Food IS Medicine RDNs Needed!

Melissa Bernstein, PhD, RDN, LD, FAND, DipACLM, FACLM, FNAP
Associate Professor and Chair, Nutrition Department
College of Health Professions and Chicago Medical School
Rosalind Franklin University of Medicine and Science
Melissa.Bernstein@rosalindfranklin.edu

Disclosures

Melissa Bernstein collects royalties as an author of numerous textbooks on nutrition

Session Learning Objectives

- Appraise the evidence supporting the benefits of a Food Is Medicine diet prescription, in promoting health and for the treatment and reversal of chronic diseases
- Describe the role of RDNs as Food Is Medicine experts
- Confidently apply Food Is Medicine to enhance the overall wellness of patients, clients, and community.
- Explain the way in which RDNs can take a leadership role as part of the interprofessional healthcare team in educating and empowering patients to adopt healthy dietary patterns

My Journey

My “Ah-Ha” Moment

What I eat affects how I feel

Defining Food is Medicine

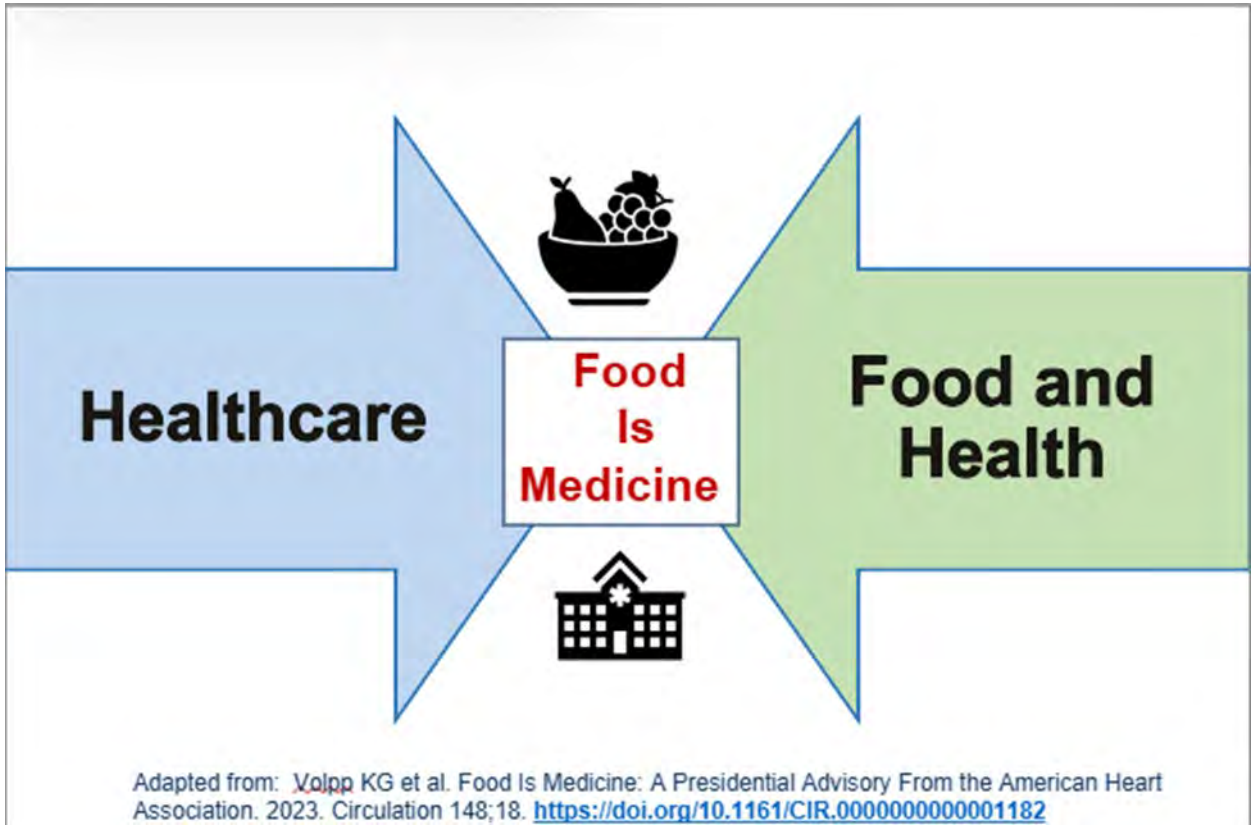
Integrates food & nutrition interventions into healthcare

Emphasizes the strategic use of nutritious foods

Aims to reduce disease burden through food-based interventions

Recognizes that proper nourishment is essential for well-being and resilience

Fosters a deeper understanding of the link between nutrition and health



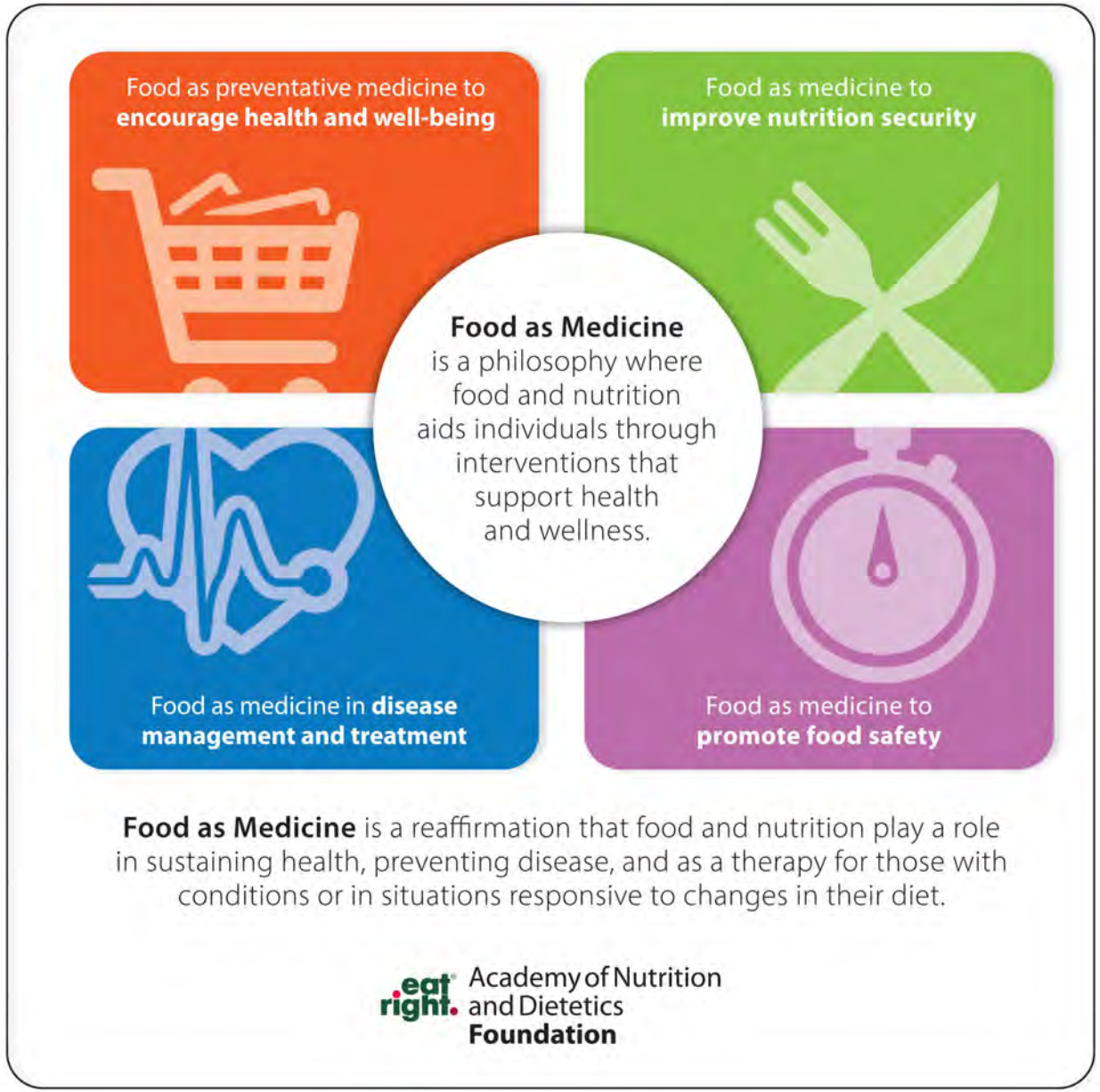
Adapted from Volpp KG et al. Food Is Medicine: A Presidential Advisory From the American Heart Association. 2023. Circulation 148;18. https://doi.org/10.1161/CIR.0000000000001182

Defining Food as Medicine

Building Healthy Eating patterns

Access to Healthy and Affordable Food

Preparing wholesome Nutrient-Dense Meals



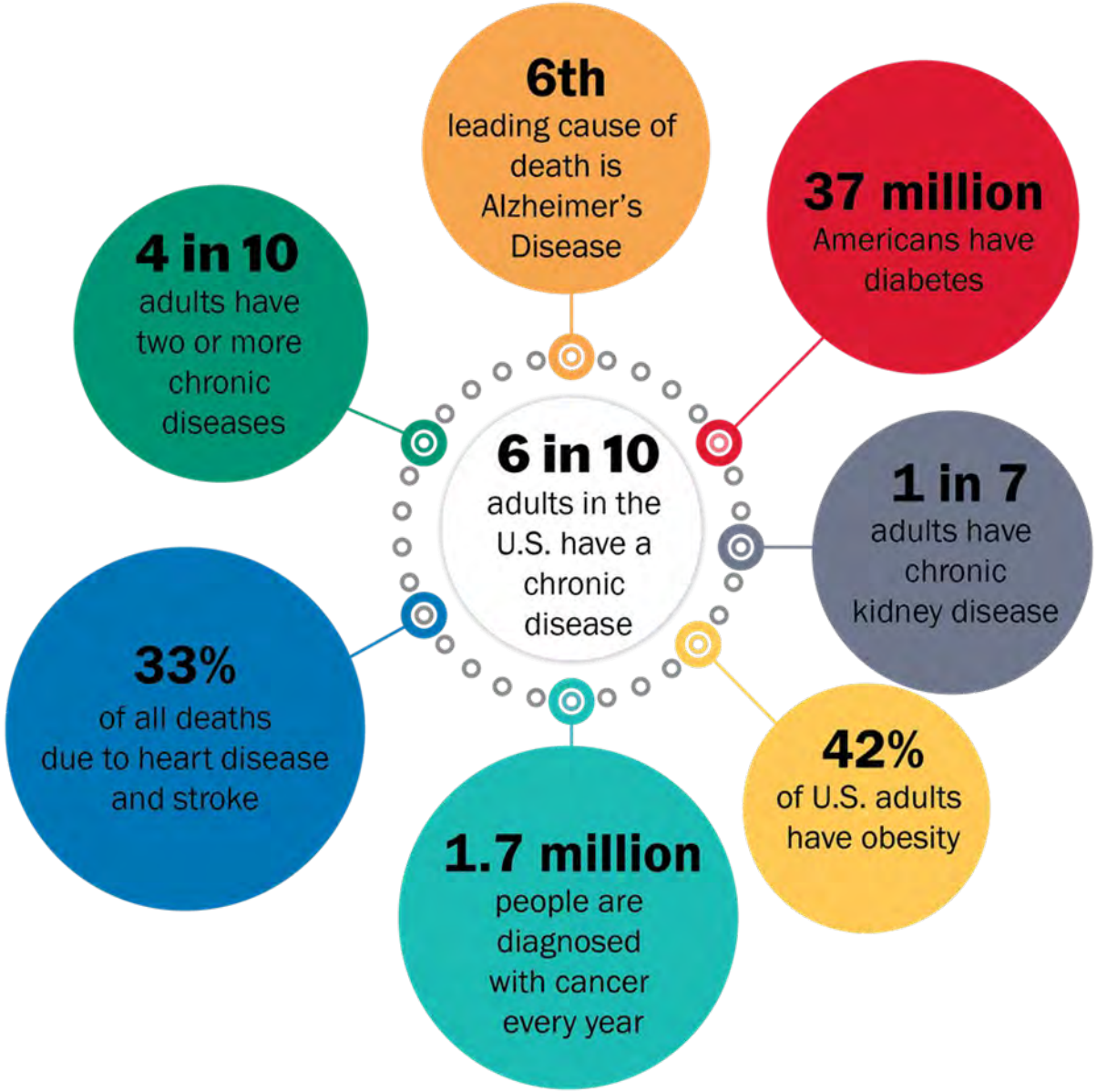
https://www.eatrightfoundation.org/resources/food-as-medicine#definition

“Let Food be Thy Medicine”

Hippocrates
-The Father of Medicine-

460 BC – 370 BC

Chronic Disease Prevalence is at an all-time high



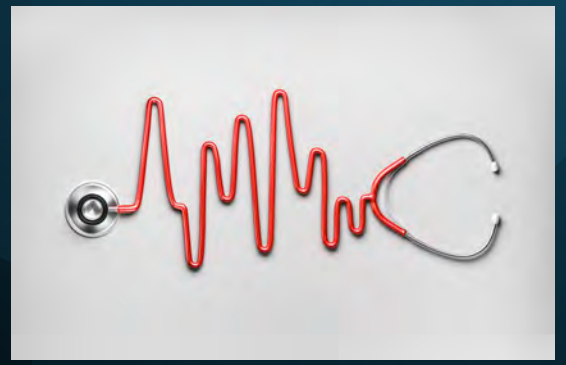
Centers for Disease Control and Prevention. https://www.cdc.gov/chronicdisease/about/index.htm. Published July 21, 2022

“If you look at the largest study of human risk factors for disease in history, the number one cause of death in the US is the American Diet.

What we put in our mouths is more important than anything else"

Dr Michael Greger

Diet is the Leading Cause of Chronic Disease and Disability in the US



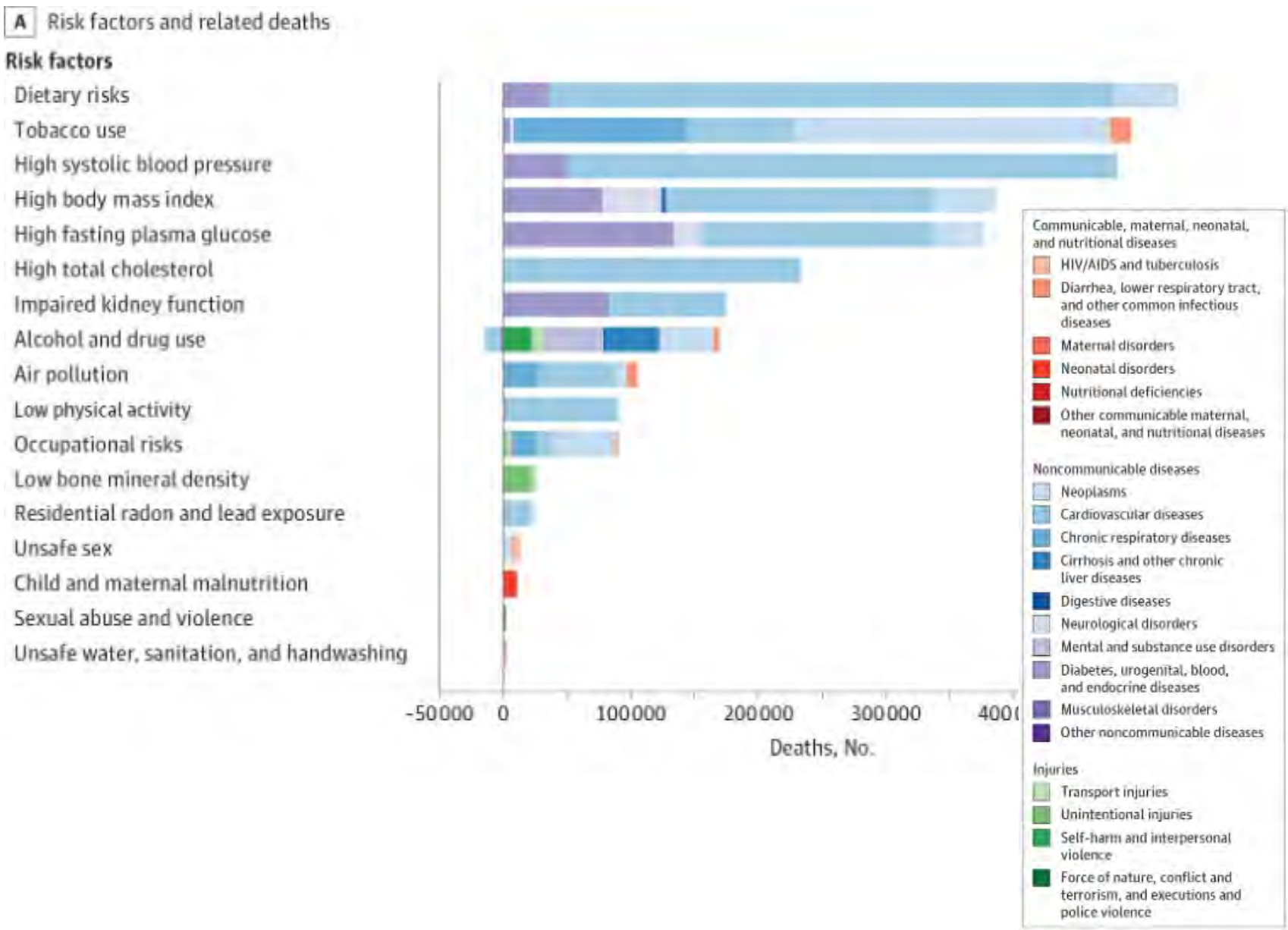


Figure 2. Number of Deaths and Percentage of Disability-Adjusted Life-Years Related to the 17 Leading Risk Factors in the United States, 2016. The US Burden of Disease Collaborators. The State of US Health, 1990-2016: Burden of Diseases, Injuries, and Risk Factors Among US States. *JAMA.* 2018;319(14):1444–1472. doi:10.1001/jama.2018.0158

The Health Effects of Dietary Risks

Global Burden of Disease Study on population intake of 15 foods and nutrients for adults ≥ 25y across 195 countries from 1990-2017

Dietary factors accounted for 11 million deaths in 2017 from non-communicable diseases and 25 million disability-adjusted life years (DALY's)

Dietary impact more than smoking: **22% of deaths** and 15% of DALY's

High sodium: 3 million deaths
Low whole grains: 3 million
Low fruits: 2 million

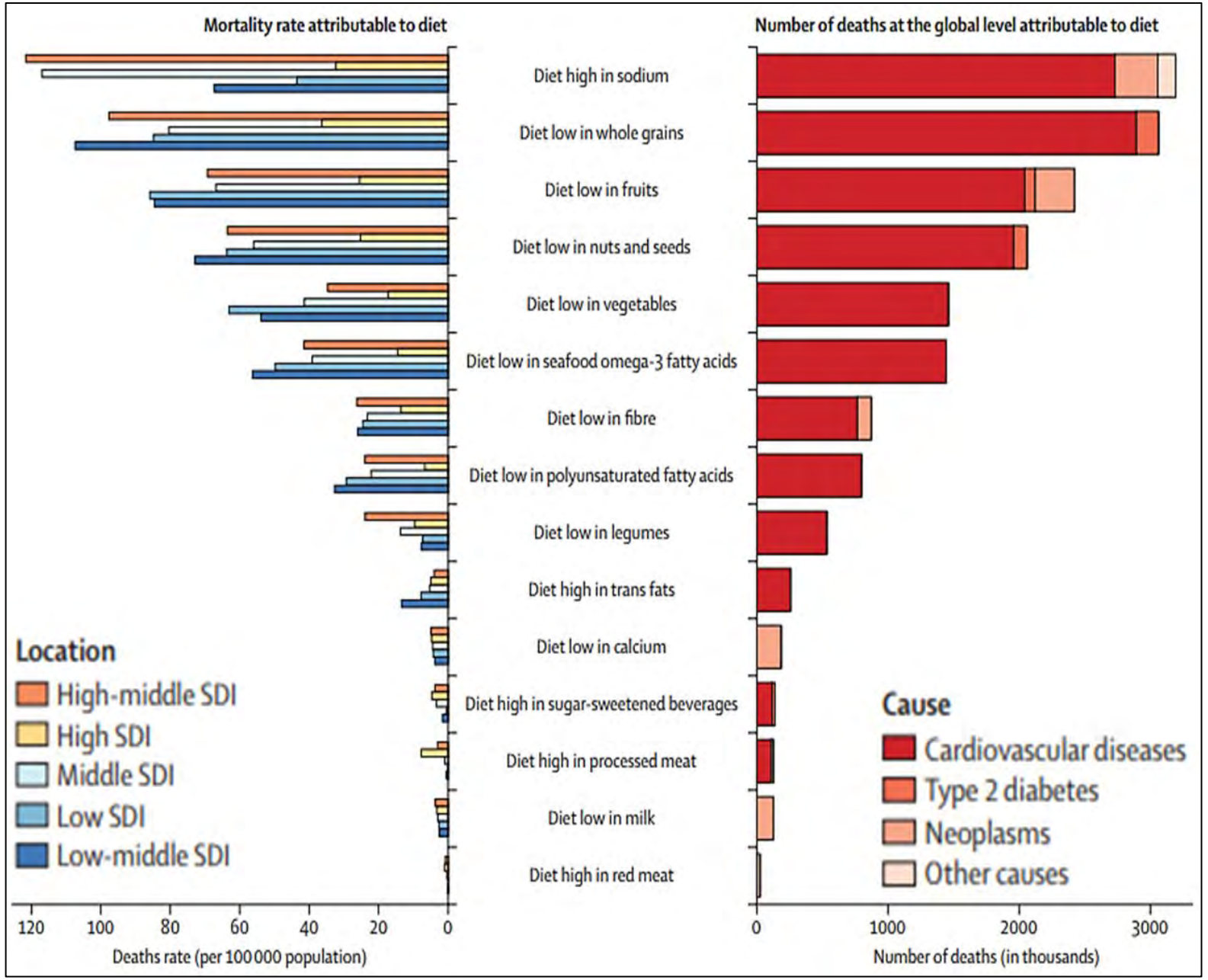


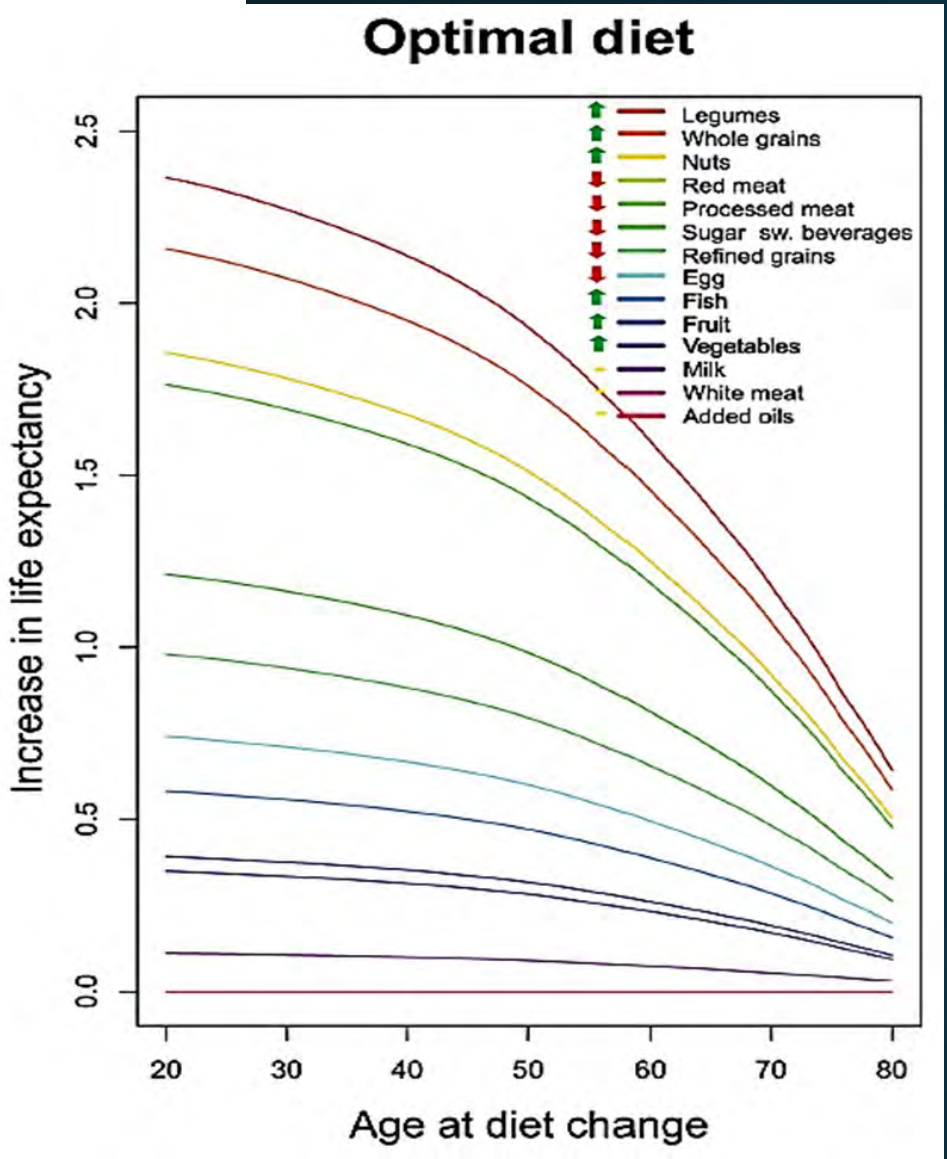
Figure 3 Number of deaths and DALYs and age-standardised mortality rate and DALY rate (per 100 000 population) attributable to individual dietary risks at the global and SDI level in 2017

Global Burden Disease Study 2017 Lancet 2019; 393:1958-72

Food Choice & Life Expectancy

Life table analysis of data and meta-analyses from Global Burden of Disease Study, 2019 (195 countries)

- Compared **typical western (TW)** and **optimized diet (OD)**; OD had substantially higher intake of fruits, vegetables, legumes, whole grains, and fish; some nuts; reduced red and processed meats, sugar-sweetened beverages, and refined grains
- At age 20y, change from TW to OD increases life expectancy by 10.7y for women and 13.0y for men
- At age 60y, change from TW to OD increases life expectancy by 8.0y for women and 8.8y for men
- At age 80y, change from TW to OD increases life expectancy by 3.4y for women and 3.4y for men
- Biggest gains from **more legumes, whole grains, and nuts**; **less red meat and processed meat**



Fadnes LT et al. PLoS Med 2022; 19(2): e1003889

ANNALS OF MEDICINE

WHY IS THE AMERICAN DIET SO DEADLY?

A scientist tried to discredit the theory that ultra-processed foods are killing us. Instead, he overturned his own understanding of obesity.

By Dhruv Khullar

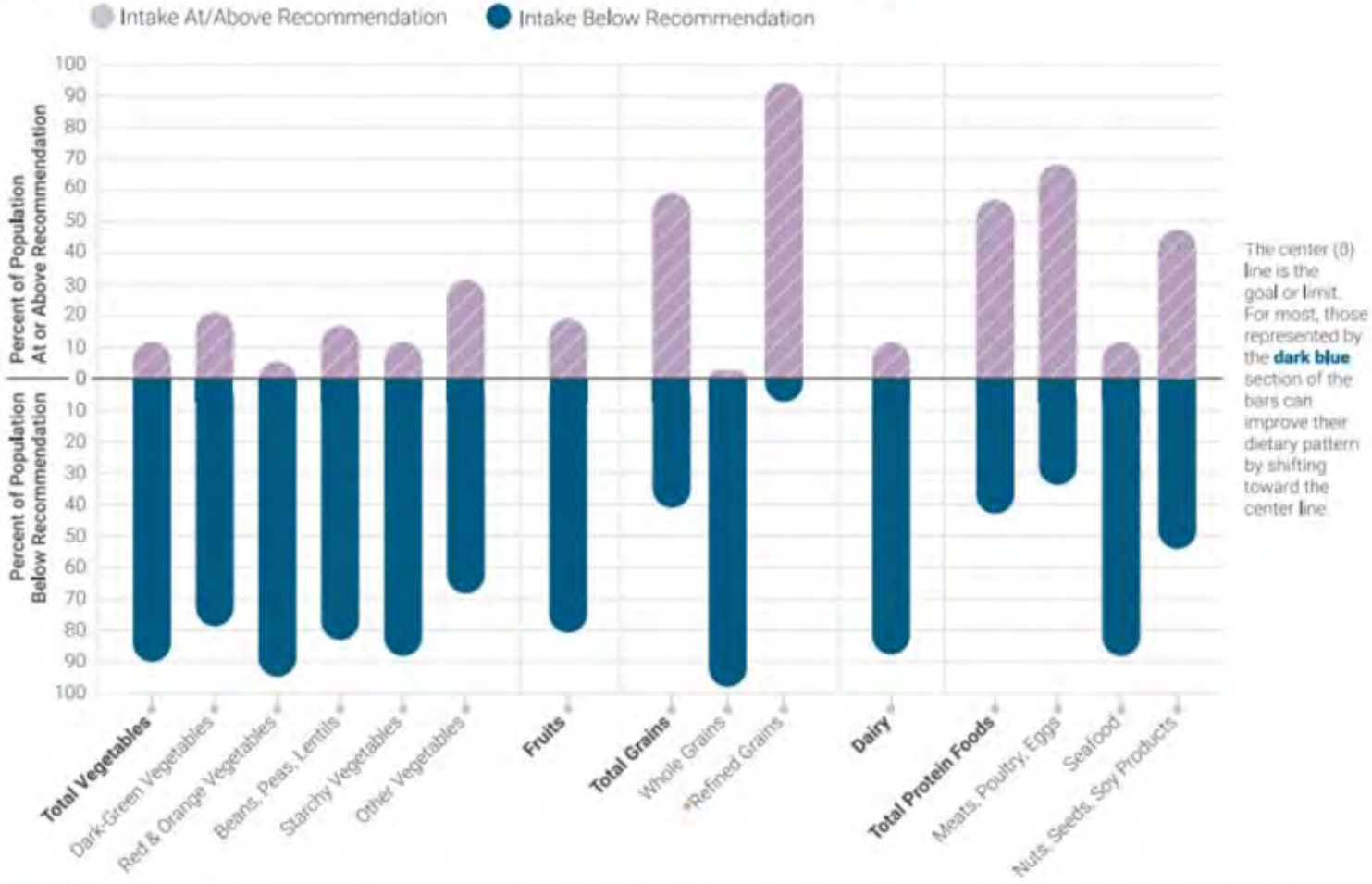
January 6, 2025

https://www.newyorker.com/magazine/2025/01/13/why-is-the-american-diet-so-deadly

What are Americans Eating?

Figure 1-6

Dietary Intakes Compared to Recommendations: Percent of the U.S. Population Ages 1 and Older Who Are Below and At or Above Each Dietary Goal



***NOTE:** Recommended daily intake of whole grains is to be at least half of total grain consumption, and the limit for refined grains is to be no more than half of total grain consumption.

Data Source: Analysis of What We Eat in America, NHANES 2013-2016, ages 1 and older, 2 days dietary intake data, weighted. *Recommended Intake Ranges*: Healthy U.S.-Style Dietary Patterns (see ***Appendix 3***).

Americans Are Not Eating Enough

- Fruits
- Vegetables
- Whole Grains
  - Fiber
  - Antioxidants
  - Phytochemicals

Americans are Eating Too Much

- Ultra-Processed Foods
  - Sugar
  - Sodium
  - Saturated Fat
  - Calories

RESEARCH

OPEN ACCESS

Check for updates

Association between consumption of ultra-processed foods and all cause mortality: SUN prospective cohort study

Anaïs Rico-Campà,[1,2] Miguel A Martínez-González,[1,2,3,4] Ismael Alvarez-Alvarez,[1] Raquel de Deus Mendonça,[1,5] Carmen de la Fuente-Arrillaga,[1,2,3] Clara Gómez-Donoso,[1] Maira Bes-Rastrollo[1,2,3]

RESEARCH ARTICLE | May 22, 2024 |

Check for updates

Associations Between Ultra-Processed Food Consumption and Adverse Brain Health Outcomes

VIEW EDITORIAL

Varun M. Bhave, BA, Carol R. Oladele, PhD, MPH, Zsuzsanna Ament, PhD, Naruchorn Kijpaisalratana, MD, PhD, Alana C. Jones, PhD, Catharine A. Couch, PhD, RD, Amit Patki, MS, Ana-Lucia Garcia Guarniz, MD, Aleena Bennett, MS, Michael Crowe, PhD, Marguerite R. Irvin, PhD and W. Taylor Kimberly, MD, PhD AUTHORS INFO & AFFILIATIONS

June 11, 2024 issue • 102 (11) • https://doi.org/10.1212/WNL.0000000000209432

Review > Curr Oncol Rep. 2025 Feb 27. doi: 10.1007/s11912-025-01654-6. Online ahead of print.

Beneath the Surface: The Emerging Role of Ultra-Processed Foods in Obesity-Related Cancer

Ioanna A Anastasiou [1,2], Dimitris Kounatidis [1], Natalia G Vallianou [3], Alexandros Skourtis [4], Krystalia Dimitriou [5], Ilektra Tzivaki [3], Georgios Tsioulos [6], Anastasia Rigatou [3], Irene Karampela [7], Maria Dalamaga [8]

Affiliations + expand

PMID: 40014232 DOI: 10.1007/s11912-025-01654-6

MIND & MOOD

Ultra-processed foods? Just say no

New research suggests that ultra-processed foods (UPFs) raise the risk of cognitive impairment and strokes.

June 17, 2024

By Andrew E. Budson, MD, Contributor; Editorial Advisory Board Member, Harvard Health Publishing

nature medicine

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nature > nature medicine > articles > article

Article | Open access | Published: 06 January 2025

Burdens of type 2 diabetes and cardiovascular disease attributable to sugar-sweetened beverages in 184 countries

Research Letter | Psychiatry

September 20, 2023

Consumption of Ultraprocessed Food and Risk of Depression

Chatpol Samuthpongtorn, MD[1]; Long H. Nguyen, MD, MS[1,2]; Olivia I. Okereke, MD, SM[3,4,5]; et al

Author Affiliations | Article Information

JAMA Netw Open. 2023;6(9):e2334770. doi:10.1001/jamanetworkopen.2023.34770

Review > Obes Rev. 2021 Mar;22(3):e13146. doi: 10.1111/obr.13146. Epub 2020 Nov 9.

Ultraprocessed food and chronic noncommunicable diseases: A systematic review and meta-analysis of 43 observational studies

Melissa M Lane [1], Jessica A Davis [1], Sally Beattie [2], Clara Gómez-Donoso [3,4], Amy Loughman [1], Adrienne O'Neil [1], Felice Jacka [1,5,6,7], Michael Berk [1,8], Richard Page [1,2,9], Wolfgang Marx [1], Tetyana Rocks [1]

> Am J Prev Med. 2023 Jan;64(1):129-136. doi: 10.1016/j.amepre.2022.08.013. Epub 2022 Nov 7.

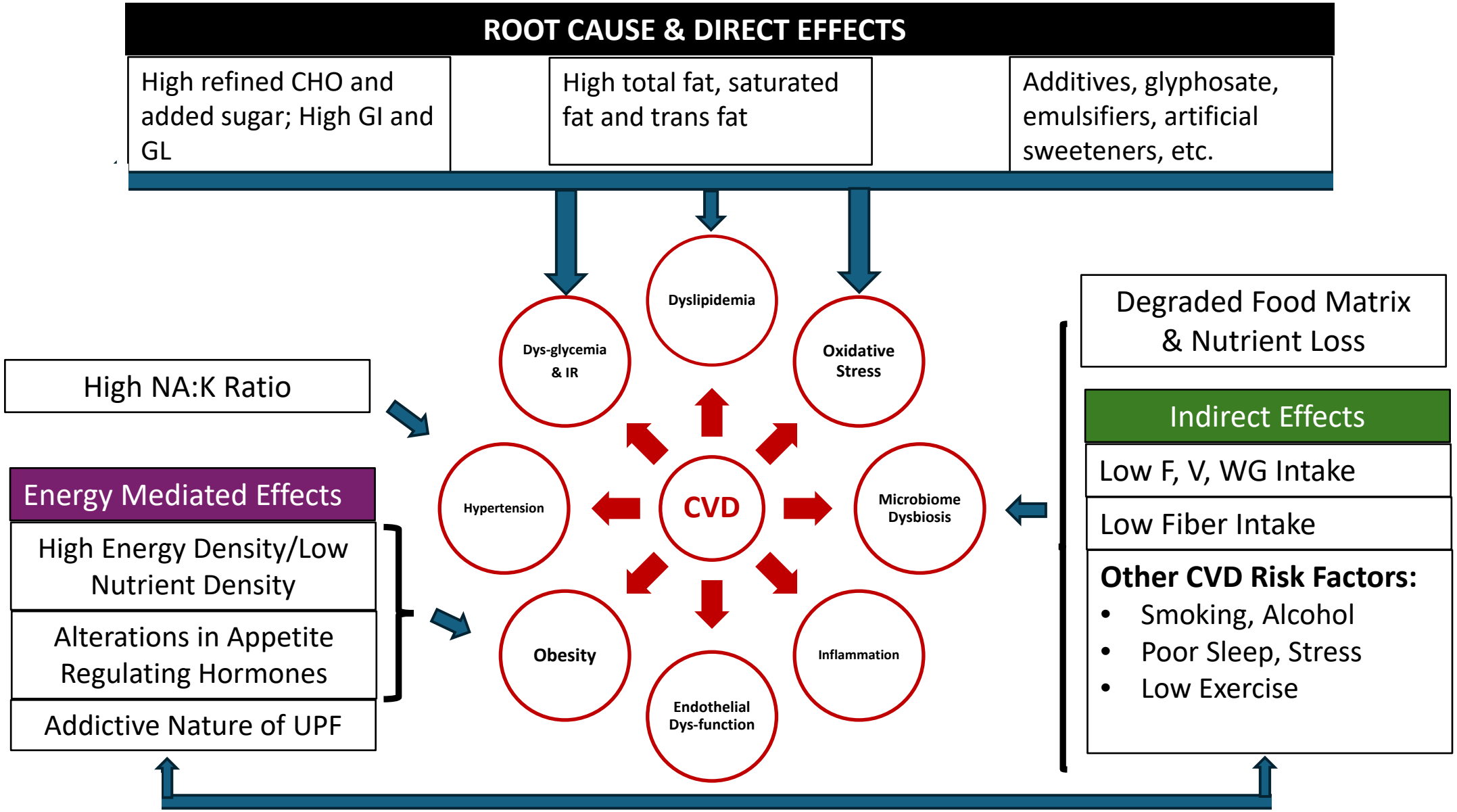
Premature Deaths Attributable to the Consumption of Ultraprocessed Foods in Brazil

Eduardo A F Nilson [1], Gerson Ferrari [2], Maria Laura C Louzada [3], Renata B Levy [4], Carlos A Monteiro [5], Leandro F M Rezende [6]

Ultraprocessed foods make up to 70% of the US food supply. How to reduce your intake

21 comments

DIETS HIGH IN ULTRA PROCESSED FOODS



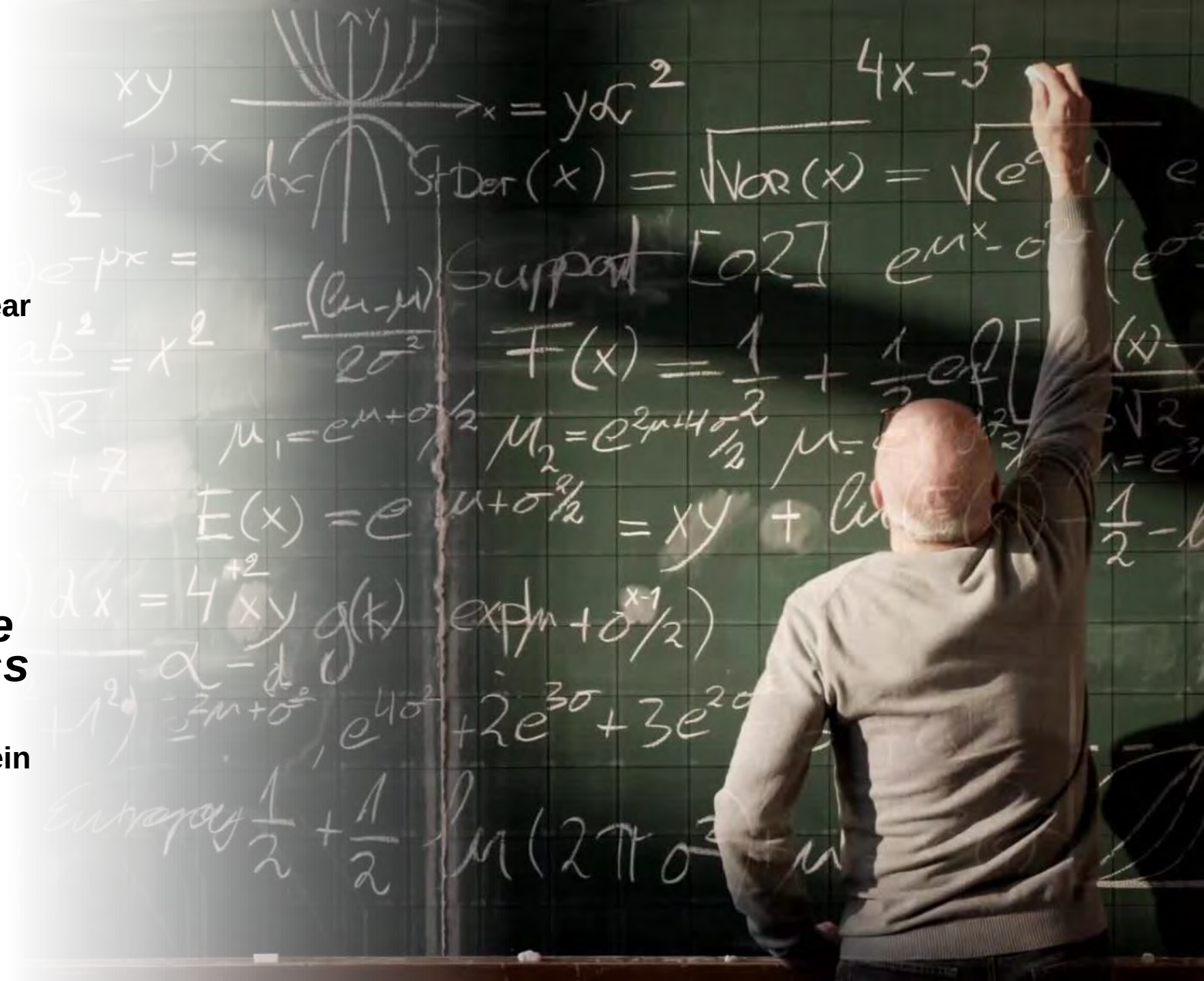
Adapted by Presenter from: Juul, F., Vaidean, G., & Parekh, N. (2021). Ultra-processed Foods and Cardiovascular Diseases: Potential Mechanisms of Action

“If nothing changes, nothing is going change”

Atomic Habits, James Clear

“No problem can be solved from the same level of consciousness that created it.”

Albert Einstein



Poor Diet is Harming Health

An estimated 75-90% of chronic disease has been shown to be preventable by lifestyle modification, such as physical inactivity alcohol, tobacco and most particularly diet

Dietary Guidelines for Americans

"Common characteristics of dietary patterns associated with positive health outcomes include relatively higher intake of vegetables, fruits, legumes, whole grains, low- or non-fat dairy, lean meats and poultry, seafood, nuts, and unsaturated vegetable oils, and relatively lower consumption of red and processed meats, sugar-sweetened foods and beverages, and refined grains"

"In addition, dietary patterns characterized by higher intake of red and processed meats, sugar-sweetened foods and beverages, and refined grains are, in and of themselves, associated with detrimental health outcomes"

Typical Western Diet

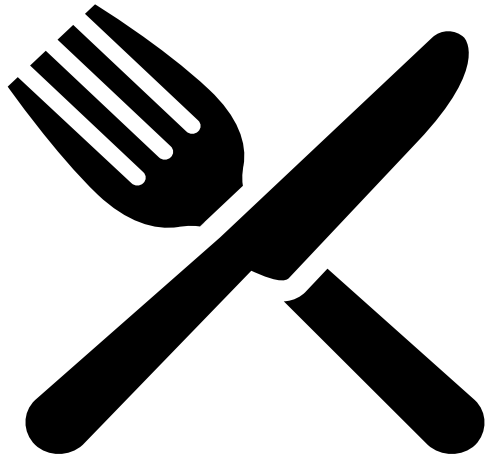
High In

- Ultra Processed Foods
  - Sodium, Sugar, Processed oils, Trans fat
- Animal Protein Including
  - Red and Processed Meats
  - Saturated Fat, Cholesterol

Low in

- Fruits, Vegetables, Whole Grains, Beans, Nuts, Seeds and Legumes
- Antioxidants and Phytonutrients
- Water
- Fiber

VS



Health Promoting Eating Pattern

High In

- Fruits, Vegetables, Whole Grains, Beans, Nuts, Seeds and Legumes
- Antioxidants and Phytonutrients
- Water
- Fiber

Low in

- Saturated Fat, Trans Fat, Highly Processed Oils
- Cholesterol, Sodium, Sugar
- Ultra Processed Foods
- Red and Processed Meats

Current National and International Nutrition Recommendations

Many Voices: One Theme

"Dietary guidelines and consensus statements from a variety of organizations have recognized the key role for nutrition, both in the prevention and treatment of chronic diseases"

J. Rippe AJLM 2018

Lifestyle Change as First Line of Defense

Clinical guidelines state that diet and physical activity changes are a critical first line treatment for many chronic conditions (e.g., diabetes, obesity, hypertension), often before any medication is prescribed.

This is reinforced by leading national and international organizations.

Dietary Recommendations in Clinical Practice Guidelines

Advances in Nutrition 14 (2023) 500–515

Advances in Nutrition
AN INTERNATIONAL REVIEW JOURNAL
journal homepage: https://advances.nutrition.org/

Review

Commonalities among Dietary Recommendations from 2010 to 2021 Clinical Practice Guidelines: A Meta-Epidemiological Study from the American College of Lifestyle Medicine

Kelly C. Cara [1,2], David M. Goldman [3], Brooke K. Kollman [4], Stas S. Amato [5], Martin D. Tull [1], Micaela C. Karlsen [1,6,*]

[1] American College of Lifestyle Medicine, Chesterfield, MO, United States; [2] Division of Nutrition Epidemiology and Data Science, Friedman School of Nutrition Science and Policy, Tufts University, Boston, MA, United States; [3] Game Changers Institute, Laguna Niguel, CA, United States; [4] The Integrative Medicine Center of Western Colorado, Grand Junction, CO, United States; [5] Department of General Surgery, University of Vermont Medical Center, Burlington, VT, United States; [6] Applied Nutrition and Global Public Health, University of New England, Biddeford, ME, United States

ABSTRACT

Clinical practice guidelines (CPGs) provide recommendations to clinicians based on current medical knowledge to guide and reduce variability in clinical care. With advances in nutrition science research, CPGs increasingly include dietary guidance; however, the degree of consistency in dietary recommendations across CPGs has not been investigated. Using a systematic review approach adapted for meta-epidemiologic research, this study compared dietary guidance from current guidelines developed by governments, major medical professional societies, and large health stakeholder associations owing to their often well-defined and standardized processes for guideline development. CPGs making recommendations for dietary patterns and food groups or components for generally healthy adults or those with prespecified chronic diseases were eligible. Literature from January 2010 to January 2022 was searched in 5 bibliographic databases and augmented by searches in point-of-care resource databases and relevant websites. Reporting followed an adapted PRISMA statement and included narrative synthesis and summary tables. Seventy-eight CPGs for major chronic conditions (autoimmune, 7; cancers, 5; cardiovascular-related, 35; digestive, 11; diabetes, 12; weight-related, 4; or multiple, 3) and general health promotion (n = 1) were included. Nearly, all (91%) made dietary pattern recommendations, and approximately half (49%) endorsed patterns centered on plant foods. Overall, CPGs were most closely aligned in promoting consumption of major plant food groups (vegetables = 74% of CPGs, fruit = 69%, whole grains = 58%), whereas discouraging intake of alcohol (62%) and salt or sodium (56%). CVD and diabetes CPGs were similarly aligned with additional messaging to consume legumes/pulses (60% of CVD CPGs; 75%, diabetes), nuts and seeds (67%, CVD), and low-fat dairy (60%, CVD). Diabetes guidelines discouraged sweets/added sugars (67%) and sweetened beverages (58%). This alignment across CPGs should boost clinician confidence in relaying such dietary guidance to patients in accordance with their relevant CPGs.

This trial was registered at the International Prospective Register of Systematic Reviews (https://www.crd.york.ac.uk/prospero; PROSPERO 2021) as CRD42021226281.

Keywords: practice guideline, best practice, point-of-care systems, diet, healthy diet, health promotion, chronic disease, systematic review, meta-epidemiological

Nearly, all (91%) made dietary pattern recommendations, and approximately half (49%) endorsed patterns centered on plant foods. Overall, CPGs were most closely aligned in promoting consumption of major plant food groups (vegetables = 74% of CPGs, fruit = 69%, whole grains = 58%).

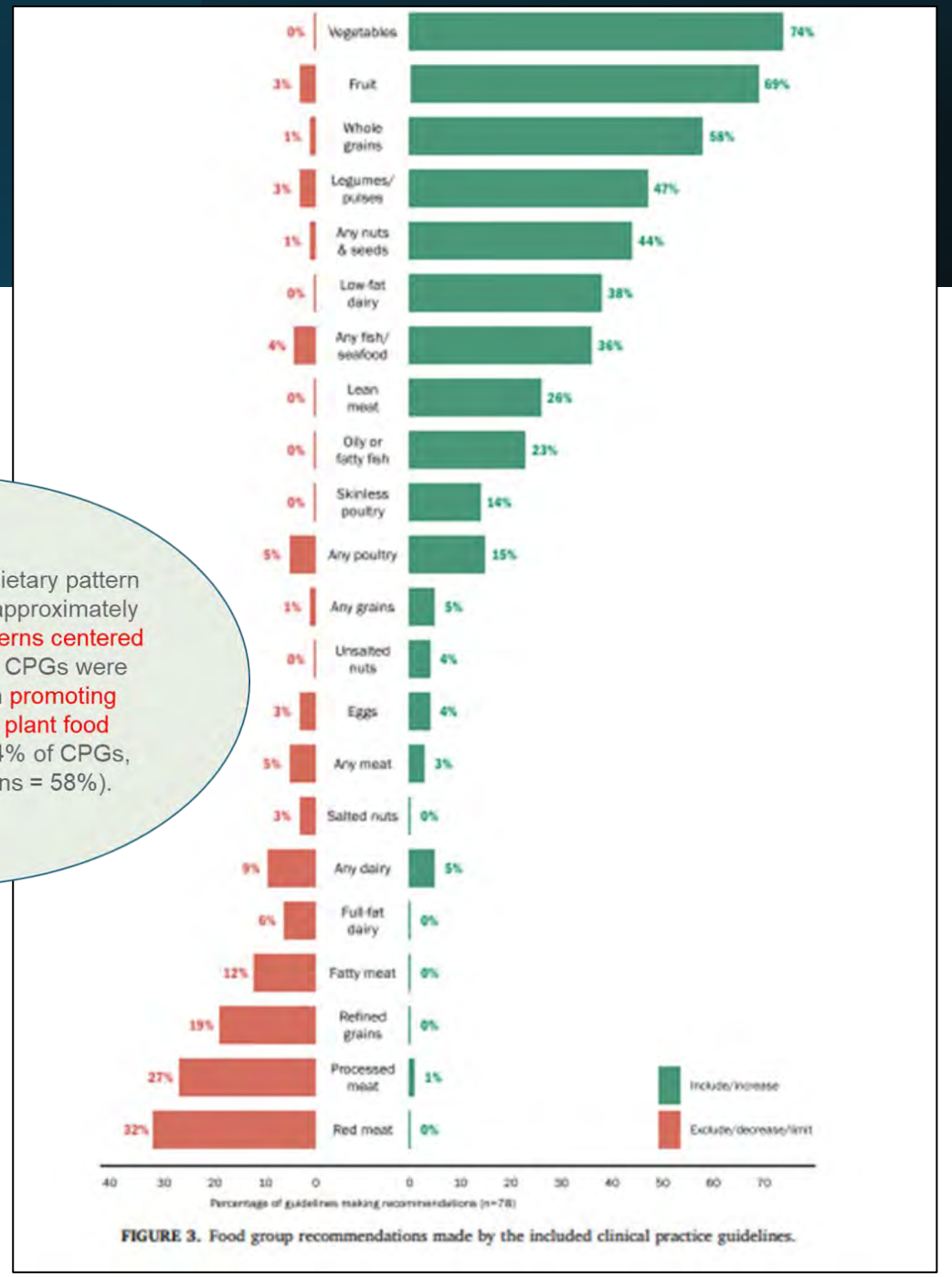
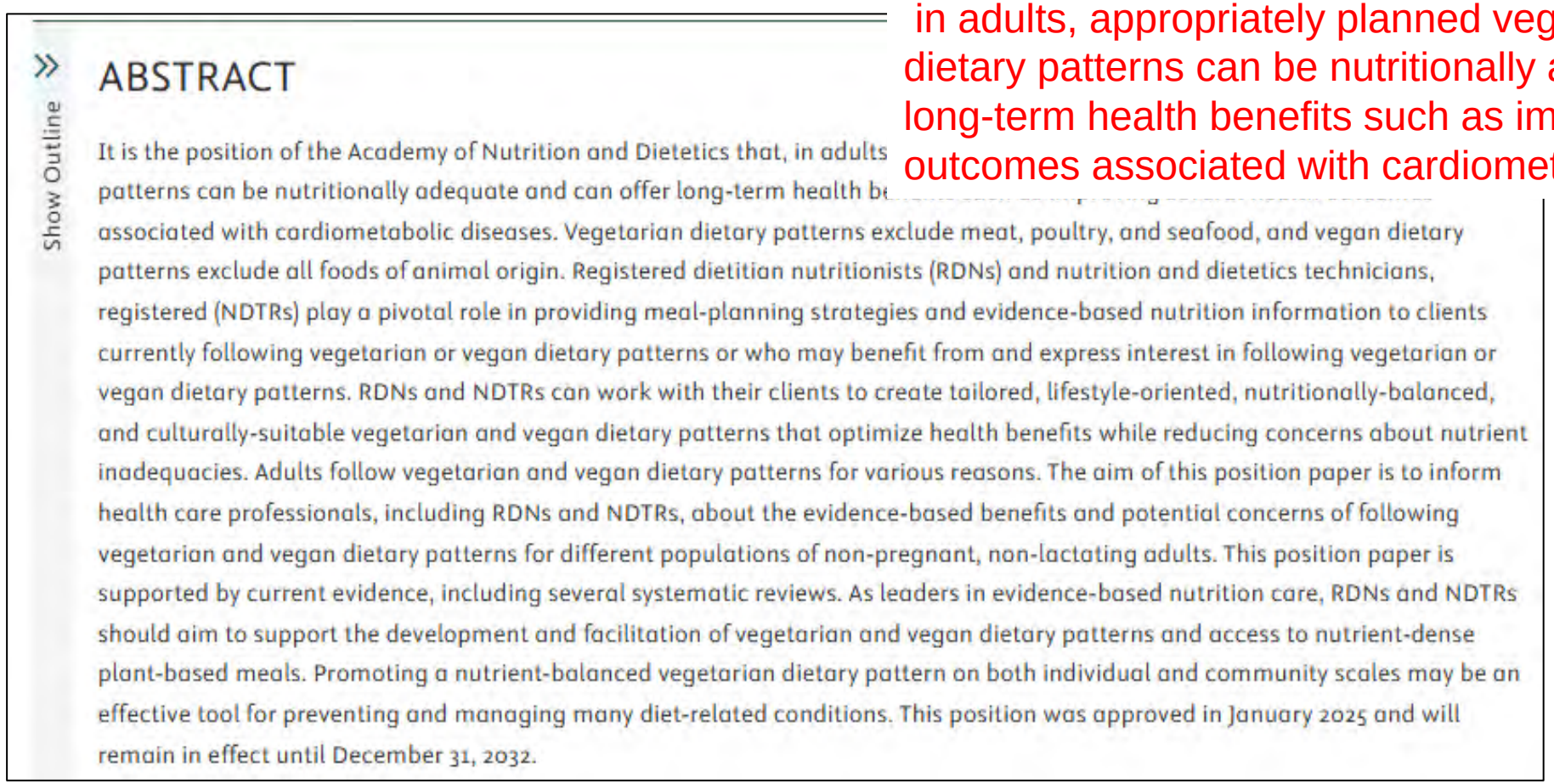


FIGURE 3. Food group recommendations made by the included clinical practice guidelines.

Vegetarian Dietary Patterns for Adults: A Position of the Academy of Nutrition and Dietetics

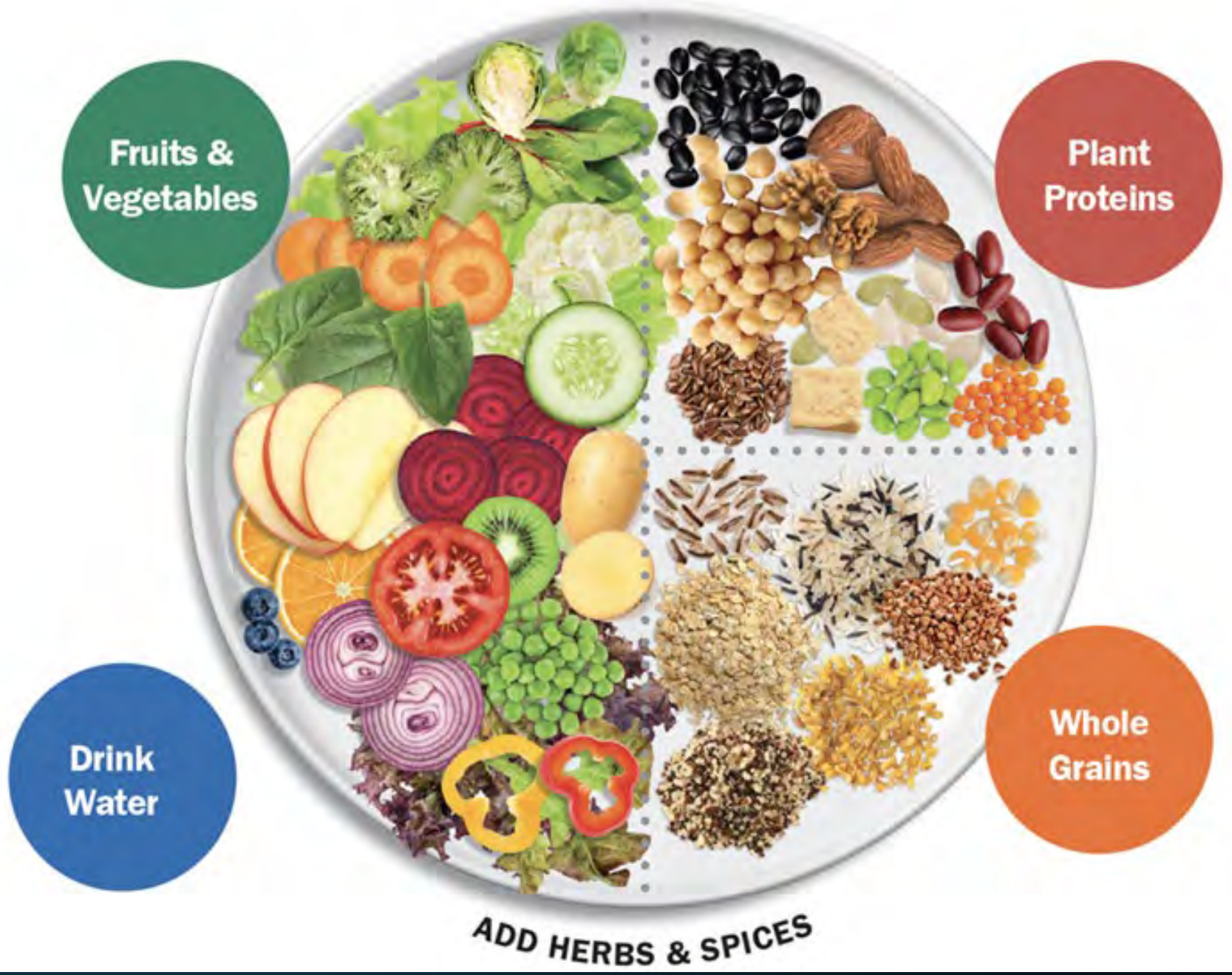


Show Outline

ABSTRACT

It is the position of the Academy of Nutrition and Dietetics that, in adults patterns can be nutritionally adequate and can offer long-term health be associated with cardiometabolic diseases. Vegetarian dietary patterns exclude meat, poultry, and seafood, and vegan dietary patterns exclude all foods of animal origin. Registered dietitian nutritionists (RDNs) and nutrition and dietetics technicians, registered (NDTRs) play a pivotal role in providing meal-planning strategies and evidence-based nutrition information to clients currently following vegetarian or vegan dietary patterns or who may benefit from and express interest in following vegetarian or vegan dietary patterns. RDNs and NDTRs can work with their clients to create tailored, lifestyle-oriented, nutritionally-balanced, and culturally-suitable vegetarian and vegan dietary patterns that optimize health benefits while reducing concerns about nutrient inadequacies. Adults follow vegetarian and vegan dietary patterns for various reasons. The aim of this position paper is to inform health care professionals, including RDNs and NDTRs, about the evidence-based benefits and potential concerns of following vegetarian and vegan dietary patterns for different populations of non-pregnant, non-lactating adults. This position paper is supported by current evidence, including several systematic reviews. As leaders in evidence-based nutrition care, RDNs and NDTRs should aim to support the development and facilitation of vegetarian and vegan dietary patterns and access to nutrient-dense plant-based meals. Promoting a nutrient-balanced vegetarian dietary pattern on both individual and community scales may be an effective tool for preventing and managing many diet-related conditions. This position was approved in January 2025 and will remain in effect until December 31, 2032.

in adults, appropriately planned vegetarian and vegan dietary patterns can be nutritionally adequate and can offer long-term health benefits such as improving several health outcomes associated with cardiometabolic diseases.



"For the treatment, reversal and prevention of lifestyle-related chronic disease, the ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds"

ACLM Dietary Position Statement
https://lifestylemedicine.org/positions

American Heart Association- Life's Essential 8

- ✓ Lower blood pressure
- ✓ Improved lipid profile
- ✓ Improved endothelial function
- ✓ Healthier body weight
- ✓ Lower inflammation
- ✓ Inverse association with CVD and all-cause mortality

REVIEW ARTICLE | Originally Published 28 September 2023 |

Food Is Medicine: A Presidential Advisory From the American Heart Association

Kevin G. Volpp, MD, PhD, FAHA, Chair, Seth A. Berkowitz, MD, MPH, Co–Vice Chair, Shreela V. Sharma, PhD, RD, MA, Co–Vice Chair, Cheryl A.M. Anderson, PhD, MPH, MS, FAHA, LaPrincess C. Brewer, MD, MPH, FAHA, Mitchell S.V. Elkind, MD, MS, MPhil, FAHA, Christopher D. Gardner, PhD, FAHA, ... SHOW ALL ... on behalf of the American Heart Association | AUTHOR INFO & AFFILIATIONS

Circulation • Volume 148, Number 18 • https://doi.org/10.1161/CIR.0000000000001182

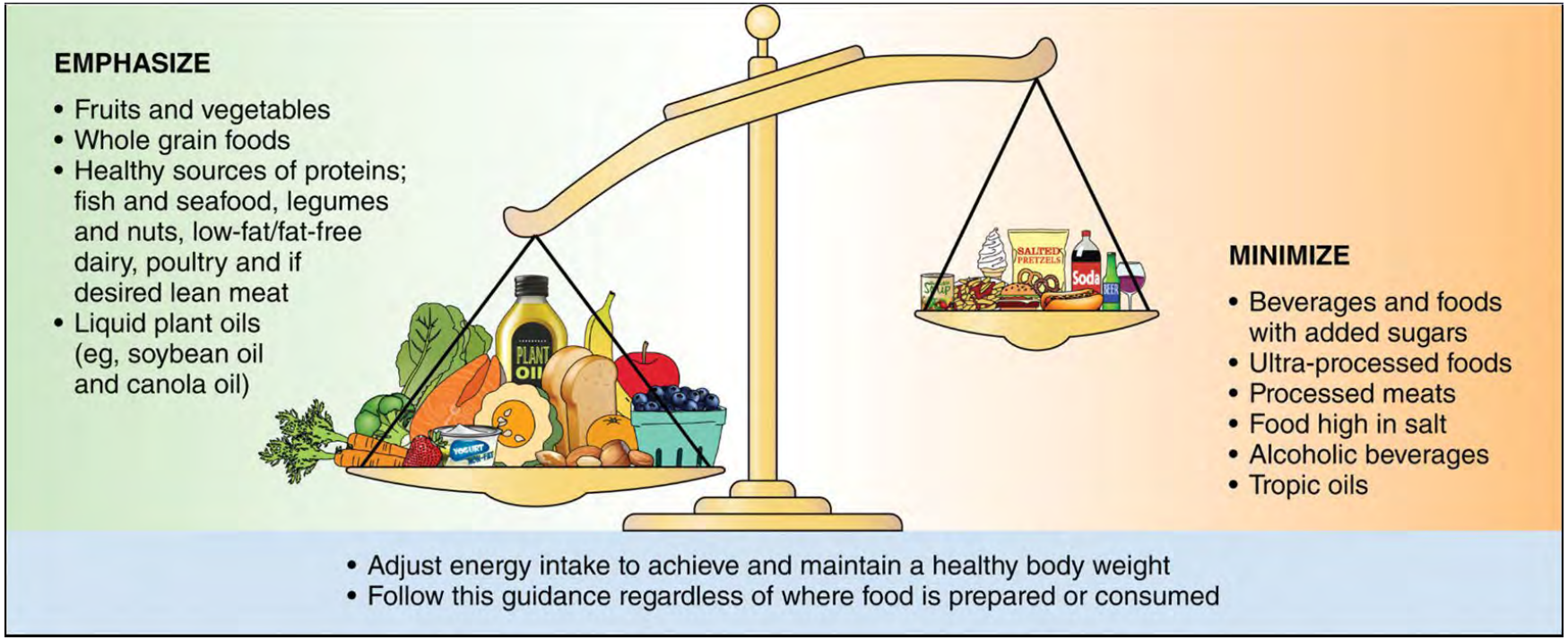
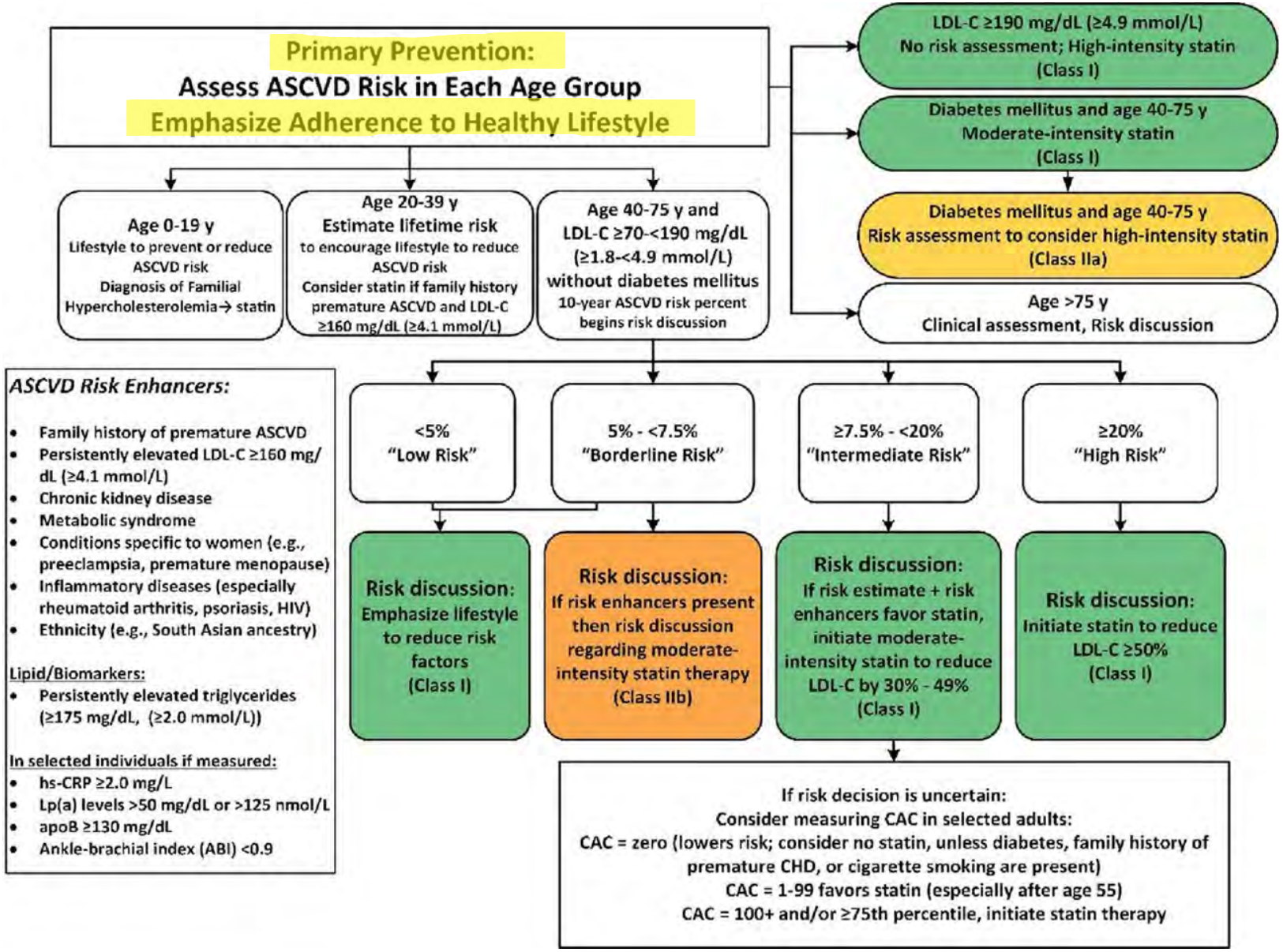


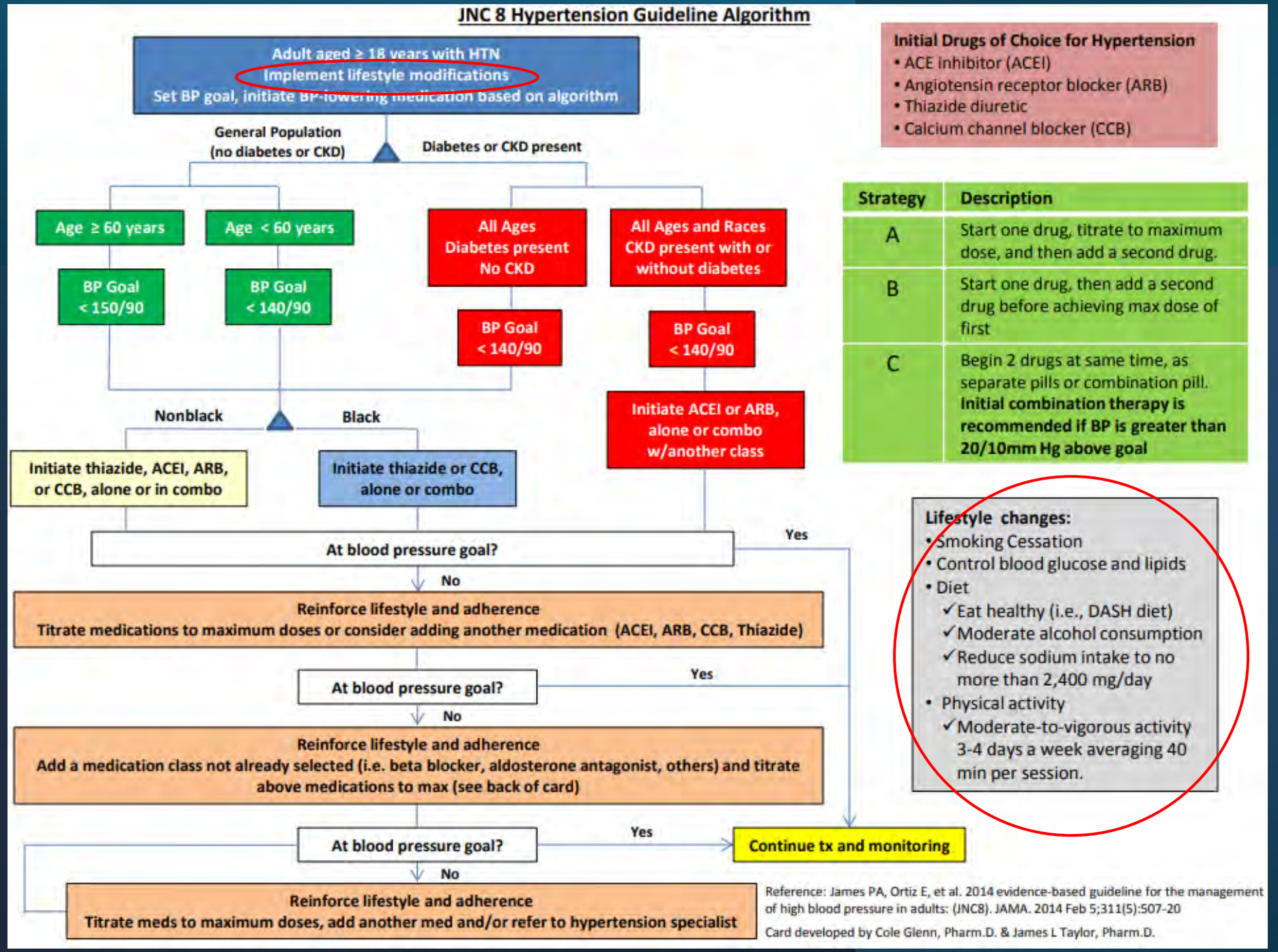
Figure 2. **Evidence-based dietary guidance to promote cardiovascular health.** Reprinted with permission from Lichtenstein et al.[16] Copyright © 2021 American Heart Association, Inc.

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease



A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Journal of the American College of Cardiology, Volume 74, Issue 10, September 2019

The Joint National Committee (JNC 8) Guidelines for Hypertension



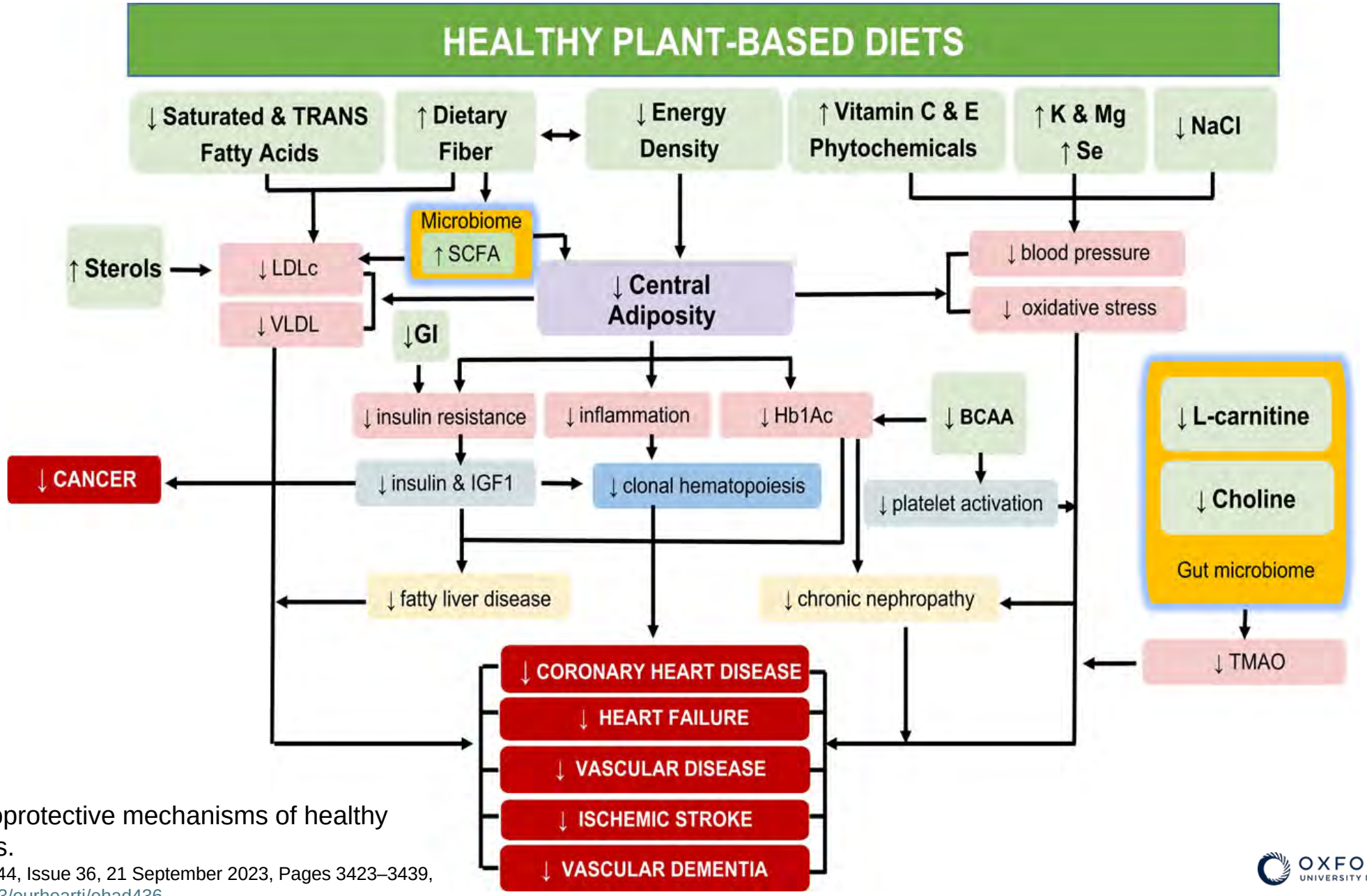


Figure 2 Cardioprotective mechanisms of healthy vegetarian diets.

Eur Heart J, Volume 44, Issue 36, 21 September 2023, Pages 3423–3439, https://doi.org/10.1093/eurheartj/ehad436

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGY

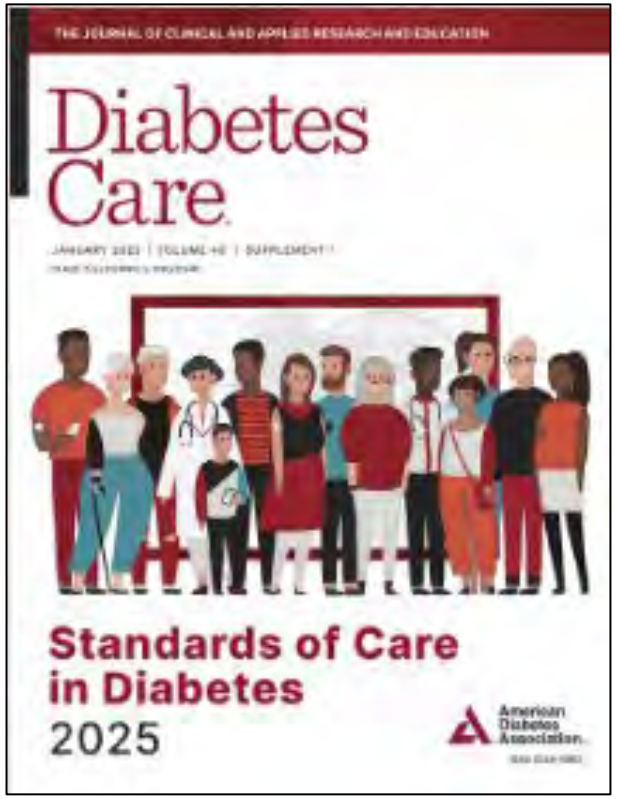
AACE COMPREHENSIVE TYPE 2 DIABETES MANAGEMENT ALGORITHM 2020

LIFESTYLE THERAPY

RISK STRATIFICATION FOR DIABETES COMPLICATIONS

INTENSITY STRATIFIED BY BURDEN OF OBESITY AND RELATED COMPLICATIONS

Nutrition	• Maintain optimal weight • Calorie restriction (manage increased weight) • Plant-based diet; high polyunsaturated and monounsaturated fatty acids	• Avoid *trans* fatty acids; limit saturated fatty acids • Technological aids	• Structured counseling • Meal replacement
Physical Activity	• 150 min/week moderate exertion (e.g., walking, stair climbing) • Strength training • Increase as tolerated	• Structured program • Wearable technologies	• Medical evaluation/ clearance • Medical supervision
Sleep	• About 6-8 hours per night • Basic sleep hygiene	• Screen sleep disturbances • Home sleep study	• Referral to sleep study
Behavioral Support	• Community engagement • Alcohol moderation	• Discuss mood with HCP	• Formal behavioral therapy
Smoking Cessation	• No tobacco products	• Nicotine replacement therapy and medications as tolerated	• Referral to structured program



Expanded guidance to encourage evidence -based eating patterns focused on food group recommendations including incorporating plant-based proteins and fiber to keep nutrient quality, total calories and metabolic goals in mind for individuals with T2DM

Prevention or Delay of Diabetes and Associated Comorbidities: Standards of Care in Diabetes—2025

Nutrition:

"Observational studies have also shown that vegetarian, plant-based (may include some animal products), and Dietary Approaches to Stop Hypertension (DASH) eating patterns are associated with a lower risk of developing type 2 diabetes (20–23). Evidence suggests that the overall quality of food consumed (as measured by the Healthy Eating Index, Alternative Healthy Eating Index, and DASH score), with an emphasis on whole grains, legumes, nuts, fruits, and vegetables and minimal refined and processed foods, is also associated with a lower risk of type 2 diabetes (22,24,25)."

2016 AACE/ACE Guidelines for the Management of Overweight and Obesity in Adults

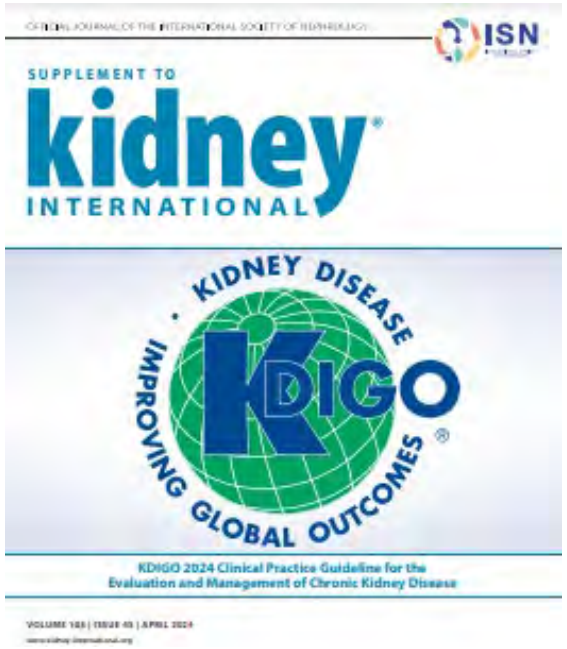
"Patients with overweight or obesity should be screened for prediabetes, type 2 diabetes mellitus (T2D), dyslipidemia, hypertension, metabolic syndrome, cardiovascular disease, nonalcoholic fatty liver disease, osteoarthritis, and mental depression"

TABLE 2. Diagnosis and Medical Management of Adult Patients With Obesity: AACE/ACE Framework[3]

Diagnosis		Staging and treatment	
BMI,[a] kg/m² Anthropometric component	Clinical component[b]	Disease stage	Suggested therapy (based on clinical judgment)
<25 <23 in patients of certain ethnicities; waist circumference below regional/ethnic cutoffs	Evaluate for presence or absence of adiposity-related complications and severity of complications • Metabolic syndrome • Prediabetes • Type 2 diabetes • Dyslipidemia • Hypertension • Cardiovascular disease • Nonalcoholic fatty liver disease • Polycystic ovary syndrome • Infertility (women) • Hypogonadism (men) • Obstructive sleep apnea • Asthma/reactive airway disease • Osteoarthritis • Urinary stress incontinence • Gastroesophageal reflux disease • Mental depression	Normal weight (no obesity)	• **Healthy lifestyle:** Healthy meal plan/physical activity
25-29.9 23-24.9 in patients of certain ethnicities		Overweight stage 0 (no complications)	• **Lifestyle therapy:** Reduced-calorie healthy meal plan/physical activity/behavioral interventions
≥30 ≥25 in patients of certain ethnicities		Obesity stage 0 (no complications)	• **Lifestyle therapy:** Reduced-calorie healthy meal plan/physical activity/behavioral interventions • **Anti-obesity medications[c]:** Consider if lifestyle therapy fails to prevent progressive weight gain (BMI ≥27)
≥25 ≥23 in patients of certain ethnicities		Obesity stage 1[d] (1 or more mild to moderate complications)	• **Lifestyle therapy:** Reduced-calorie healthy meal plan/physical activity/behavioral interventions • **Anti-obesity medications[c]:** Consider if lifestyle therapy fails to achieve therapeutic target or initiate concurrently with lifestyle therapy (BMI ≥27)
≥25 ≥23 in patients of certain ethnicities		Obesity stage 2[d] (at least 1 severe complication)	• **Lifestyle therapy:** Reduced-calorie healthy meal plan/physical activity/behavioral interventions • **Add anti-obesity medication[c]:** Initiate concurrently with lifestyle therapy (BMI ≥27) Consider bariatric surgery: (BMI ≥35)

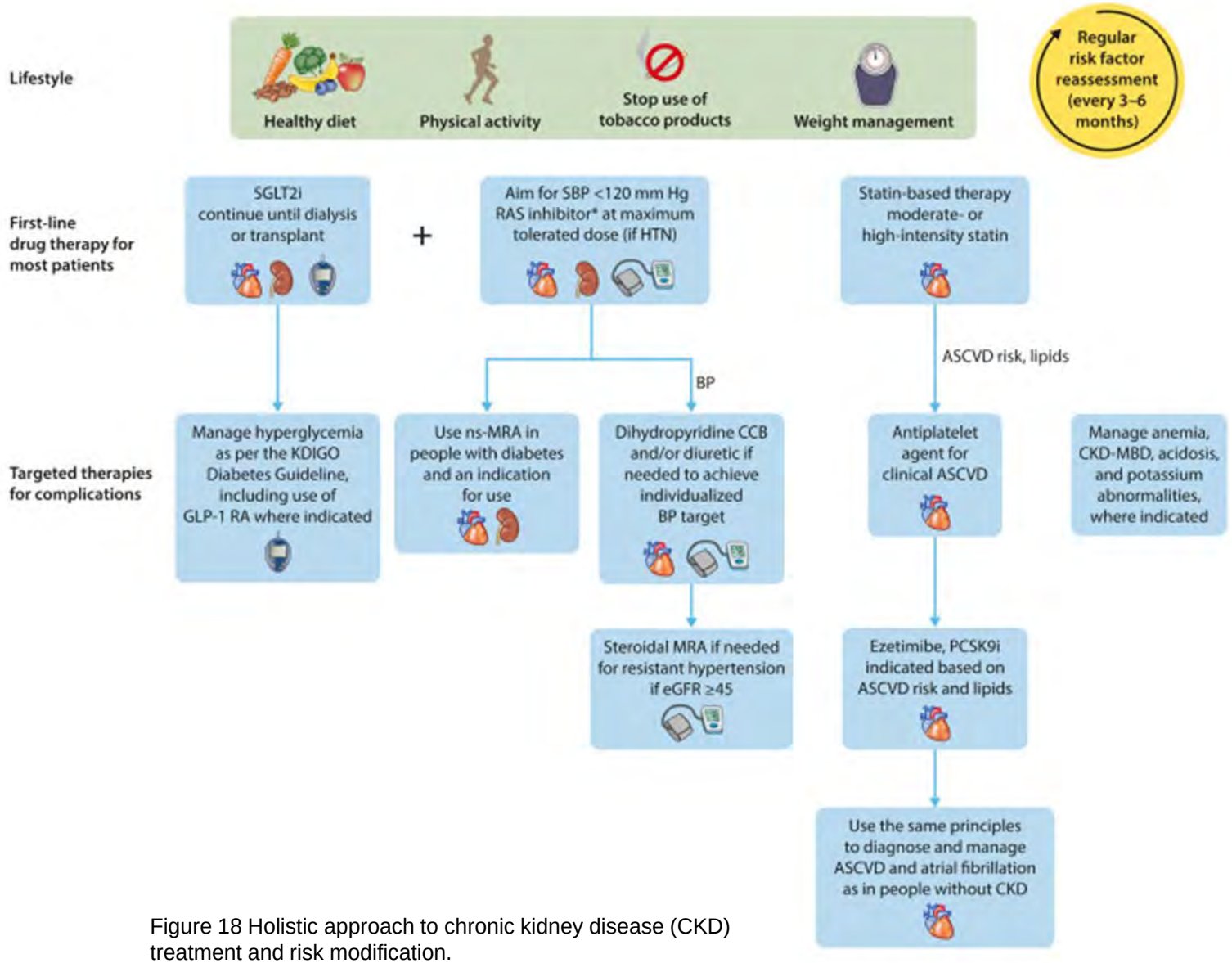
AACE, American Association of Clinical Endocrinology; ACE, American College of Endocrinology; BMI, body mass index.
[a]BMI values are not dependent upon age or sex. However, values may not correspond to the same amount of adiposity in different populations (including certain ethnic groups).
[b]Staging of a complication as mild, moderate, or severe is based on criteria specific to each particular complication.
[c]The 2016 guideline uses the term "weight-loss medications." "Anti-obesity medications" is now preferred.
[d]Note that a diagnosis of obesity stage 1 or stage 2 may be given to an individual classified as overweight by BMI but who has weight-related complications.
Reprinted from Endocrine Practice, Vol22/Suppl3, Garvey WT, Mechanick JI, Brett EM, et al; Reviewers of the AACE/ACE Obesity Clinical Practice Guidelines, American Association of Clinical Endocrinologists and American College of Endocrinology comprehensive clinical practice guidelines for medical care of patients with obesity, Pages No. 1-203, Copyright (2016), with permission from Elsevier.

Source: https://www.ajmc.com/view/review-of-current-guidelines-for-the-treatment-of-obesity



Practice Point 3.3.1

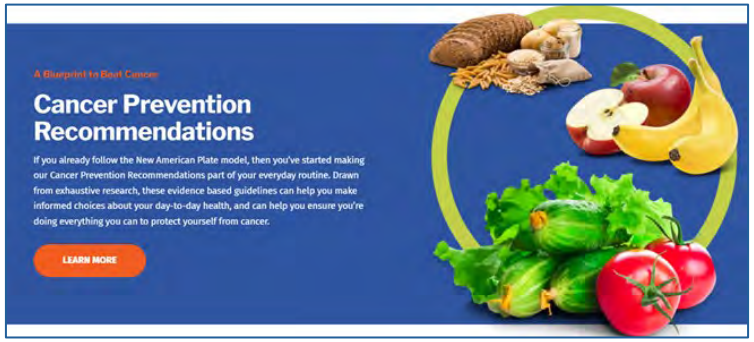
"Advise people with CKD to adopt healthy and diverse diets with a higher consumption of plant-based foods compared to animal-based foods and a lower consumption of ultraprocessed foods."



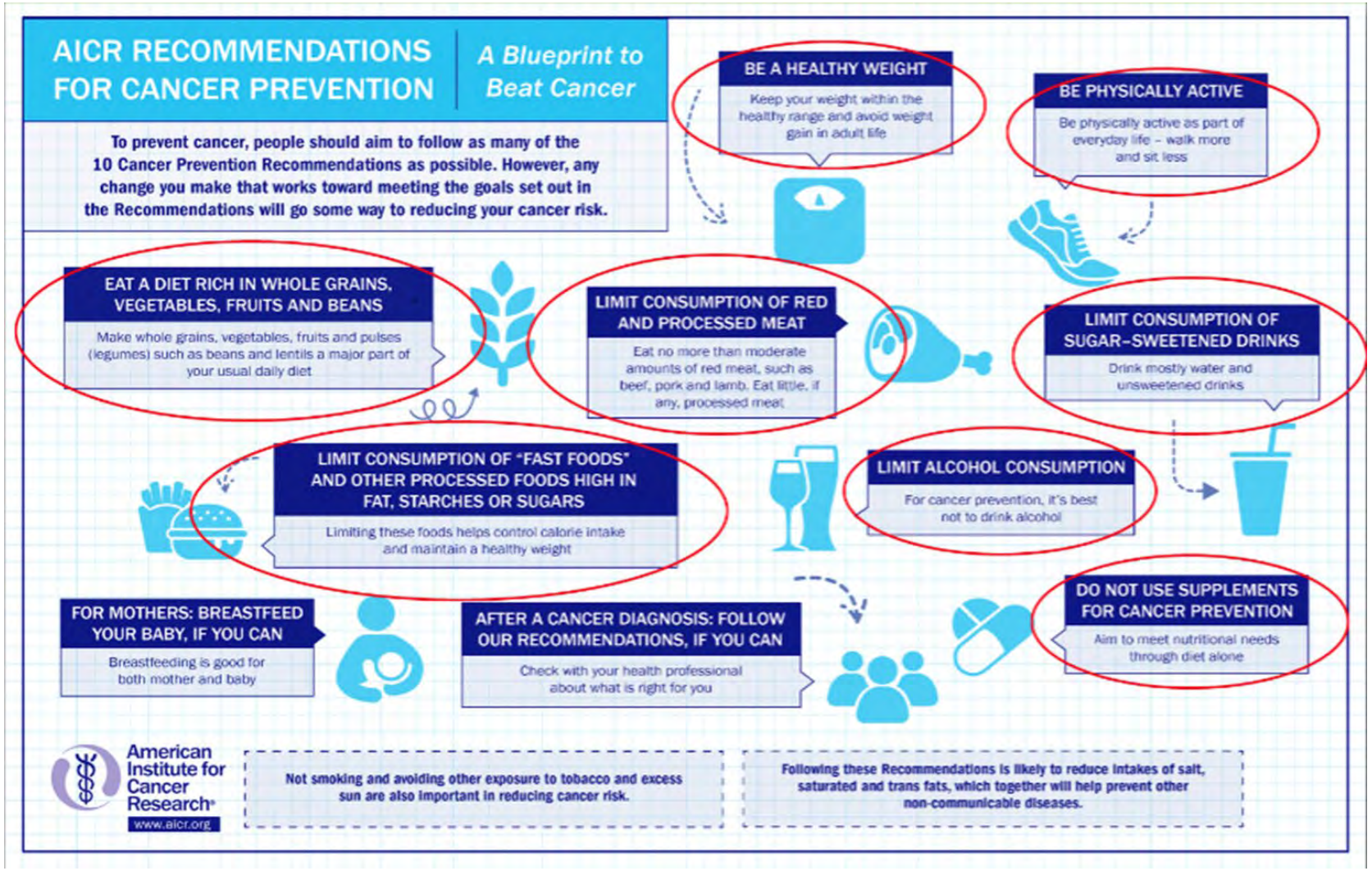
Source: Levin, A. et al. Executive summary of the KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease: known knowns and known unknowns. Kidney International, Volume 105, Issue 4, 684 - 70[illegible]

Figure 18 Holistic approach to chronic kidney disease (CKD) treatment and risk modification.

AICR Cancer Prevention Recommendations



https://www.aicr.org/cancer-prevention/healthy-eating/



Processed Meat is a Group 1 Carcinogen

International Agency for Research on Cancer

World Health Organization

PRESS RELEASE
N° 240

26 October 2015

IARC Monographs evaluate consumption of red meat and processed meat

Lyon, France, 26 October 2015 – The International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization, has evaluated the carcinogenicity of the consumption of red meat and processed meat.

Red meat

After thoroughly reviewing the accumulated scientific literature, a Working Group of 22 experts from 10 countries convened by the IARC Monographs Programme classified the consumption of red meat as *probably carcinogenic to humans* (Group 2A), based on *limited evidence* that the consumption of red meat causes cancer in humans and *strong* mechanistic evidence supporting a carcinogenic effect.

This association was observed mainly for colorectal cancer, but associations were also seen for pancreatic cancer and prostate cancer.

Processed meat

Processed meat was classified as *carcinogenic to humans* (Group 1), based on *sufficient evidence* in humans that the consumption of processed meat causes colorectal cancer.

Processed meat was classified as Group 1, carcinogenic to humans. What does this mean?

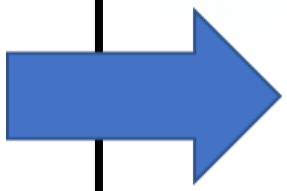
This category is used when there is sufficient evidence of carcinogenicity in humans. In other words, there is convincing evidence that the agent causes cancer. The evaluation is usually based on epidemiological studies showing the development of cancer in exposed humans.

In the case of processed meat, this classification is based on sufficient evidence from epidemiological studies that eating processed meat causes colorectal cancer.

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

WHO GUIDELINES FOR RISK REDUCTION OF COGNITIVE DECLINE AND DEMENTIA

World Health Organization



Physical activity interventions	**Physical activity should be recommended to adults with normal cognition to reduce the risk of cognitive decline.** *Quality of evidence:* ***moderate*** *Strength of the recommendation:* ***strong***
	Physical activity may be recommended to adults with mild cognitive impairment to reduce the risk of cognitive decline. *Quality of evidence:* ***low*** *Strength of the recommendation:* ***conditional***
Tobacco cessation interventions	**Interventions for tobacco cessation should be offered to adults who use tobacco since they may reduce the risk of cognitive decline and dementia in addition to other health benefits.** *Quality of evidence:* ***low*** *Strength of the recommendation:* ***strong***
Nutritional interventions	**The Mediterranean-like diet may be recommended to adults with normal cognition and mild cognitive impairment to reduce the risk of cognitive decline and/or dementia.** *Quality of evidence:* ***moderate*** *Strength of the recommendation:* ***conditional***
	A healthy, balanced diet should be recommended to all adults based on WHO recommendations on healthy diet. *Quality of evidence:* ***low to high (for different dietary components)*** *Strength of the recommendation:* ***strong***
	Vitamins B and E, polyunsaturated fatty acids and multi-complex supplementation should not be recommended to reduce the risk of cognitive decline and/or dementia. *Quality of evidence:* ***moderate*** *Strength of the recommendation:* ***strong***
Interventions for alcohol use disorders	**Interventions aimed at reducing or ceasing hazardous and harmful drinking should be offered to adults with normal cognition and mild cognitive impairment to reduce the risk of cognitive decline and/or dementia in addition to other health benefits.** *Quality of evidence:* ***moderate (for observational evidence)*** *Strength of the recommendation:* ***conditional***
Cognitive interventions	**Cognitive training may be offered to older adults with normal cognition and with mild cognitive impairment to reduce the risk of cognitive decline and/or dementia.** *Quality of evidence:* ***very low to low*** *Strength of the recommendation:* ***conditional***
Social activity	**There is insufficient evidence for social activity and reduction of risk of cognitive decline/dementia.**
	Social participation and social support are strongly connected to good health and well-being throughout life and social inclusion should be supported over the life-course.

https://iris.who.int/bitstream/handle/10665/312180/9789241550543-eng.pdf

Plant Based Diets Promote Longevity: Blue Zones

STATE OF THE ART
REVIEWS

Dan Buettner, BA, and Sam Skemp, BA

Blue Zones: Lessons From the World's Longest Lived

Abstract: *What began as a National Geographic expedition, lead by Dan Buettner, to uncover the secrets of longevity, evolved into the discovery of the 5 places around the world where people consistently live over 100 years old, dubbed the Blue Zones. Dan and his team of demographers, scientist and anthropologists were able to distill the evidence-based common denominators of these Blue Zones into 9 commonalities that they call the Power 9. They have since taken these principles into communities across the United States working with policy makers, local businesses, schools and individuals to shape the environments of the Blue Zones Project Communities. What has been found is that putting the responsibility of curating a healthy environment on an individual does not work, but through policy and environmental changes the Blue Zones Project Communities have been able to increase life expectancy, reduce obesity and make the healthy choice the easy choice for millions of Americans.*

Keywords: Blue Zones; Power 9; Life Radius; Vitality Compass; Longevity; Health; Dan Buettner

The Danish Twin Study[1] established that only about 20% of how long the average person lives is dictated by our genes, whereas the other 80% is dictated by our lifestyle. In 2004, Dan Buettner, CEO of Blue Zones LLC, was determined to uncover the specific aspects of lifestyle and environment that led to longevity. By teaming up with National Geographic and the National Institute on Aging, Dan and his team, found the 5 demographically confirmed, geographically defined areas with the highest percentage of centenarians (Loma Linda, CA, USA; Nicoya, Costa Rica; Sardinia, Italy; Ikaria, Greece; Okinawa, Japan; seen in Figure 1). These 5 areas were located using epidemiological data, statistics, birth certificates, and other research. These areas were dubbed *Blue Zones*, where people reach age 100 at 10 times greater rates than in the United States. Once these areas were established, they sent in a team of anthropologists, demographers, epidemiologists, and researchers to identify the lifestyle characteristics that might explain longevity. They found that the lifestyles of all Blue Zones residents shared 9 specific characteristics. These are called the Power 9.

> However, many individuals have the capacity to make it well into the early 90s and largely without chronic disease.

Power 9

To make it to age 100, it seems that a person must have to win the genetic lottery. However, many individuals have the capacity to make it well into the early 90s and largely without chronic disease. Blue Zones uncovered 9 evidence-based common denominators among the world's centenarians that are believed to slow this aging process.

1. *More naturally.* The world's longest-lived people do not pump iron, run marathons, or join gyms. Instead, they live in environments that constantly nudge them into moving without thinking about it. They grow gardens and do not have mechanical conveniences for house and yard work.

DOI: 10.1177/1559827616637066. From Blue Zones, LLC, Minneapolis, Minnesota. Address correspondence to: Dan Buettner, BA, Blue Zones, LLC, 80 South 8th Street, STE 1400, Minneapolis, MN 55402; e-mail:Dan@bluezones.com.

These articles are based on The Annual Conference of the American College of Lifestyle Medicine (ACLM) held November 1-4, 2015, in Nashville, Tennessee—Lifestyle Medicine 2015: Integrating Evidence into Practice.

Plant Based Diets Are Good For The Planet

"Transformation to healthy diets by 2025 will require substantial dietary shifts. Global consumption of fruits, vegetables, nuts and legumes will have to double, and consumption of foods such as red meat and sugar will have to be reduced by more than 50%. A diet rich in plant-based foods with fewer animal source foods confers both improved health and environmental benefits"

Walter Willet, MD Harvard T.H. Chan School of Public Health

“Our food systems are harming the health of people and planet……and account for almost one-third of the global burden of disease. **Transforming food systems is therefore essential by shifting towards healthier, diversified and more plant-based diets.....** eight million lives could be saved annually by reforming food systems in this way"

World Health Organization Director General

Healthy Plant-Based Diets for the Prevention, Treatment and Reversal of Chronic Diseases

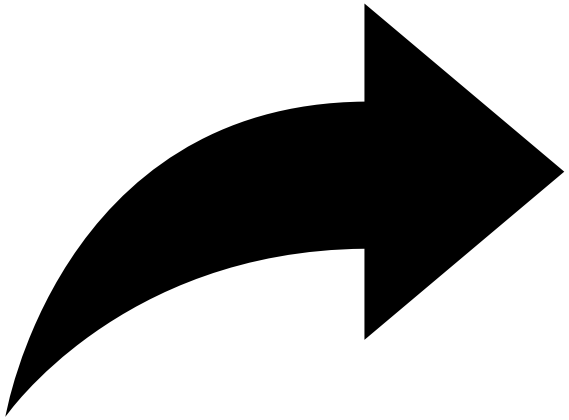
- Cardiovascular Disease
- Overweight and Obesity
- Type 2 DM
- Cancer
- Longevity
- Kidney Disease

- GI Health – Gut Microbiome
- Mental Health
- Dementia/Cognition
- Depression
- Arthritis
- and Planetary Health

The benefits of Plant- Based Nutrition https://lifestylemedicine.org/wp-content/uploads/2023/03/ACLM-Benefits-of-Plant-based-Nutrition-White-Paper.pdf

How many food-related choices do we make every day?

Eating Healthy is a Lifelong Journey

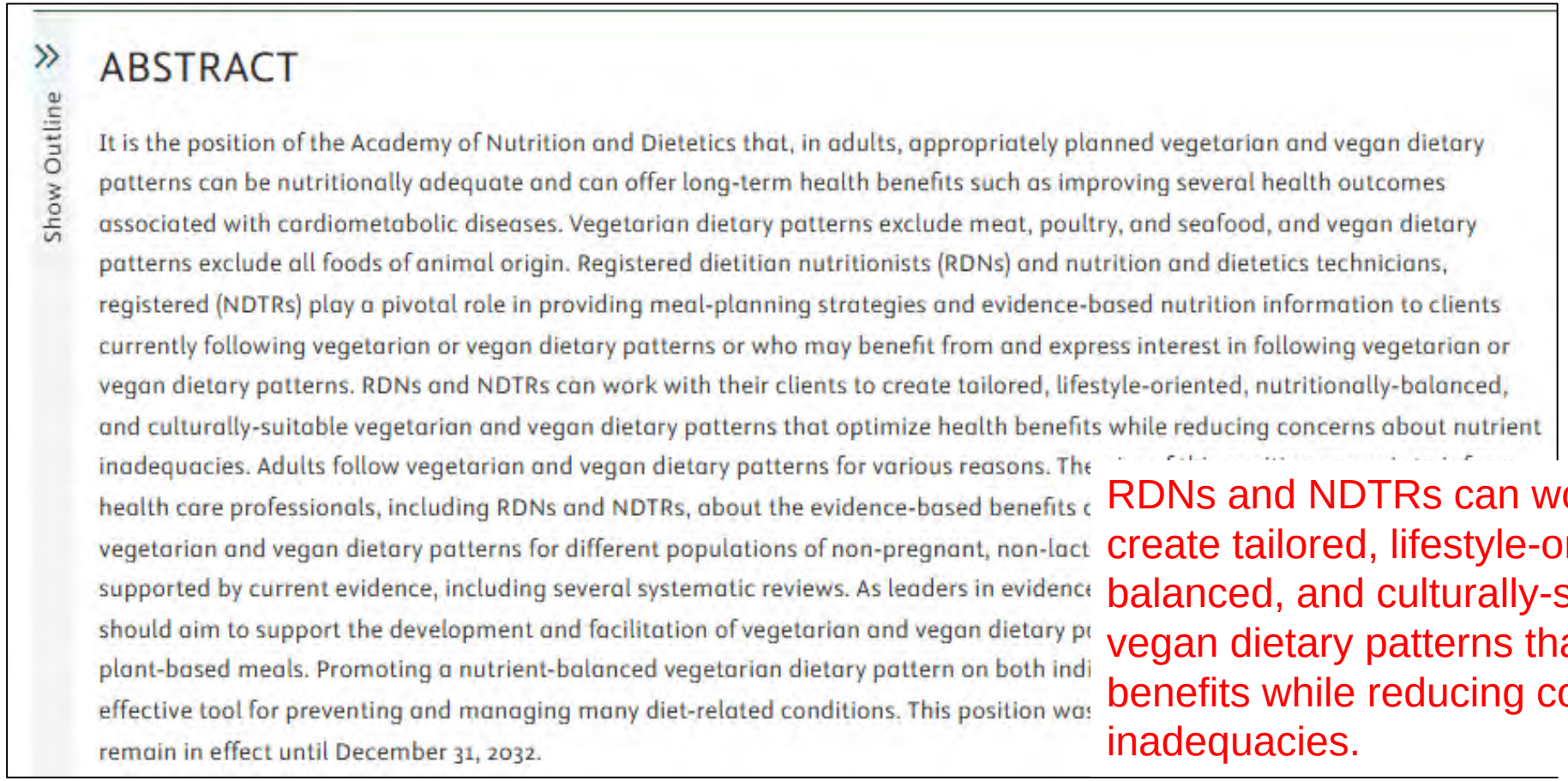


Key Points for Dietitians Prescribing Food Is Medicine Diet RX: Well-Planned

"Well-planned plant-based diets can lead to significant improvements in dietary quality and provide a framework for individuals to adjust lifestyle factors to prevent chronic conditions like obesity, hypertension, cardiovascular disease, and type II diabetes."

"…These diets should be well-planned to meet nutrient requirements and should be high in vegetables, fruits, whole grains, legumes, nuts and seeds, and other whole plant foods. Supplements for vitamin B12, and as needed, vitamin D, should be incorporated."

Vegetarian Dietary Patterns for Adults: A Position of the Academy of Nutrition and Dietetics



Show Outline

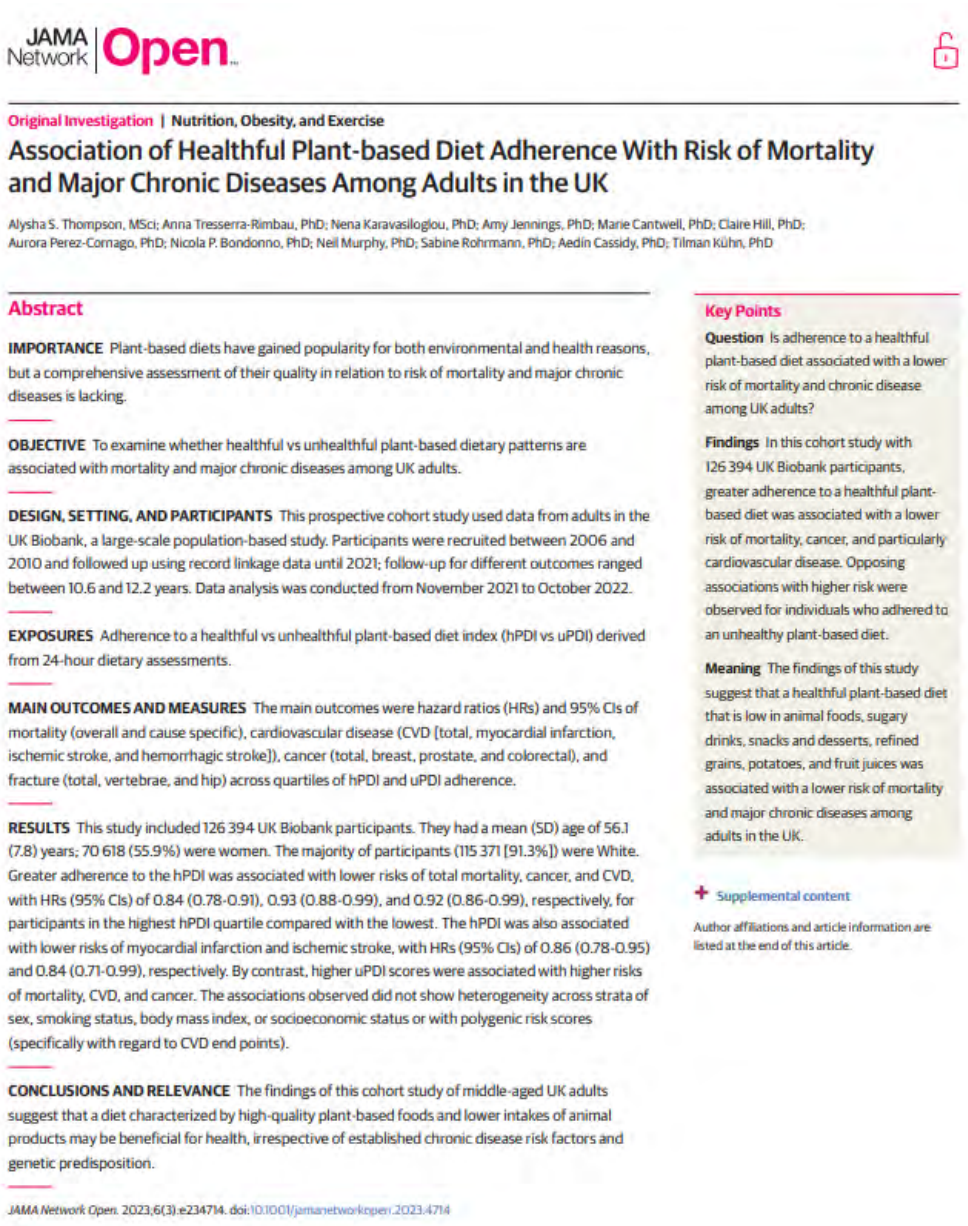
ABSTRACT

It is the position of the Academy of Nutrition and Dietetics that, in adults, appropriately planned vegetarian and vegan dietary patterns can be nutritionally adequate and can offer long-term health benefits such as improving several health outcomes associated with cardiometabolic diseases. Vegetarian dietary patterns exclude meat, poultry, and seafood, and vegan dietary patterns exclude all foods of animal origin. Registered dietitian nutritionists (RDNs) and nutrition and dietetics technicians, registered (NDTRs) play a pivotal role in providing meal-planning strategies and evidence-based nutrition information to clients currently following vegetarian or vegan dietary patterns or who may benefit from and express interest in following vegetarian or vegan dietary patterns. RDNs and NDTRs can work with their clients to create tailored, lifestyle-oriented, nutritionally-balanced, and culturally-suitable vegetarian and vegan dietary patterns that optimize health benefits while reducing concerns about nutrient inadequacies. Adults follow vegetarian and vegan dietary patterns for various reasons. The
health care professionals, including RDNs and NDTRs, about the evidence-based benefits
vegetarian and vegan dietary patterns for different populations of non-pregnant, non-lact
supported by current evidence, including several systematic reviews. As leaders in evidence
should aim to support the development and facilitation of vegetarian and vegan dietary p
plant-based meals. Promoting a nutrient-balanced vegetarian dietary pattern on both indi
effective tool for preventing and managing many diet-related conditions. This position was
remain in effect until December 31, 2032.

RDNs and NDTRs can work with their clients to create tailored, lifestyle-oriented, nutritionally-balanced, and culturally-suitable vegetarian and vegan dietary patterns that optimize health benefits while reducing concerns about nutrient inadequacies.

Plant- Based Diets: Nutrients to Watch

Protein	B12	Ca	Vit D
Iron	Choline	Iodine	Omega-3



JAMA Network Open

Original Investigation | Nutrition, Obesity, and Exercise

Association of Healthful Plant-based Diet Adherence With Risk of Mortality and Major Chronic Diseases Among Adults in the UK

Alysha S. Thompson, MSci; Anna Tresserra-Rimbau, PhD; Nena Karavasiloglou, PhD; Amy Jennings, PhD; Marie Cantwell, PhD; Claire Hill, PhD; Aurora Perez-Cornago, PhD; Nicola P. Bondonno, PhD; Neil Murphy, PhD; Sabine Rohrmann, PhD; Aedin Cassidy, PhD; Tilman Kühn, PhD

Abstract

IMPORTANCE Plant-based diets have gained popularity for both environmental and health reasons, but a comprehensive assessment of their quality in relation to risk of mortality and major chronic diseases is lacking.

OBJECTIVE To examine whether healthful vs unhealthful plant-based dietary patterns are associated with mortality and major chronic diseases among UK adults.

DESIGN, SETTING, AND PARTICIPANTS This prospective cohort study used data from adults in the UK Biobank, a large-scale population-based study. Participants were recruited between 2006 and 2010 and followed up using record linkage data until 2021; follow-up for different outcomes ranged between 10.6 and 12.2 years. Data analysis was conducted from November 2021 to October 2022.

EXPOSURES Adherence to a healthful vs unhealthful plant-based diet index (hPDI vs uPDI) derived from 24-hour dietary assessments.

MAIN OUTCOMES AND MEASURES The main outcomes were hazard ratios (HRs) and 95% CIs of mortality (overall and cause specific), cardiovascular disease (CVD [total, myocardial infarction, ischemic stroke, and hemorrhagic stroke]), cancer (total, breast, prostate, and colorectal), and fracture (total, vertebrae, and hip) across quartiles of hPDI and uPDI adherence.

RESULTS This study included 126 394 UK Biobank participants. They had a mean (SD) age of 56.1 (7.8) years; 70 618 (55.9%) were women. The majority of participants (115 371 [91.3%]) were White. Greater adherence to the hPDI was associated with lower risks of total mortality, cancer, and CVD, with HRs (95% CIs) of 0.84 (0.78-0.91), 0.93 (0.88-0.99), and 0.92 (0.86-0.99), respectively, for participants in the highest hPDI quartile compared with the lowest. The hPDI was also associated with lower risks of myocardial infarction and ischemic stroke, with HRs (95% CIs) of 0.86 (0.78-0.95) and 0.84 (0.71-0.99), respectively. By contrast, higher uPDI scores were associated with higher risks of mortality, CVD, and cancer. The associations observed did not show heterogeneity across strata of sex, smoking status, body mass index, or socioeconomic status or with polygenic risk scores (specifically with regard to CVD end points).

CONCLUSIONS AND RELEVANCE The findings of this cohort study of middle-aged UK adults suggest that a diet characterized by high-quality plant-based foods and lower intakes of animal products may be beneficial for health, irrespective of established chronic disease risk factors and genetic predisposition.

JAMA Network Open. 2023;6(3):e234714. doi:10.1001/jamanetworkopen.2023.4714

Key Points

Question Is adherence to a healthful plant-based diet associated with a lower risk of mortality and chronic disease among UK adults?

Findings In this cohort study with 126 394 UK Biobank participants, greater adherence to a healthful plant-based diet was associated with a lower risk of mortality, cancer, and particularly cardiovascular disease. Opposing associations with higher risk were observed for individuals who adhered to an unhealthy plant-based diet.

Meaning The findings of this study suggest that a healthful plant-based diet that is low in animal foods, sugary drinks, snacks and desserts, refined grains, potatoes, and fruit juices was associated with a lower risk of mortality and major chronic diseases among adults in the UK.

+ Supplemental content

Author affiliations and article information are listed at the end of this article.

Healthy vs Unhealthy Vegetarian Diets

"The findings of this cohort study of 126,394 middle-aged adults from the UK suggest that a healthful plant based diet was associated with lower risks of CVD, cancer, and total mortality. On the contrary, an unhealthy plant based dietary pattern characterized by higher intakes of sugary drinks, snacks and desserts, refined grains, potatoes, and fruit juices was associated with higher risk."

Healthy Vegetarian Diet

- Complex Fiber Rich Carbohydrates
- Antioxidants and Phytochemicals
- MUFAs & PUFAs
- Vitamins & Minerals

↓

- ↑ Glucose Tolerance
- ↓ Insulin Resistance
- ↓ LDL Cholesterol & TG
- ↓ Blood Pressure
- ↓ Oxidative Stress
- ↑ Immune Function

↓

↓ Diabetes CVD & Obesity

Unhealthy Vegetarian Diet

- Refined Carbohydrates
- Added sugar, High Fructose Corn Syrup
- Saturated and Trans Fats
- Salt and Artificial Sweeteners

↓

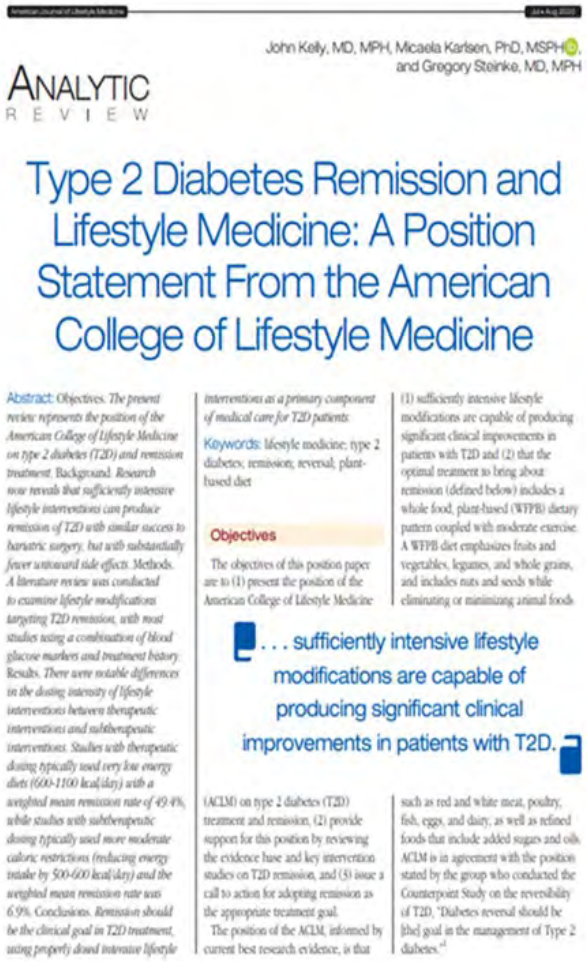
- ↑ Hyperglycemia
- ↑ Hyperinsulinemia
- ↑ Dyslipidemia
- ↑ Inflammation
- ↑ Hypertension
- ↑ Gut Dysbiosis

↓

↑ Diabetes CVD & Obesity

Image adapted by Presenter from Wang, et al. (2023).

Key Points for Dietitians Prescribing Food Is Medicine Diet RX: Dosage



John Kelly, MD, MPH, Micaela Karlsen, PhD, MSPH, and Gregory Steinke, MD, MPH

ANALYTIC REVIEW

Type 2 Diabetes Remission and Lifestyle Medicine: A Position Statement From the American College of Lifestyle Medicine

Abstract: Objectives. The present review represents the position of the American College of Lifestyle Medicine on type 2 diabetes (T2D) and remission treatment. Background. Research now reveals that sufficiently intensive lifestyle interventions can produce remission of T2D with similar success to bariatric surgery, but with substantially fewer untoward side effects. Methods. A literature review was conducted to examine lifestyle modifications targeting T2D remission, with most studies using a combination of blood glucose markers and treatment history. Results. There were notable differences in the dosing intensity of lifestyle interventions between therapeutic interventions and subtherapeutic interventions. Studies with therapeutic dosing typically used very low energy diets (600-1100 kcal/day) with a weighted mean remission rate of 49.4%, while studies with subtherapeutic dosing typically used more moderate caloric restrictions (reducing energy intake by 500-600 kcal/day) and the weighted mean remission rate was 6.9%. Conclusions. Remission should be the clinical goal in T2D treatment, using properly dosed intensive lifestyle interventions as a primary component of medical care for T2D patients.

Keywords: lifestyle medicine; type 2 diabetes; remission; reversal; plant-based diet

Objectives

The objectives of this position paper are to (1) present the position of the American College of Lifestyle Medicine (ACLM) on type 2 diabetes (T2D) treatment and remission; (2) provide support for this position by reviewing the evidence base and key intervention studies on T2D remission, and (3) issue a call to action for adopting remission as the appropriate treatment goal.

The position of the ACLM, informed by current best research evidence, is that (1) sufficiently intensive lifestyle modifications are capable of producing significant clinical improvements in patients with T2D and (2) that the optimal treatment to bring about remission (defined below) includes a whole food, plant-based (WFPB) dietary pattern coupled with moderate exercise. A WFPB diet emphasizes fruits and vegetables, legumes, and whole grains, and includes nuts and seeds while eliminating or minimizing animal foods such as red and white meat, poultry, fish, eggs, and dairy, as well as refined foods that include added sugars and oils. ACLM is in agreement with the position stated by the group who conducted the Counterpoint Study on the reversibility of T2D, "Diabetes reversal should be [the] goal in the management of Type 2 diabetes."[2]

> "... sufficiently intensive lifestyle modifications are capable of producing significant clinical improvements in patients with T2D."

The importance of appropriate dosing in the context of lifestyle modification can hardly be overstated. Dosing is of prime therapeutic importance in a pharmaceutical context; with LM it is no different.

Sufficiently intensive lifestyle modifications are capable of producing significant clinical improvements in patients with T2D and that the optimal treatment to bring about remission includes a whole food, plant-based (WFPB) dietary pattern coupled with moderate exercise.

Good Nutrition is a Journey

DIETARY SPECTRUM

AMERICAN COLLEGE OF Lifestyle Medicine

THE AMERICAN COLLEGE OF LIFESTYLE MEDICINE DIETARY POSITION STATEMENT

ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds.

WHAT AMERICA EATS

*Food items are not to scale

- Increased risk for Obesity, T2Diabetes, Heart Disease, and some Cancers
- Poor nutrition is the leading cause of death globally.

Increase whole plant foods, fruits, vegetables, whole grains, beans, legumes, nuts, seeds, water

Decrease sweets and snacks, fast food, fried foods, refined grains, refined sugar, meat, dairy, eggs, poultry, high sodium foods

WHOLE FOOD PLANT-BASED EATING PLAN

*Food items are not to scale

- Decreased risk for Obesity, T2Diabetes, Heart Disease, and some Cancers
- Chronic disease treatment and potential reversal

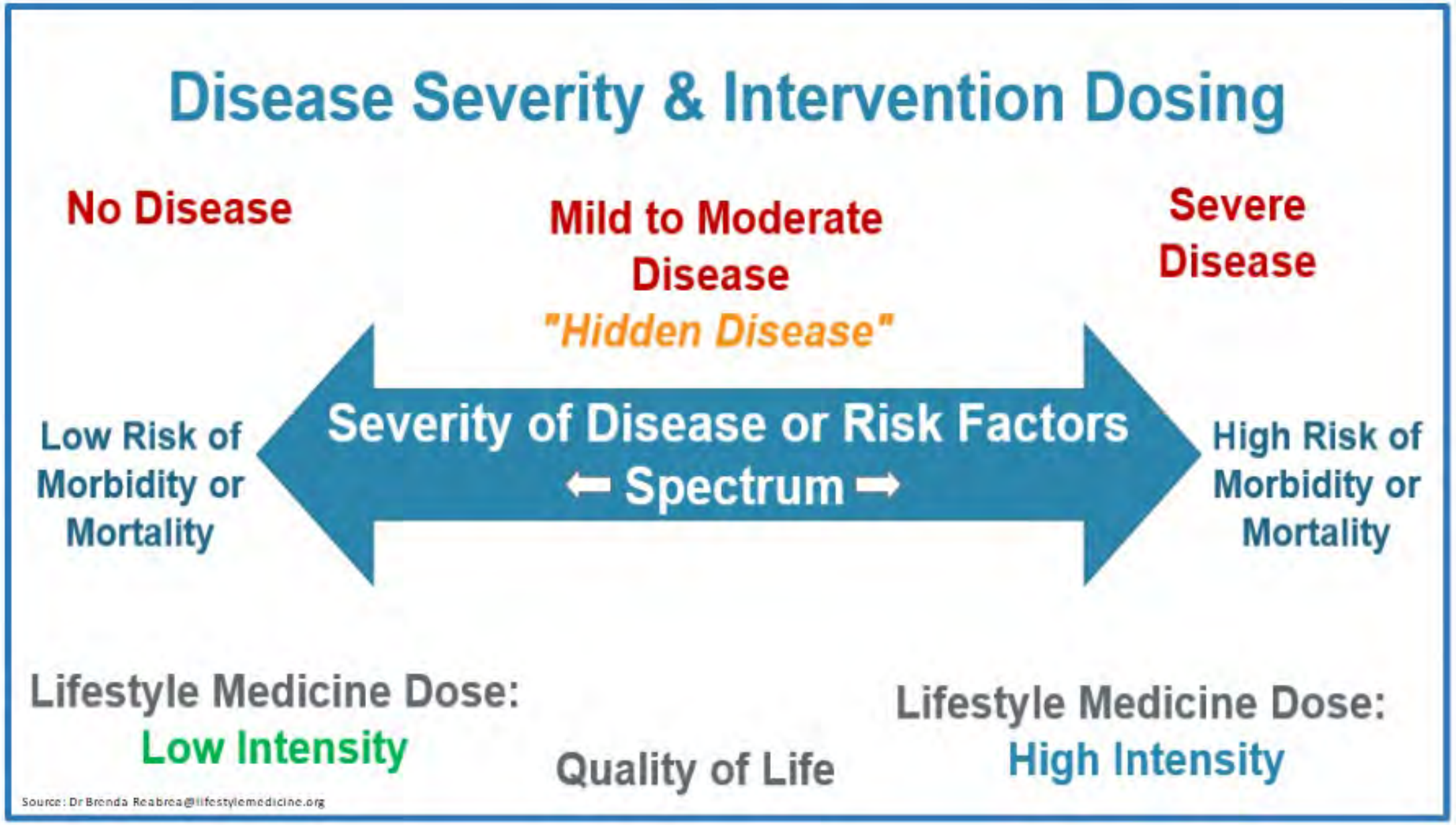
TIPS FOR IMPROVED NUTRITION AND HEALTH

- Any movement toward WFPB eating is positive
- More movement toward a WFPB eating plan increases impact
- Tailored and sustainable approaches are recommended

What We Eat in America (WWEIA) Food Category analyses for the 2015 Dietary Guidelines Advisory Committee. Estimates based on day 1 dietary recalls from WWEIA, NHANES 2009 2010.

Tuso PJ, Ismail MH, Ha BP, Bartolotto C. Nutritional update for physicians: plant-based diets. Perm J. 2013;17(2):61-66.

Food Planet Health. Eatforum.org. Published 2020. Accessed June 4, 2020


Disease Severity & Intervention Dosing
No Disease
Mild to Moderate Disease
"Hidden Disease"
Severe Disease
Low Risk of Morbidity or Mortality
Severity of Disease or Risk Factors
⬅ Spectrum ➡
High Risk of Morbidity or Mortality
Lifestyle Medicine Dose:
Low Intensity
Quality of Life
Lifestyle Medicine Dose:
High Intensity
Source: Dr Brenda Reabrea@lifestylemedicine.org

Sufficient Dosing

AMERICAN COLLEGE OF Lifestyle Medicine

NUTRITION IN ACTION

Common lifestyle advice from clinicians:

- Eat more fruits and vegetables
- Exercise more

Example of a therapeutic dose of lifestyle medicine that could significantly improve or normalize diabetic biometrics in certain patients with type 2 diabetes:

- Self-care goal: Work toward remission of diabetes with a whole-food, plant-predominant eating pattern.
- Breakfast: No earlier than 8 a.m. ½ C. cooked steel cut oats, ½ C. blueberries, soy milk M, W, F, and Sat, Tofu scramble, whole food fruit side on T, TH, Sun.
- Lunch: Dark green leafy salad with ½ C. cooked quinoa or cooked beans and 2 C. multicolored raw vegetables, light homemade dressing M-F. Vegetable and tofu or bean wrap or burrito Sat and Sun Add 1 C. vegetable soup as desired to satisfy hunger.
- 15-minute walk a half hour after lunch.
- Snack: Apple slices with 1-2 TBSP hummus or nut butter, if desired.
- Dinner: No later than 6 p.m. Simple dark green leafy salad. Variety of warm, savory dishes as provided on recipe cards. Keep this meal lighter than lunch.
- 15-minute walk a half hour after dinner.

Meet Ed

- At the age of 65 Ed was 275lbs, he was on the strongest (multiple) RA meds his MD would prescribe, he had HTN (medicated), prediabetes (medicated) and high cholesterol (medicated)
- Ed had stiffness in his hands and fatigue from the RA needing naps throughout the day and struggled to enjoy fishing and other hobbies such as woodworking and architectural glass making
- When he was 68 Ed and his wife began meeting with a RD who recommend that they start following a WFPBD and that he begin exercising regularly
- In December of 2022, Ed sought a new cardiologist because he was interested in getting off some of his diabetic, RA and cardiac medications

4 Years later... Same Lake, Same Size Bass Fish

- Ed is now 72 and he has successfully lost and maintained over 100 pounds
- Medication Deprescription
  Reversed RA (unmedicated)
  BP and cholesterol are both normal (unmedicated)
  HGBA1C is 5.4 (unmedicated)
- Ed's wife (who is a nurse) also lost weight and reversed her obesity
- Ed is now more active than he was in his 60s and he continues to increase his activity levels and strength. He still enjoys bass fishing and started playing golf again. Ed now regularly uses his woodshop in the basement to build furniture for friends and family
- Ed will tell you that his "diet" has truly become his lifestyle and not a "diet" and that he wishes someone had told him decades ago about the impact of diet on health instead of just giving him pills for his medical problems

Food is Medicine: RDNs are Needed!

Food is Medicine encompasses a broad range of approaches that promote optimal health and healing and reduce disease burden by providing nutritious food

- Recognize that ongoing nourishment is essential for good health, well-being, and resilience.
- Facilitate access to healthy food across a health continuum in the community.
- Cultivate understanding of the relationship between nutrition and health.
- Unite partners with diverse assets to build sustained and integrated solutions.
- Invest in the capacity of under-resourced communities.

USDA Food is Medicine Landscape Survey
https://odphp.health.gov/sites/default/files/2025-02/Food%20Is%20Medicine%20Landscape%20Summary%20FINAL%20508%20EO%20Compliant%202%204%202025_0.pdf

How can an RDN help your patients or organization implement Food as Medicine?

- Provide expert guidance while understanding the patient and meet them where they are. Cooperate within the clinical community to become an extension that is valued
- We desperately need RDNs in rural areas. What kind of creative virtual RDN services could be offered? Could Rural Health Clinics “share” the services of an RDN?
- Advocate for changes in hospital food!
- Determine nutritional content (macro and micronutrients) of recipes for medically tailored meals
- Provide nutrition education for community health workers
- Shift diets in ways that are culturally appropriate, accessible, unapologetically delicious
- Offer additional education and counseling on practical dietary interventions that seamlessly blends with my clinical care as a physician and encourages non-judgmental participation.
- Support physicians and care teams to put diseases into remission with a FIM approach
- Provider technical assistance and oversight of CHWs engaging in FIM work
- To help them find healthier options that fits their cultural foods and their health needs. To teach them what real food is and why it is important to move away from processed food.
- Can RDNs effectively teach patients how to prepare, I.e. cook, healthy delicious meals from scratch

How can an RDN help your patients or organization implement Food as Medicine?

- Think about engaging a project echo model. App based interactive platforms for patients teaching guides / toolboxes.
- Teach nutrition to medical students and residents
- In the community; Review unsheltered emergency food kits. Create healthier snacks and menu items for unsheltered food access programs
- Give individualized evidence based, detailed dietary advice to my primary care patients. Looking for a dietician who is trained about the benefits of lifestyle medicine and whole food plant-based eating patterns
- Become trained in using food AS medicine for disease remission.
- Patient monitoring and coaching
- Train up in integrative/lifestyle/functional medicine
- Deliver food as medicine content in a shared medical appointment setting with a provider
- Nutrition education and guidance in research for tertiary pediatric obesity clinics
- RDNs are needed to design medically tailored meals
- Developing culturally tailored recipes and handouts, building culinary literacy in the dietitian community so that they can advance the practical support patients need
- Titrate and implement the appropriate FIM program type

Food Is Medicine: RDNs Needed

- Consumer/Patient Education
- In Depth Personalized Nutrition Therapy
- Design, Implementation and Evaluation of FIM Programs
- Nutrition in Medical Education
- FIM Research

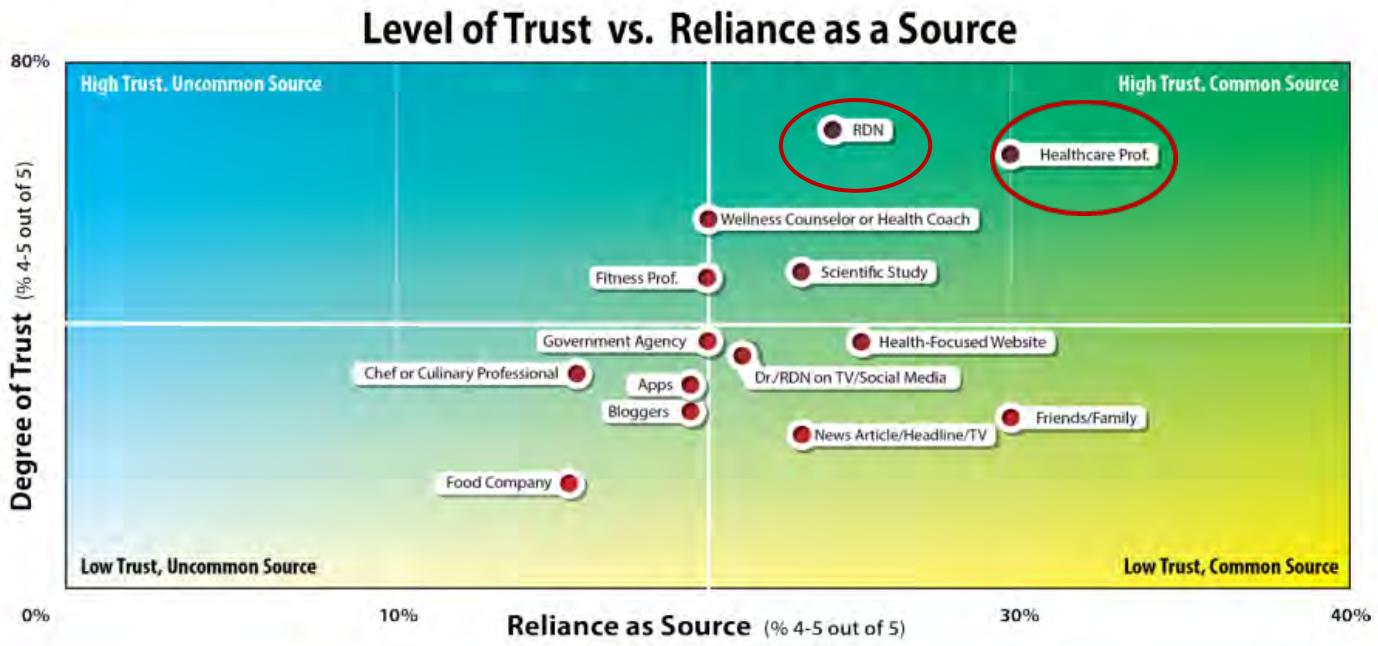
Food is Medicine: Helping Patients Make the Healthy Choice the Easy Choice

- Nutrition Education (Community and Clinical Settings)
- Community Based Programs
- Food Assistance Programs
- School Breakfast/lunch programs
- Medically Tailored Meals
- Medically Tailored Groceries
- Produce Prescriptions
- Culinary Medicine Teaching Kitchens/Programs

Image source: https://www.linkedin.com/pulse/do-restaurants-have-responsibility-customers-health-scott-friedman

Relationship Between Trust and Reliance

Health professionals trusted and used by consumers to guide health and food decisions



FOODINSIGHT.ORG

RDNs are a Trusted Source of Nutrition Information

Putting Food is Medicine into Practice

- Nutrition Education in Medical Education
- Culinary Medicine

FOOD

By Ronit Ridberg, Julia Reedy Sharib, Kathryn Garfield, Erika Hanson, and Dariush Mozaffarian

Food Is Medicine In The US: A National Survey Of Public Perceptions Of Care, Practices, And Policies

DOI: 10.1377/hlthaff.2024.00585
HEALTH AFFAIRS 44, NO. 4 (2025): –

ABSTRACT Poor nutrition in the US causes more than 600,000 deaths and an estimated $1.1 trillion in health care spending and lost productivity annually, as well as profound health disparities. Food Is Medicine interventions, which incorporate nutrition-related services in medical care as part of a care plan to prevent or treat disease, can advance nutrition security, health, and equity. But little is known about public awareness and perceptions of these interventions. We conducted the first national survey on knowledge, perceptions, and experiences around Food Is Medicine during February–April 2023. Fewer than half of respondents said that they received clear food- and nutrition-related advice from their primary health care providers, but a majority expressed interest in participating in Food Is Medicine interventions. More than two-thirds felt that Medicare and Medicaid should help pay for Food Is Medicine programs in health care, and more than half said that private insurance should do so. These results suggest a need for increased nutrition-related training of health care professionals, development of Food Is Medicine accreditation standards for health care organizations, and new regulatory incentives and contract requirements for Medicare Advantage and Medicaid managed care plans to encourage Food Is Medicine interventions in care delivery.

Ronit Ridberg (ronit.ridberg@tufts.edu), Tufts University, Boston, Massachusetts.

Julia Reedy Sharib, Tufts University.

Kathryn Garfield, Harvard University, Cambridge, Massachusetts.

Erika Hanson, Harvard University.

Dariush Mozaffarian, Tufts University.

Putting Food Is Medicine into Action: What Suggestions Do You Have?

BREAKFAST
COFFEE
TOAST
MUFFIN/ CAKE
EGGS & CHEESE (VEG SAUSAGE) ON BAGEL

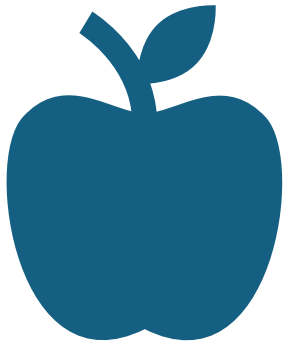
LUNCH
VEGGIES NUGGETS
MAC & CHEESE
GRILLED CHEESE
PIZZA
LEFTOVERS FROM DINNER

SNACKS
CHIPS
CANDY
SWEETS- MUFFINS, COOKIES, CAKE

DINNER
MEATBALLS & SPAGHETTI
SLOPPY JOE
BURGERS & FRIES
WINGS/NUGGETS & FRIES
BEEF WITH BROCCOLI, WATER CHESTNUTS & BABY CORN OVER RICE
HOT DOGS & FRIES
POT ROAST WITH ROOT VEGETABLES
SAUSAGE & PEPPERS WITH MASHED POTATOES
WEEKEND LEFTOVERS
PIZZA
MAC & CHEESE

BEVERAGES
DIET SODA
DIET SNAPPLE
CRYSTAL LIGHT

RDNs are an Essential Part of the Interprofessional Healthcare Team



Benefits of IP Healthcare Team to Address Nutrition and Food is Medicine

- Higher level of treatment compliance
- Improved health outcomes
- Enhanced patient engagement
- Improved chronic disease self-management

Next Steps

- Continue learning about Food is Medicine
- Personal Lifestyle Inventory
- Gain tools to help patients, clients, community transform their health through transitioning to a healthier dietary pattern
- Consider how you can make an impact

Plants & produce *before* pills & procedures

"Too often, [providers] ignore the potential benefits of good nutrition and quickly prescribe medications instead of giving patients a chance to correct their disease through healthy eating and active living."

"If we are to slow down the obesity epidemic and reduce the complications of chronic disease, we must consider changing our culture's mind-set from "live to eat" to "eat to live." The future of health care will involve an evolution toward a paradigm where the prevention and treatment of disease is centered, not on a pill or surgical procedure, but on another serving of fruits and vegetables."

Tuso, et al. (2013)

"Don’t trade off the pleasure of good food against the pleasure of good health
Empower people to have both."

Dr David Katz