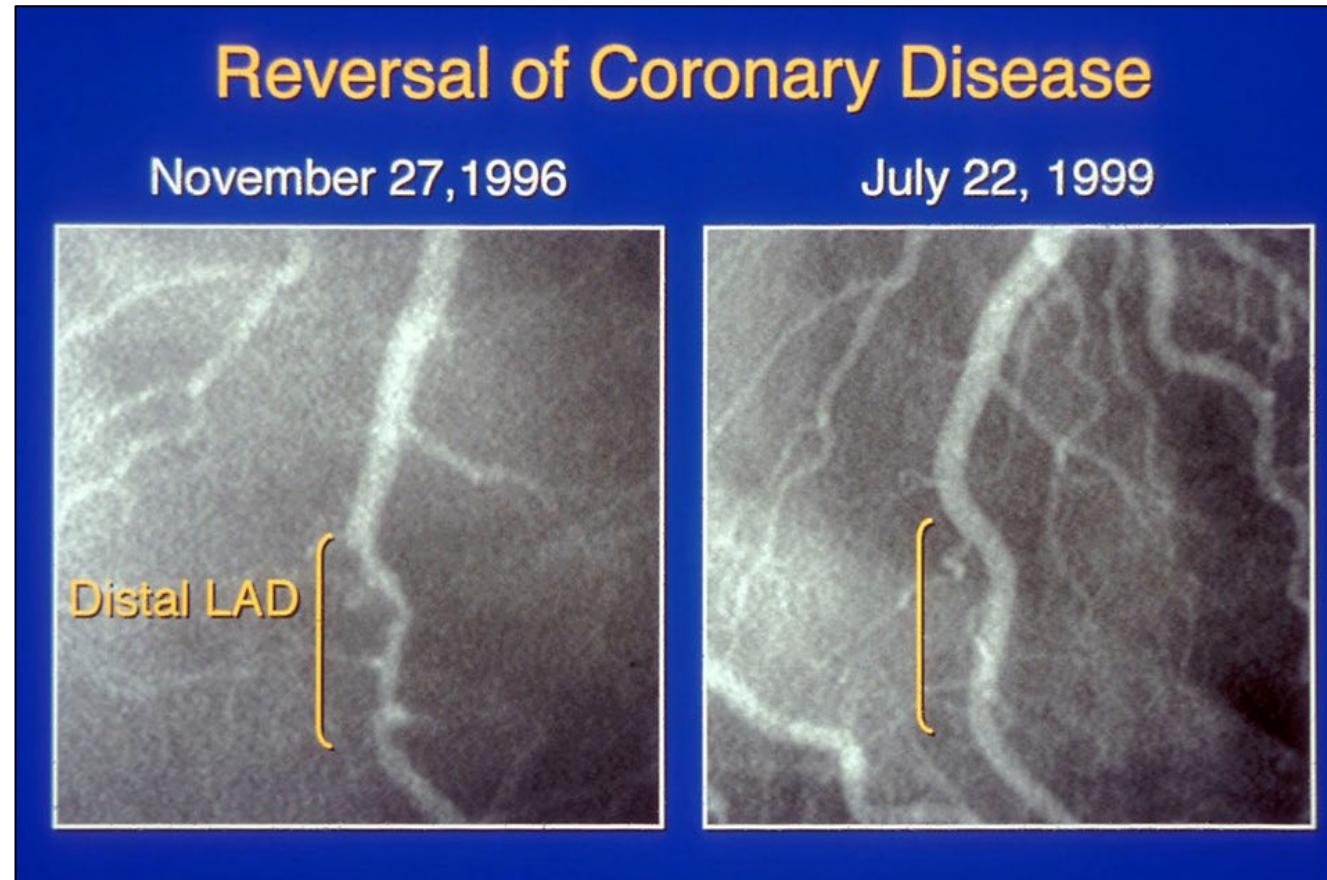
QUESTION 3

What is the most common method currently used to manage individuals diagnosed with heart disease?

- a) Intensive diet and lifestyle change
- b) Prescription for a statin drug
- c) Stent procedure
- d) Coronary artery bypass surgery

Source: <https://www.health.harvard.edu/blog/statin-use-is-up-cholesterol-levels-are-down-are-americans-hearts-benefiting-201104151518>

HEART DISEASE IS REVERSIBLE



Source: <http://www.dresselstyn.com/revolution.htm>

QUESTION 4

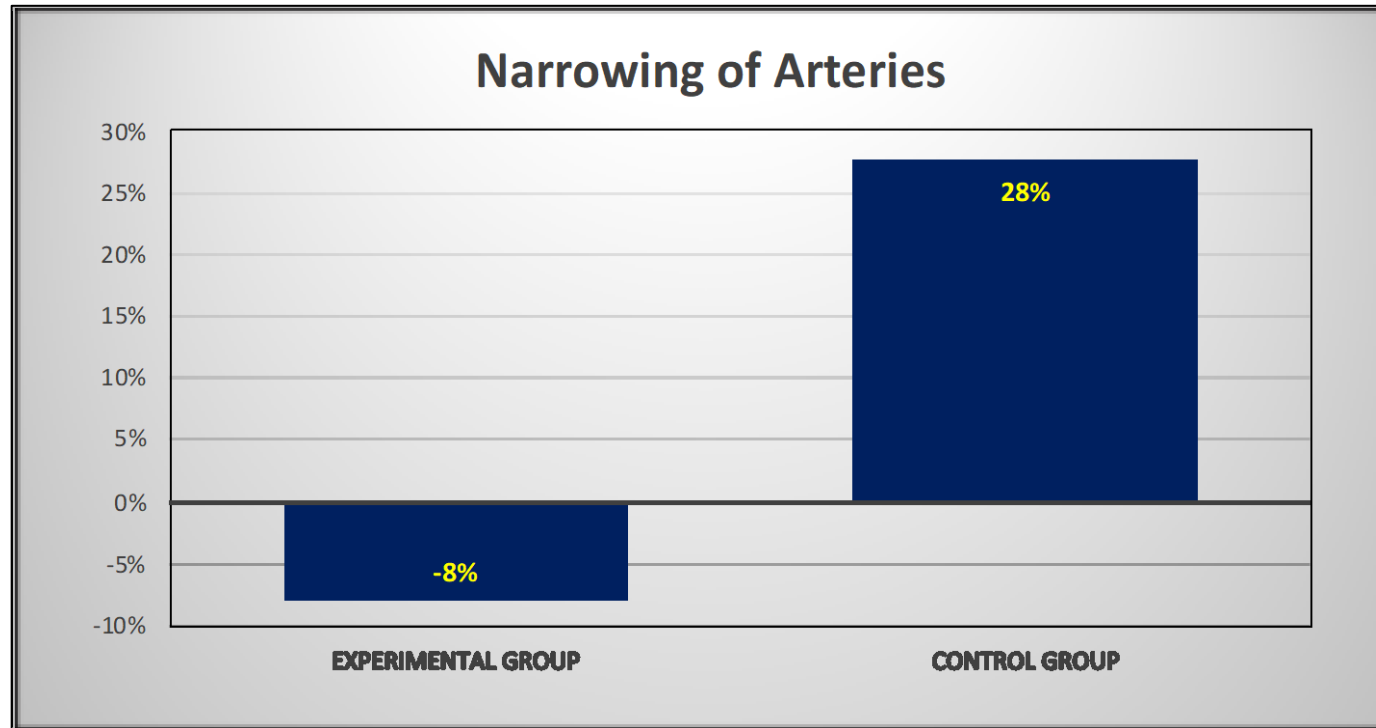
Dr. Dean Ornish's randomized controlled trial

For heart disease patients being treated with diet and lifestyle changes, how much was their reduction in artery blockages relative to a control group who made no changes?

- a) Less than 10%
- b) 10-20%
- c) 20-30%
- d) Over 30%

Source: [Dean Ornish et al., Intensive Lifestyle Changes for Reversal of Coronary Heart Disease, JAMA 280 \(16 Dec 1998\):2001-2007.](#)

REVERSAL OF CORONARY ARTERIOSCLEROSIS



Source: [Dean Ornish et al., Intensive Lifestyle Changes for Reversal of Coronary Heart Disease, JAMA 280 \(16 Dec 1998\):2001-2007.](#)

QUESTION 5

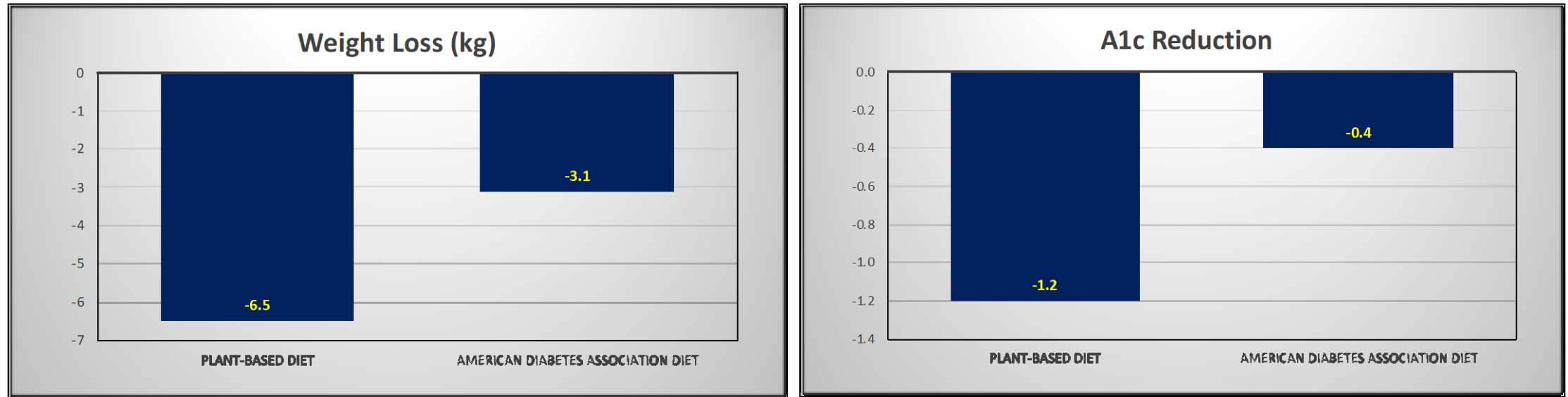
Dr. Neal Barnard's randomized controlled trial

Which food strategy has been shown to be effective in weight loss for diabetes patients?

- a) Consuming high levels of complex carbohydrates
- b) Focusing on the types of foods instead of the amount of food consumed
- c) Restricting processed and animal-based foods
- d) All of the above

Source: Neal D. Barnard, et al., A Low-Fat Vegan Diet Improves Glycemic Control and Cardiovascular Risk Factors in a Randomized Clinical Trial in Individuals With Type 2 Diabetes, *Diabetes Care* 29 (August 2006): 1777-1783.

REVERSING TYPE 2 DIABETES



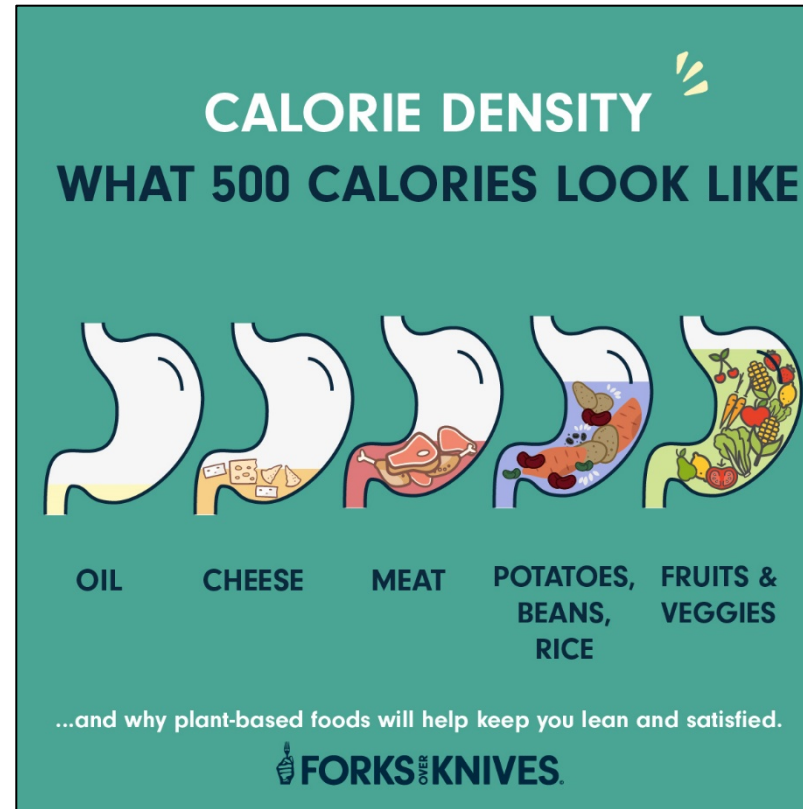
Source: [Neal D. Barnard, et al., A Low-Fat Vegan Diet Improves Glycemic Control and Cardiovascular Risk Factors in a Randomized Clinical Trial in Individuals With Type 2 Diabetes, *Diabetes Care* 29 \(August 2006\): 1777-1783.](#)

WHOLE FOOD PLANT-BASED (WFPB) DIET



Source: www.ThePowerPlate.org

WHY IT WORKS?



Source: https://www.forksoverknives.com/wp-content/uploads/FOK_CalorieDensity_Final.jpg

QUESTION 6

Which food item would be included in a Whole Food Plant-Based (WFPB) diet?

- a) Low fat yogurt
- b) Egg whites
- c) Potatoes
- d) Olive oil

Source: <https://www.forksoverknives.com/how-tos/plant-based-primer-beginners-guide-starting-plant-based-diet/>

QUESTION 7

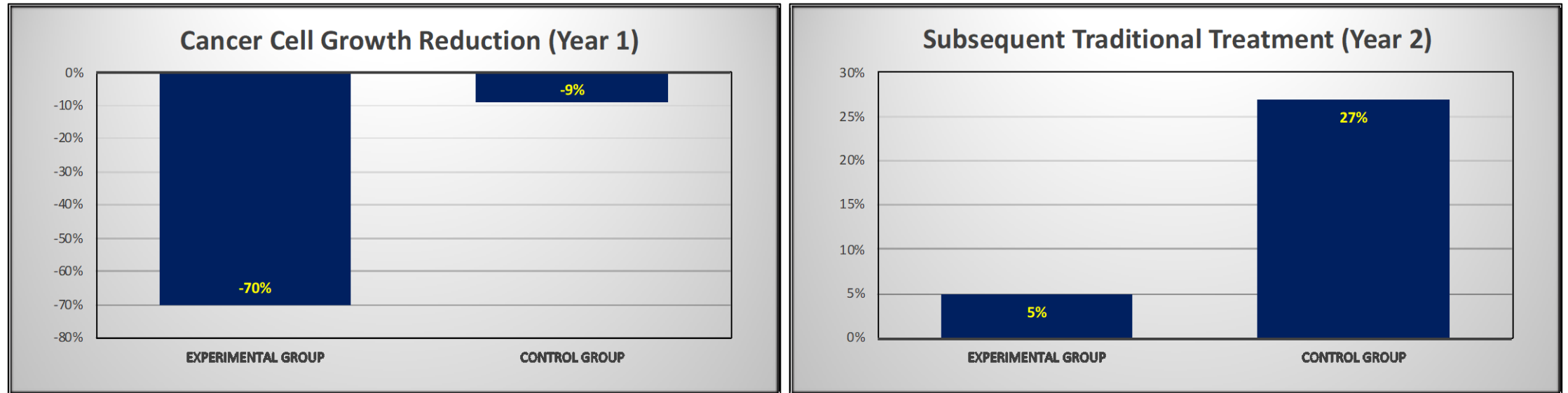
Dr. Dean Ornish randomized controlled trial

Which form of early-stage cancer has been shown to be reversed by a plant-based diet and lifestyle changes?

- a) Prostate cancer
- b) Lung cancer
- c) Breast cancer
- d) Ovarian cancer

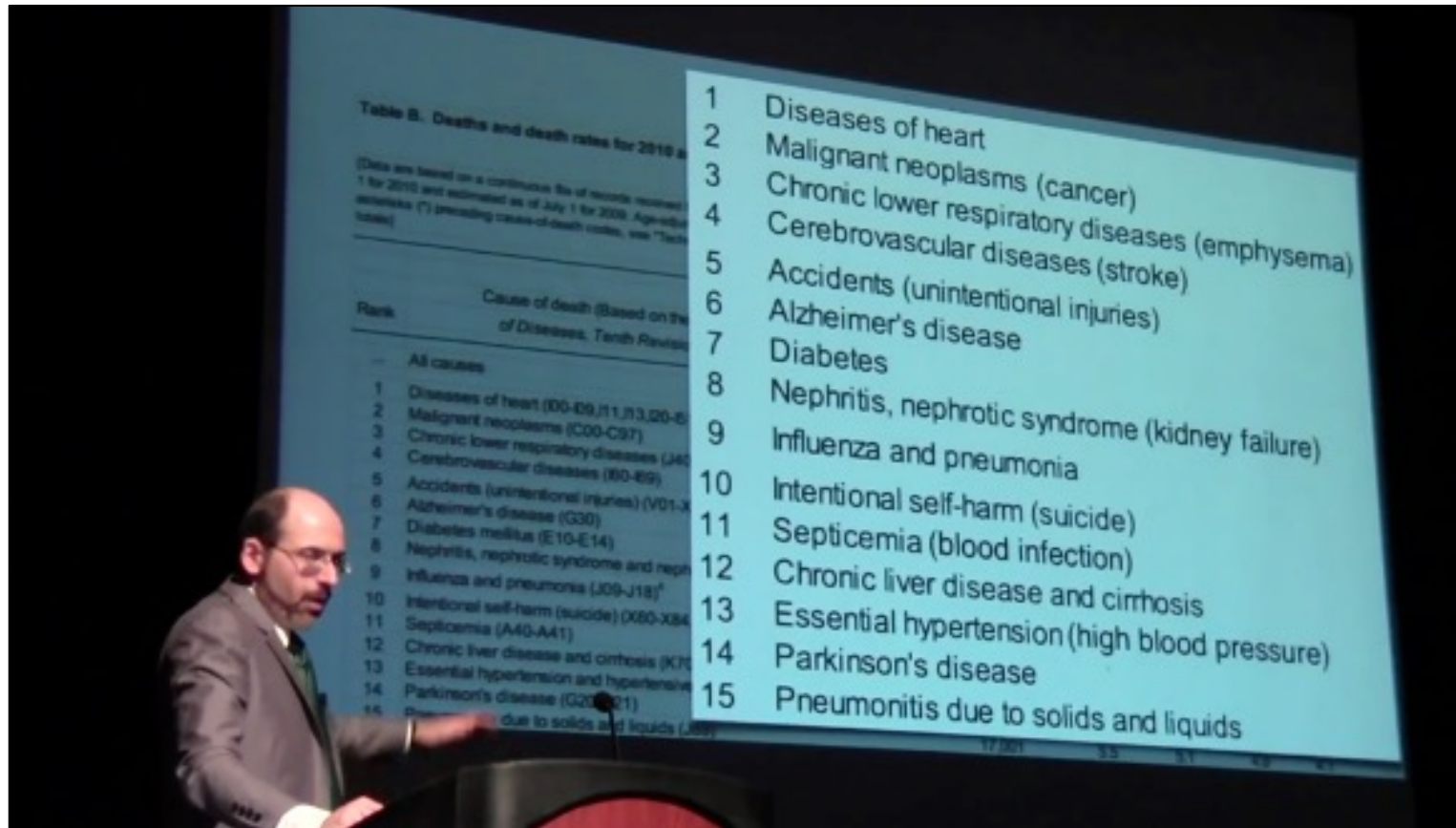
Source: [Dean Ornish et al., Intensive Lifestyle Changes May Affect the Progression of Prostate Cancer, *The Journal of Urology* 174 \(September 2005\).](#) [Joanne Frattaroli et al., Clinical Events in Prostate Cancer Lifestyle Trial: Results from Two Years of Follow-Up, *Urology* 72 \(December 2008\).](#)

REVERSING EARLY-STAGE PROSTATE CANCER



Source: [Dean Ornish et al., Intensive Lifestyle Changes May Affect the Progression of Prostate Cancer, *The Journal of Urology* 174 \(September 2005\).](#) [Joanne Frattaroli et al., Clinical Events in Prostate Cancer Lifestyle Trial: Results from Two Years of Follow-Up, *Urology* 72 \(December 2008\).](#)

“ONE DIET TO RULE THEM ALL”



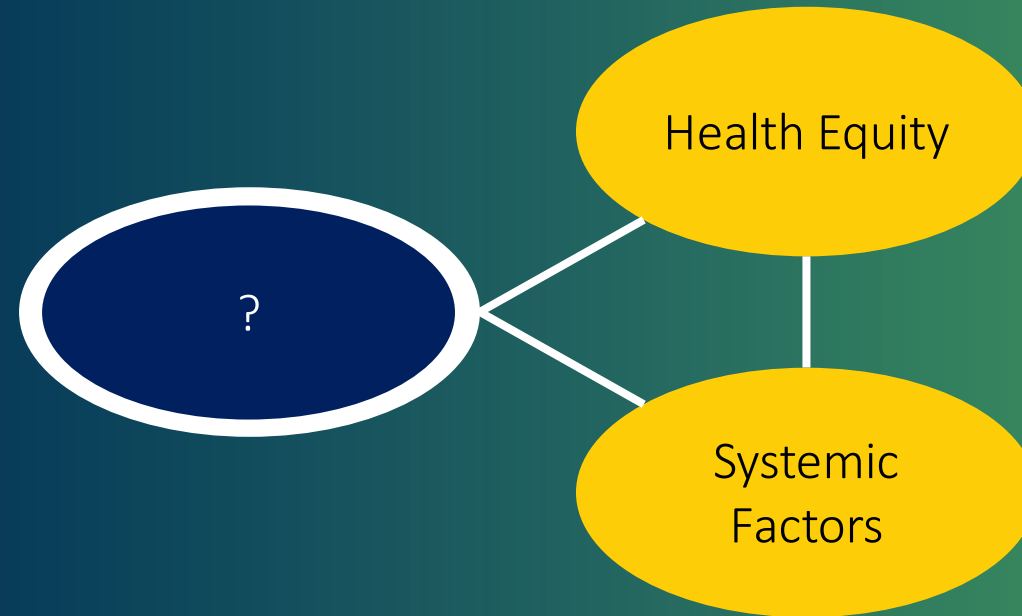
Michael Greger, M.D.

- Author of *How Not to Die*
- Founder of nonprofit NutritionFacts.org site

Original source:

<https://youtu.be/30gEiweaAVQ>
(from 46:15)

Connecting the Dots



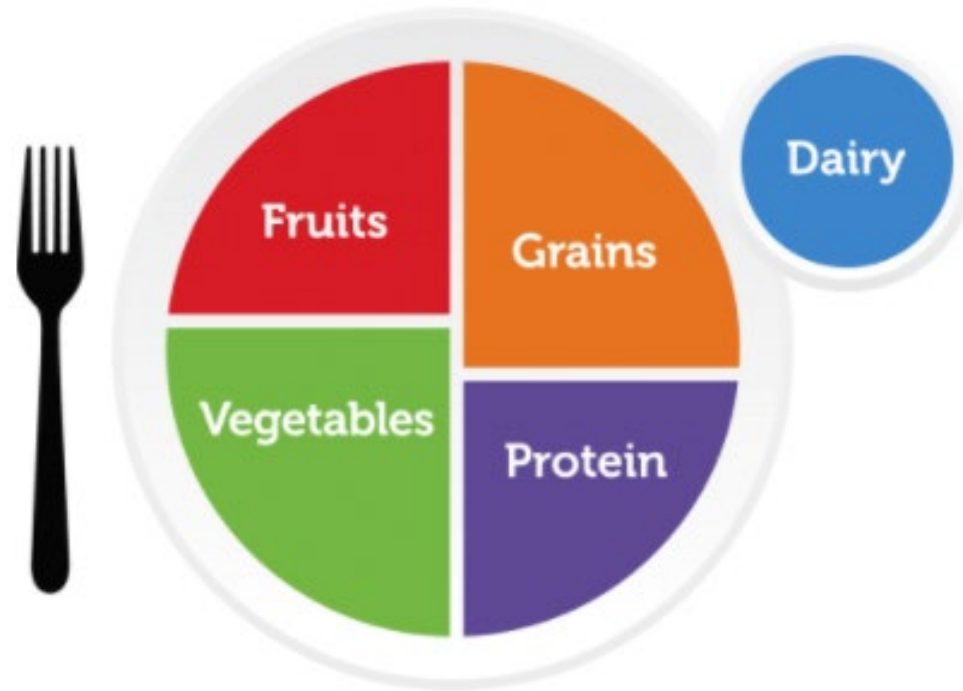
QUESTION 8

Which country includes dairy as a recommended food group in their national dietary guidelines?

- a) Canada
- b) Italy
- c) Mexico
- d) US

Source: <https://food-guide.canada.ca/en/guidelines/section-1-foundation-healthy-eating/>
<https://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/italy/en/>
<https://www.fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/mexico/en/>

US DIETARY GUIDELINES WITH MyPlate



Source: US Department of Agriculture, <https://www.myplate.gov/>
<https://www.dietaryguidelines.gov/>

QUESTION 9

The majority of which populations have difficulty digesting milk and other dairy products (lactose intolerance)?

- a) African Americans
- b) Asian Americans
- c) Native Americans
- d) Hispanic Americans
- e) All of the above

Source: [Bertron P, Barnard ND, Mills M. Racial bias in federal nutrition policy, part I: the public health implications of variations in lactase persistence. J Natl Med Assoc. 1999;91:151–157](#)

DIETARY GUIDELINES AND MINORITY GROUPS



Milton Mills, M.D.

- Member of the Board of Directors, Plant-Based Prevention of Disease
- Former Associate Director of Preventive Medicine and National Advisory Board member, Physicians Committee for Responsible Medicine

Original source:

<https://youtu.be/sKzUD8eFb0E>

(from 1:03)

QUESTION 10

World Health Organization in 2015

Which food products were classified to be in the same category as asbestos and tobacco?

- a) Processed meat (such as hot dogs, ham, sausage, and beef jerky)
- b) Red Meat (such as beef, pork, and lamb)
- c) Dairy products (such as milk, cheese, butter, and cream)
- d) All of the above






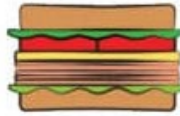




Source: https://www.iarc.who.int/wp-content/uploads/2018/07/pr240_E.pdf

PROCESSED MEAT IN LOW-INCOME GROUPS

An analysis of the largest school districts in California, where the vast majority of those eligible for free and reduced-price meals are students of color...

Source: <https://foe.org/resources/the-state-of-school-lunch-in-california/>

Figure 1. **Top 10 Entrées Offered at California's 25 Largest School Districts (2019)**

1		Chicken sandwich	6		Bean and cheese entrées
2		Chicken bowls	7		Ground beef dishes
3		Meat pizza ♦	8		Meat deli sandwich ♦
4		Cheeseburger	9		Chicken strips/tenders
5		Cheese pizza	10		Hot dog ♦

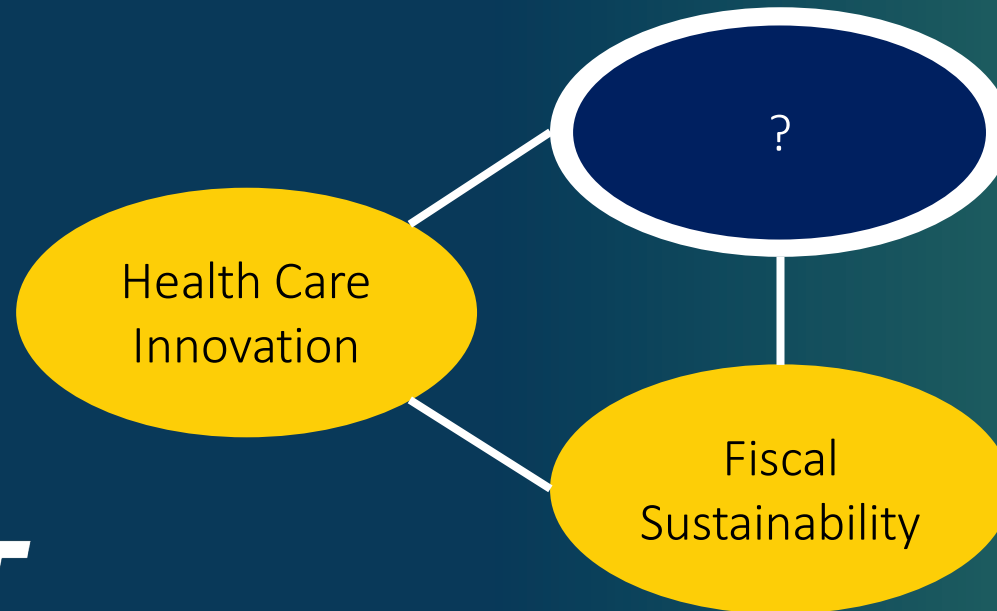
♦ Entrée contains processed meat

HEALTH DISPARITIES

The AMA supports **culturally responsive dietary and nutritional guidelines** and recognizes that racial and ethnic disparities exist in the prevalence of obesity and diet-related diseases such as coronary heart disease, cancer, stroke, and diabetes. **Dairy and meat products are promoted in federal nutrition policies even though they are not nutritionally required.** The AMA notes that **Black Americans are at particularly high risk for prostate cancer, colorectal cancer, and cardiovascular mortality**, and prostate and colorectal cancers are strongly linked to dairy, processed meat, and red meat consumption. Such products also contribute to cardiovascular risk and are not nutritionally indicated for all diets. Accordingly, the AMA recommends that the DGAC clearly indicate in the Dietary Guidelines for Americans (DGA) that meat and dairy products are optional, based on an individual's dietary needs.

Source: *AMA letter to USDA on 8/13/2020*, <https://pcrm.widen.net/s/m2mwbvtbpg/2020-8-13-american-medical-association-dietary-guidelines-letter>

Connecting the Dots



QUESTION 11

Meta-analysis of randomized controlled trials

Currently, nearly 300,000 stent procedures are performed annually in the US on inpatients with stable heart disease. The average cost of this procedure is nearly \$40,000. If 50% of these procedures could be avoided, by how much could health care spending be reduced?

- a) \$12,000,000
- ☒ b) \$6,000,000,000
- c) \$12,000,000,000
- d) \$24,000,000,000

Source: <https://www.ahajournals.org/doi/10.1161/JAHA.117.007006>.

<https://pubmed.ncbi.nlm.nih.gov/23010084/>

<https://healthcostinstitute.org/in-the-news/international-comparisons-of-health-care-prices-2017-ifhp-survey>

WHAT ABOUT NUTRITION?



Joseph S. Alpert, M.D.

- Editor-in-Chief, American Journal of Medicine
- Honorary member of the Danish Cardiovascular Society, the Argentina Cardiology Association, and the Israeli Heart Society

Original source:

<https://www.youtube.com/watch?v=Tm-VkP76FVs> (from 0:16)

QUESTION 12

In 2013, physicians from which health care system recommended “Physicians should consider recommending a plant-based diet to all their patients, especially those with high blood pressure, diabetes, cardiovascular disease, or obesity.”

- a) Kaiser Permanente
- b) Cleveland Clinic
- c) University of Pittsburgh Medical Center (UPMC)
- d) HCA Healthcare

Source: <https://www.thepermanentejournal.org/issues/2013/spring/5117-nutrition.html>

QUESTION 13

The first hospital in the world to only offer plant-based foods to patients is located in which country?

- a) Japan
- b) Costa Rica
- c) Lebanon
- d) Spain

Source: <https://www.instagram.com/p/CL34isaMYcp/>

ADDRESSING THE ELEPHANT IN THE ROOM



Source: <https://www.instagram.com/p/CL34isaMYcp/>



hayekhospital There's an elephant in the room that no one wants to see.

* * *

When adopting a plant based exclusive diet has been scientifically proven not only to stop the evolution of certain diseases but it can also reverse them.

We then, have the moral responsibility to act upon and align our beliefs with our actions. Taking the courage to look at the elephant in the eye.

* * *

QUESTION 14

U.S. Center for Disease Control analysis

Which condition is responsible for the greatest number of doctor visits?

a) High blood pressure

b) Obesity

c) Heart disease

d) Diabetes

Source: Santo L, Okeyode T. National Ambulatory Medical Care Survey: 2018 National Summary Tables. Available from: https://www.cdc.gov/nchs/data/ahcd/namcs_summary/2018-namcs-web-tables-508.pdf (table 14)

QUESTION 15

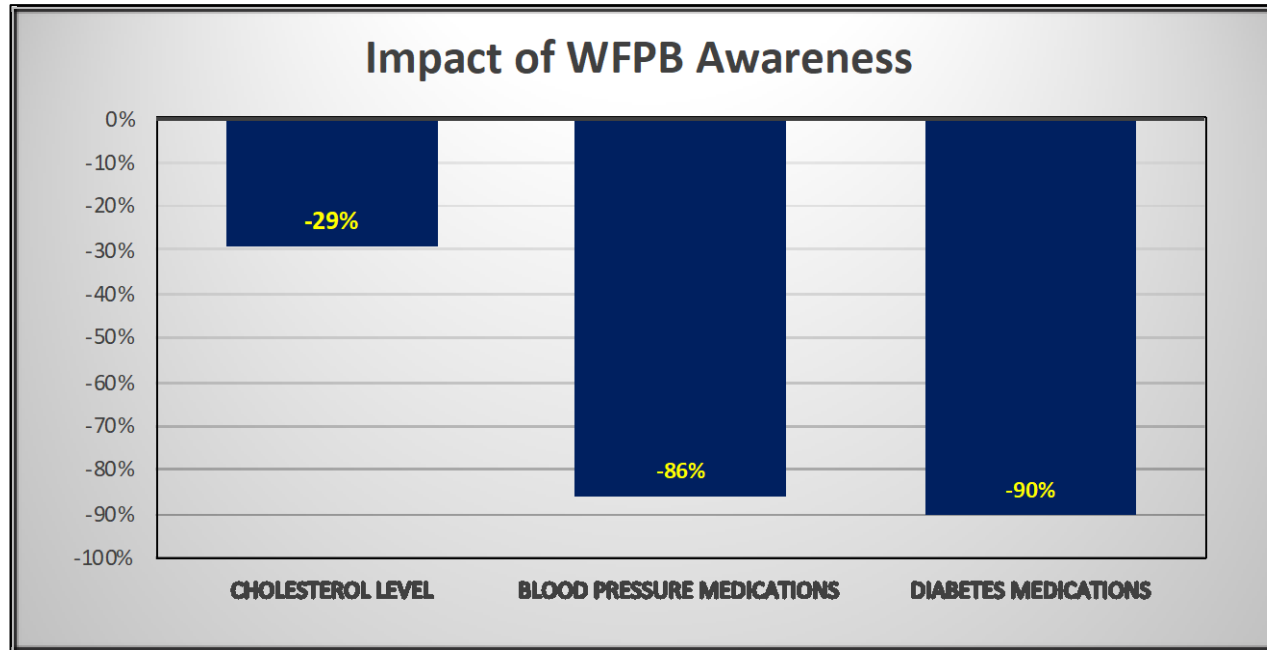
McDougall Program study

After educating employees on a Whole Food Plant-Based (WFPB) diet and providing WFPB meals, which reduction(s) were seen after 7 days?

- a) Reduction in blood pressure medications
- b) Reduction in cholesterol levels
- c) Reduction in diabetes medications
- d) All of the above

Source: [John McDougall et al., Effects of 7 Days on an Ad Libitum Low-Fat Vegan Diet: The McDougall Program Cohort, *Nutrition Journal* 13 \(2014\): 1–7.](#)

EMPLOYERS TRYING WFPB DIET AWARENESS



Source: [John McDougall et al., Effects of 7 Days on an Ad Libitum Low-Fat Vegan Diet: The McDougall Program Cohort, *Nutrition Journal* 13 \(2014\): 1–7.](#)

QUESTION 16

Complete Health Improvement Program (CHIP) at Vanderbilt University for employees with T2D

After one year, Vanderbilt University saw a change in medical costs and prescription costs of:

- a) 3% increase Medical / 3% decrease Rx
- b) 12% decrease Medical / 19% decrease Rx
- c) 40% decrease Medical / 14% decrease Rx
- d) 10% decrease Medical / 29% decrease Rx

Source: [CHIP Lifestyle Program at Vanderbilt University, Demonstrates an Early ROI for a Diabetic Cohort in a Workplace Setting: A Case Study, Dexter Shurney, MD, MBA, MPH; Sandra Hyde, MSPS; Kristina Hulsey, MSPS; Roy Elam, MD; Abby Cooper, MHI M; Jay Groves, Ed](#)

WHY NOW?



Kim A. Williams, M.D.

- Editor in Chief, International Journal of Disease Reversal and Prevention
- Former President, American College of Cardiology

Original source:

<https://www.youtube.com/watch?v=ZesNh4ftiGU> (from 19:39)

QUESTION 17

Study among health care workers across six countries

By how much did health care workers consuming a predominantly plant-based diet reduce their prevalence of severe or moderate COVID-19 outcomes?

a) 42%

b) 61%

c) 73%

d) 86%

Source: <https://nutrition.bmj.com/content/bmjnph/early/2021/05/18/bmjnph-2021-000272.full.pdf>



ACTION STEPS FOR ACTUARIES

- ❑ Try a Whole Food Plant-Based (WFPB) diet yourself for 30 days
- ❑ Use the knowledge of disease reversal through WFPB foods to develop innovative solutions

Payers	Offer WFPB knowledge and support as an equally viable option to expensive medicines, procedures, and surgeries
Payment systems	Design financial incentives to encourage health care providers to discuss WFPB treatment options
Public health entities and Employers	Create incentives to encourage eating more WFPB foods

STAY INFORMED



Actuaries for Sustainable Health Care
actuariesforsustainablehealthcare.org



Plantrician Project
plantricianproject.org



NutritionFacts.org
nutritionfacts.org

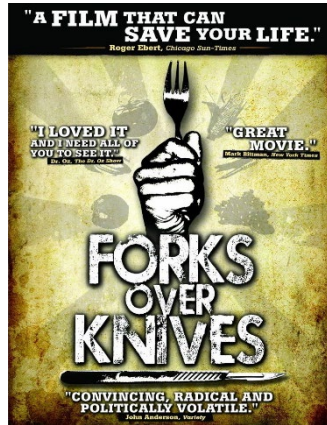


Economic Research Consortium
LMEconomicResearch.org

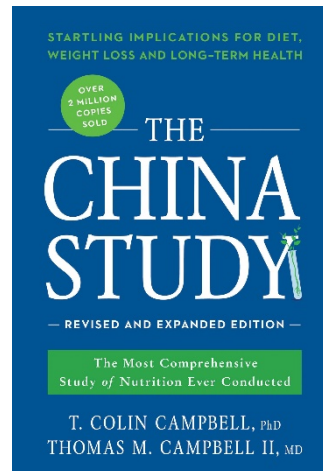
Prizes!



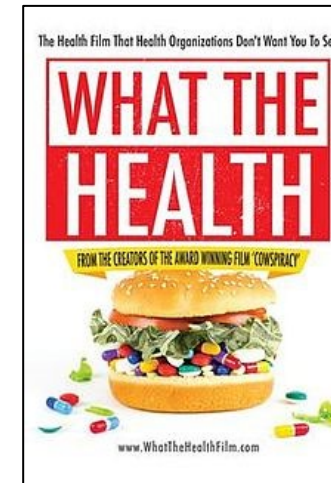
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