



Proving the Power of Food: **The Science Behind Food as Medicine**

Best Practices • Success Stories • Evidence-Based Outcomes

Approved for CME | Pending CE approval for RDs

Speakers



Micaela Karlsen
PhD, MSPH



Robert Ostfeld
MD, MSc, FACC



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MD, ABOIM

Hosted by



David L. Katz
MD, MPH

Register:
go.jointangelo.com/fam



July 30th, 2024
12:00 - 1:00 EDT

Learning Objectives:

Understand the Scientific Basis of Food as Medicine (FaM):

Attendees will learn about the latest research and evidence supporting the effectiveness of FaM interventions in preventing, treating, and reversing chronic diseases, as presented by leading experts in the field.

Evaluate the Impact of FaM on Individual and Population Health:

Participants will gain insights into how FaM works on both micro and macro levels, understanding its benefits for individual patients as well as broader public health implications.

Implement Evidence-Based FaM Practices in Clinical and Public Health Settings:

Health professionals will acquire practical knowledge on how to integrate FaM strategies into their practice, enhancing their ability to deliver effective, nutrition-based healthcare solutions and improve patient outcomes.

For more information....

Get in touch
jointangelo.com/partners

Learn more about evidence-based FaM
dietid.com/science
dietid.com/roi-calculator

Download the [bibliography](#) after the webinar

Look for a followup email [by Friday!](#)



Food as Medicine

July 30, 2024

Micaela Karlsen, PhD, MSPH

Senior Director of Research, ACLM





Meaning of Food as Medicine

Application of existing knowledge from public health and nutrition research to intervene in healthcare, using nutrition as a primary means of treatment

Lifestyle Medicine is the Solution

6 KEY DOMAINS OF HEALTH BEHAVIOR:

- Nutrition
- Physical activity
- Restorative Sleep
- Stress management
- Social connection
- Avoiding risky substances





Nutrition

Extensive scientific evidence supports a whole food, predominantly plant-based diet as an important strategy in preventing chronic disease, treating chronic conditions, and, in intensive therapeutic doses, reversing chronic illness. Such a diet is nutrient dense, rich in fiber and antioxidants, with a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts, and seeds.

Dietary Recommendations in Clinical Practice Guidelines



Advances in Nutrition

Available online 20 March 2023

In Press, Corrected Proof [?](#) What's this? [↗](#)

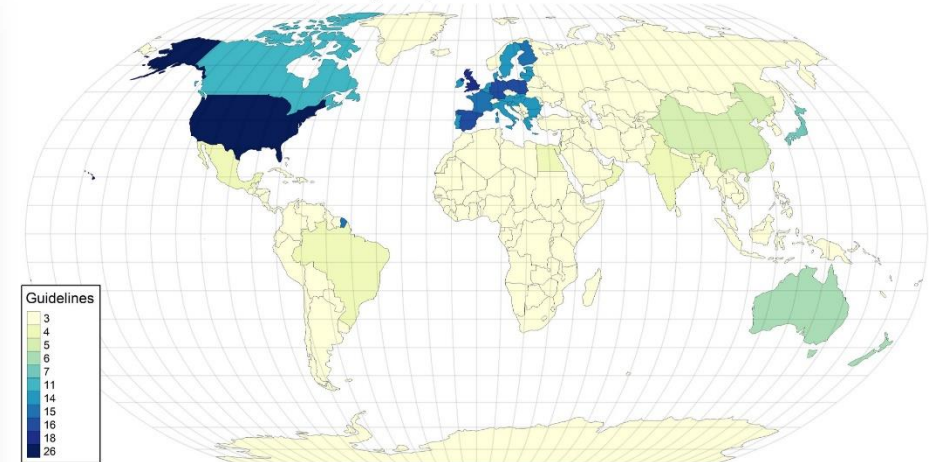


Review

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} [👤](#) [✉](#)

Frequency Map of Included Guidelines



Review and Synthesis of 78 Clinical Practice Guidelines for Commonalities

Included studies

- 78 clinical practice guidelines published between 2010 and 2021 that address nutrition for a variety of health conditions, as well as general health promotion, were included in this study.
 - 83% major medical professional societies.
 - 12% governments.
 - 5% large health stakeholder associations

Recommendations for:

- Overall dietary patterns
- Major food groups
- Food components frequently addressed in research and clinical settings, such as salt, saturated fat, protein, sugar, etc.



Results



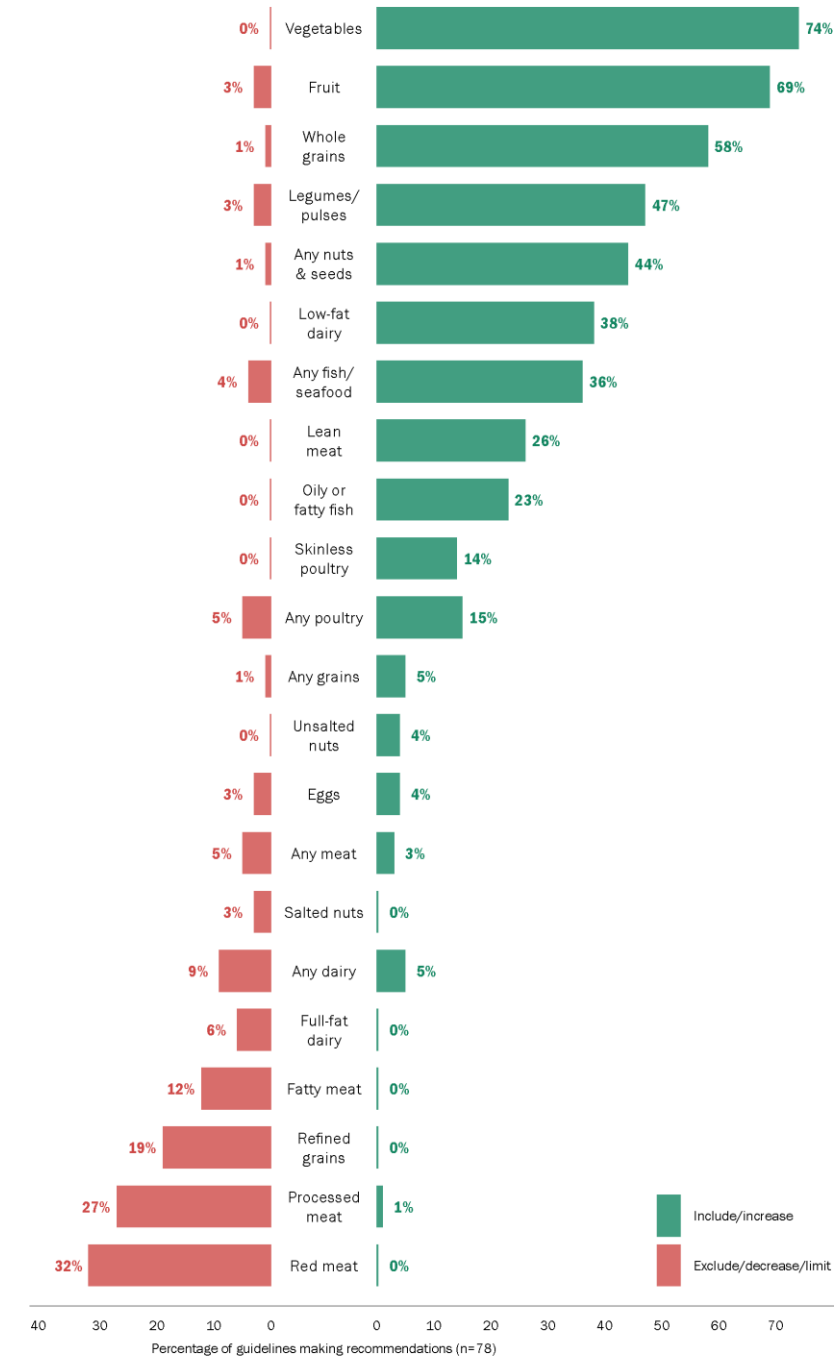
Top Encouraged Food Groups

- Vegetables (74%)
- Fruit (69%)
- Whole grains (58%)
- Legumes/pulses (47%)
- Any nuts and seeds (44%)
- Low-fat dairy (38%)
- Any fish/seafood (36%)



Most Discouraged Food Groups

- Fatty meat (12%)
- Refined grains (19%)
- Processed meat (27%)
- Red meat (32%)

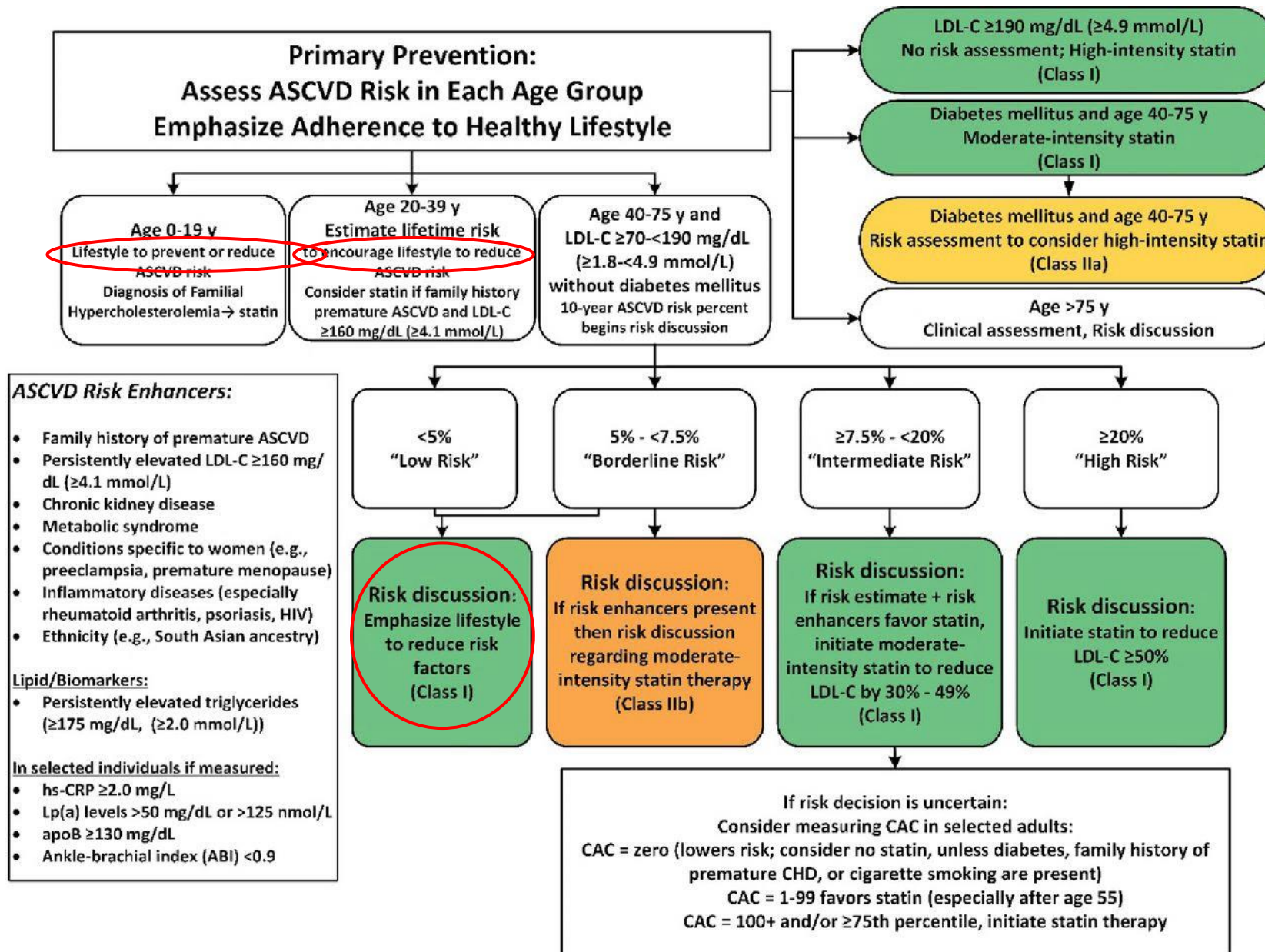


Lifestyle Change as First Treatment Option

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

Leading national and international organizations reinforce this.





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



Hypertension

AHA Journals Journal Information All Issues Subjects Features Resources & Education

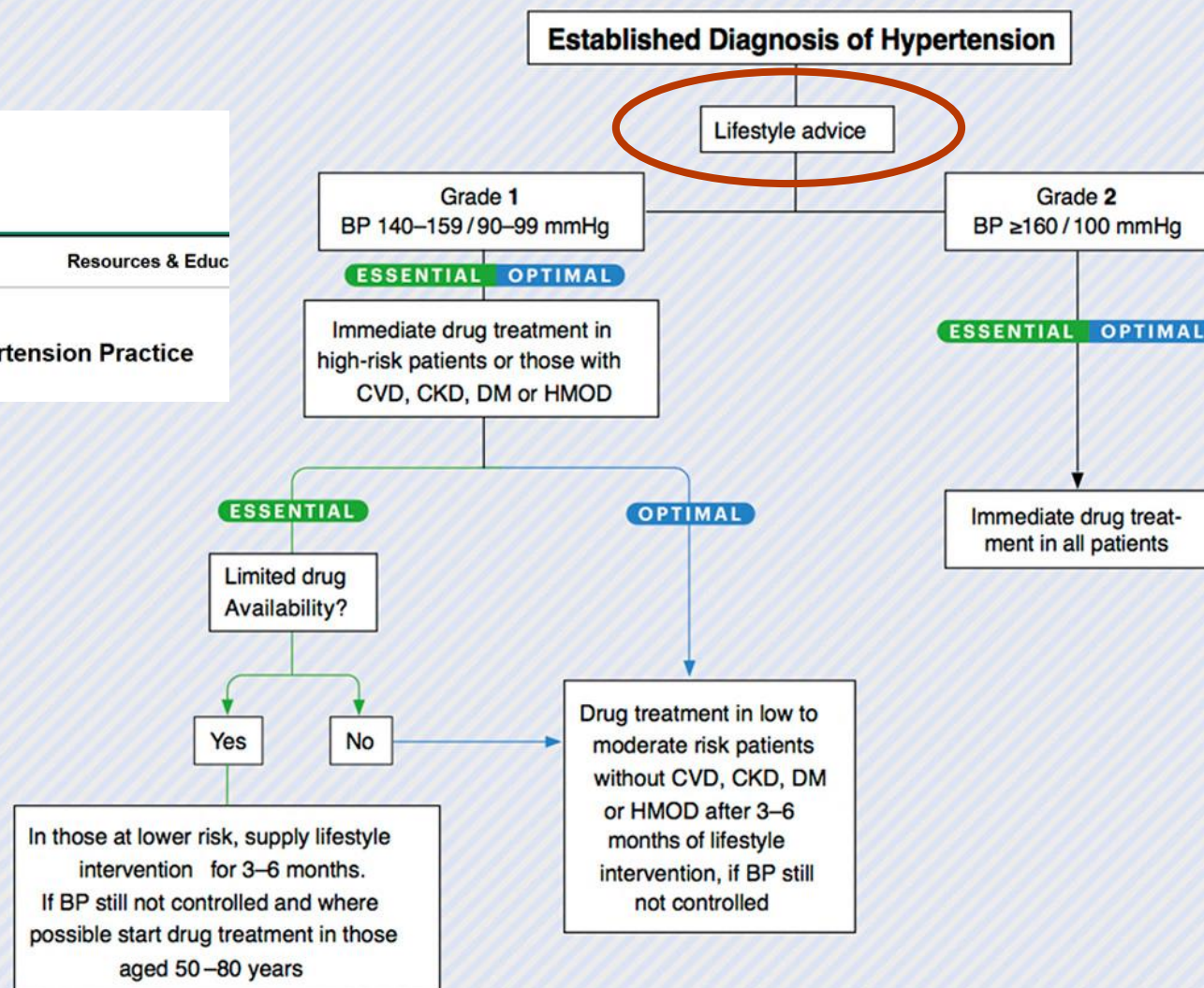
Home > Hypertension > Vol. 75, No. 6 > 2020 International Society of Hypertension Global Hypertension Practice Guidelines

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ARTICLE COMMENTARY

2020 International Society of Hypertension Global Hypertension Practice Guidelines

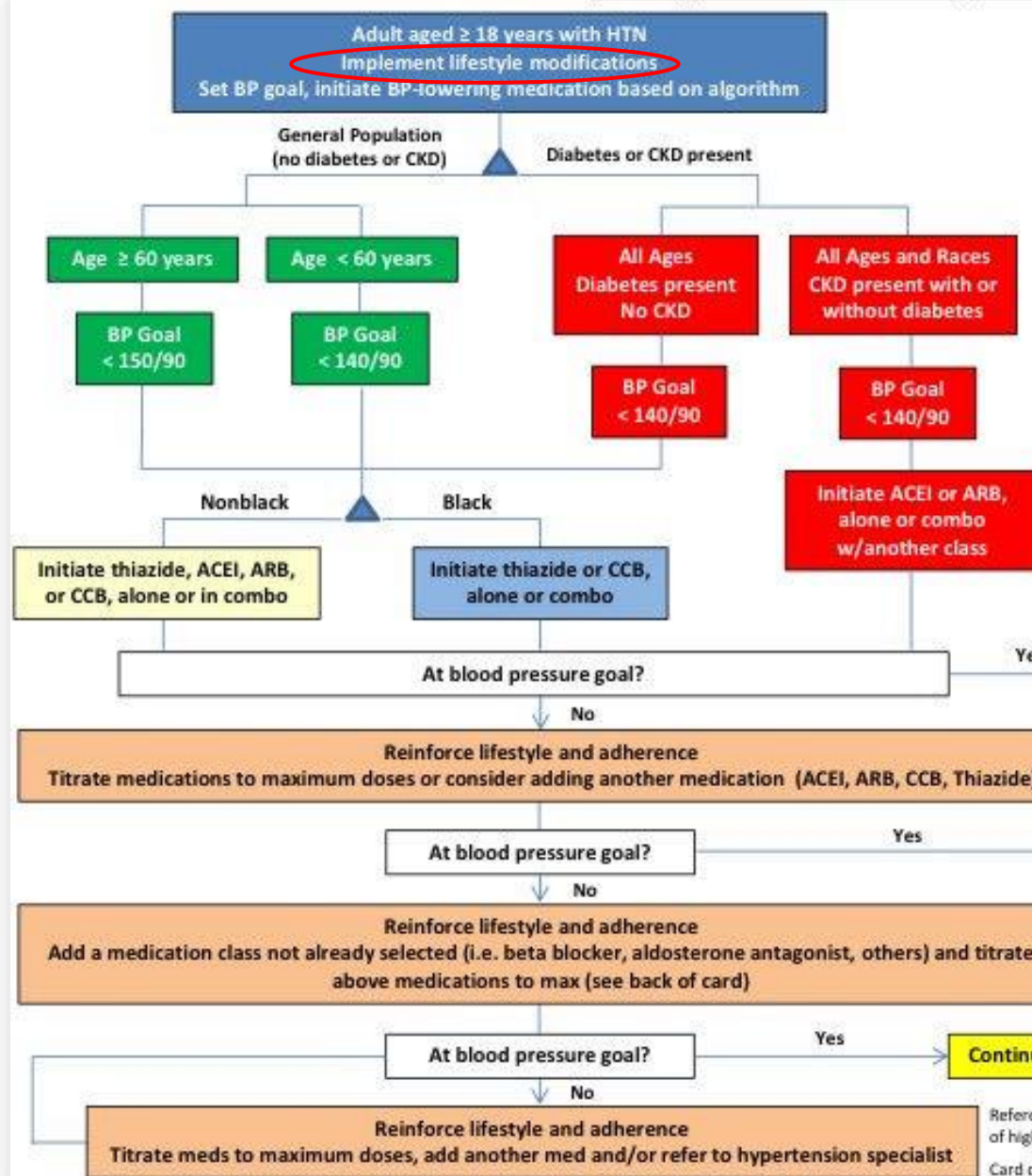


Thomas Unger. Hypertension. 2020 International Society of Hypertension Global Hypertension Practice Guidelines, Volume: 75, Issue: 6, Pages: 1334-1357, DOI: (10.1161/HYPERTENSIONAHA.120.15026)



The Joint National Committee (JNC 8) Guidelines for Hypertension

JNC 8 Hypertension Guideline Algorithm



Initial Drugs of Choice for Hypertension

- ACE inhibitor (ACEI)
- Angiotensin receptor blocker (ARB)
- Thiazide diuretic
- Calcium channel blocker (CCB)

Strategy	Description
A	Start one drug, titrate to maximum dose, and then add a second drug.
B	Start one drug, then add a second drug before achieving max dose of first
C	Begin 2 drugs at same time, as separate pills or combination pill. Initial combination therapy is recommended if BP is greater than 20/10mm Hg above goal

Lifestyle changes:

- Smoking Cessation
- Control blood glucose and lipids
- Diet
 - ✓ Eat healthy (i.e., DASH diet)
 - ✓ Moderate alcohol consumption
 - ✓ Reduce sodium intake to no more than 2,400 mg/day
- Physical activity
 - ✓ Moderate-to-vigorous activity 3-4 days a week averaging 40 min per session.

Reference: James PA, Ortiz E, et al. 2014 evidence-based guideline for the management of high blood pressure in adults: (JNC8). JAMA. 2014 Feb 5;311(5):507-20

Card developed by Cole Glenn, Pharm.D. & James L Taylor, Pharm.D.

LIFESTYLE THERAPY

RISK STRATIFICATION FOR DIABETES COMPLICATIONS

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGY
**AACE COMPREHENSIVE
 TYPE 2 DIABETES
 MANAGEMENT ALGORITHM**

20
20

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 <i>trans</i> 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

American Diabetes Association Recommendations for Diabetes Prevention

Lifestyle Behavior Change for Diabetes Prevention Recommendations

3.2 Refer adults with overweight/obesity at high risk of type 2 diabetes, as typified by the Diabetes Prevention Program (DPP), to an intensive lifestyle behavior change program to achieve and maintain a weight reduction of at least 7% of initial body weight through healthy reduced-calorie diet and ≥ 150 min/week of moderate-intensity physical activity. **A**

3.3 A variety of eating patterns can be considered to prevent diabetes in individuals with prediabetes. **B**

3.4 Given the cost-effectiveness of lifestyle behavior modification programs for diabetes prevention, such diabetes prevention programs should be offered to adults at high risk of type 2 diabetes. **A** Diabetes prevention programs should be covered by third-party payers, and inconsistencies in access should be addressed.

3.5 Based on individual preference, certified technology-assisted diabetes prevention programs may be effective in preventing type 2 diabetes and should be considered. **B**

The Diabetes Prevention Program

Several major randomized controlled trials, including the Diabetes Prevention Program (DPP) trial ([1](#)), the Finnish Diabetes Prevention Study (DPS) ([2](#)), and the Da Qing Diabetes Prevention Study (Da Qing study) ([3](#)), demonstrate that lifestyle/behavioral intervention with an individualized reduced-calorie meal plan is highly effective in preventing or delaying type 2 diabetes and improving other cardiometabolic markers (such as blood pressure, lipids, and inflammation) ([4](#)). The strongest evidence for diabetes prevention in the U.S. comes from the DPP trial ([1](#)). The DPP demonstrated that intensive lifestyle intervention could reduce the risk of incident type 2 diabetes by 58% over 3 years. Follow-up of three large studies of lifestyle intervention for diabetes prevention showed sustained reduction in the risk of progression to type 2 diabetes: 39% reduction at 30 years in the Da Qing study ([5](#)), 43% reduction at 7 years in the Finnish DPS ([2](#)), and 34% reduction at 10 years ([6](#)) and 27% reduction at 15 years ([7](#)) in the U.S. Diabetes Prevention Program Outcomes Study (DPPOS).



Diabetes Care

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Volume 47, Issue
Supplement_1

January 2024

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STANDARDS OF CARE | DECEMBER 11 2023

3. Prevention or Delay of Diabetes and Associated Comorbidities: *Standards of Care in Diabetes—2024*

American Diabetes Association Professional Practice Committee



Diabetes Care 2024;47(Supplement_1):S43–S51

<https://doi.org/10.2337/dc24-S003>

PubMed:[38078581](#)



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The American Diabetes Association (ADA) “Standards of Care in Diabetes” includes the ADA’s current clinical practice recommendations and is intended to provide the components of diabetes care, general treatment goals and guidelines, and tools to evaluate quality of care. Members of the ADA Professional Practice Committee, an interprofessional expert committee, are responsible for updating the Standards of Care

2013 ACC/AHA/TOS and the 2016 AACE/ACE guidelines for the management of overweight and obesity in adults

TABLE 2. Diagnosis and Medical Management of Adult Patients With Obesity: AACE/ACE Framework³

Diagnosis		Staging and treatment	
BMI, ^a kg/m ² 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.

^aBMI 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).

^bStaging of a complication as mild, moderate, or severe is based on criteria specific to each particular complication.

^cThe 2016 guideline uses the term "weight-loss medications." "Anti-obesity medications" is now preferred.

^dNote 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 JL, 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.

AICR RECOMMENDATIONS FOR CANCER PREVENTION

A Blueprint to Beat Cancer

To prevent cancer, people should aim to follow as many of the **10 Cancer Prevention Recommendations** as possible. However, any change you make that works toward meeting the goals set out in the Recommendations will go some way to reducing your cancer risk.

EAT A DIET RICH IN WHOLE GRAINS, VEGETABLES, FRUITS AND BEANS

Make whole grains, vegetables, fruits and pulses (legumes) such as beans and lentils a major part of your usual daily diet



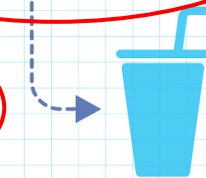
LIMIT CONSUMPTION OF RED AND PROCESSED MEAT

Eat no more than moderate amounts of red meat, such as beef, pork and lamb. Eat little, if any, processed meat



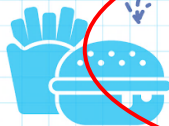
LIMIT CONSUMPTION OF SUGAR-SWEETENED DRINKS

Drink mostly water and unsweetened drinks



LIMIT CONSUMPTION OF "FAST FOODS" AND OTHER PROCESSED FOODS HIGH IN FAT, STARCHES OR SUGARS

Limiting these foods helps control calorie intake and maintain a healthy weight



LIMIT ALCOHOL CONSUMPTION

For cancer prevention, it's best not to drink alcohol



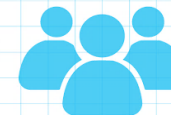
FOR MOTHERS: BREASTFEED YOUR BABY, IF YOU CAN

Breastfeeding is good for both mother and baby



AFTER A CANCER DIAGNOSIS: FOLLOW OUR RECOMMENDATIONS, IF YOU CAN

Check with your health professional about what is right for you



DO NOT USE SUPPLEMENTS FOR CANCER PREVENTION

Aim to meet nutritional needs through diet alone



American
Institute for
Cancer
Research®
www.aicr.org

Not smoking and avoiding other exposure to tobacco and excess sun are also important in reducing cancer risk.

Following these Recommendations is likely to reduce intakes of salt, saturated and trans fats, which together will help prevent other non-communicable diseases.

WHO GUIDELINES FOR RISK REDUCTION OF COGNITIVE DECLINE AND DEMENTIA

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.



The American College of Lifestyle Medicine

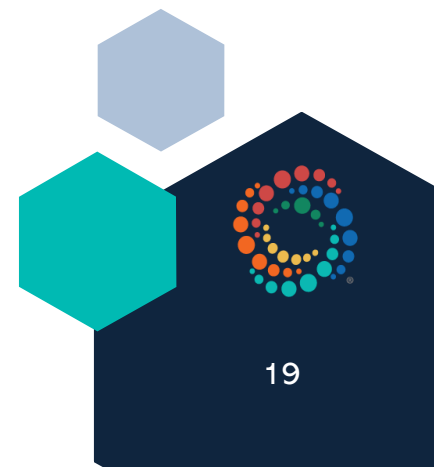
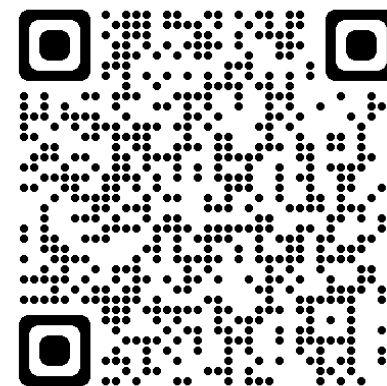
Lifestyle Medicine and Food As Medicine Essentials Course

5.5 hours of Free CME/CE Credit

This Course provides a foundational, evidence-based introduction to the field, focusing on nutrition education for the prevention and treatment of chronic disease.

- Introduction to Lifestyle Medicine module (1 hour)
- Food as Medicine: Nutrition for Prevention and Longevity module (3 hours)
- Food as Medicine: Nutrition for Treatment and Risk Reduction module (1.5 hours)

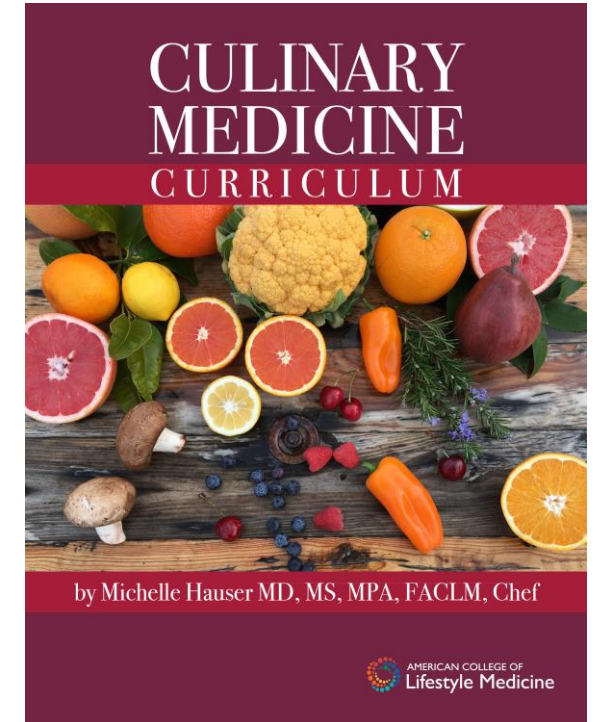
lifestylemedicine.org/essentials



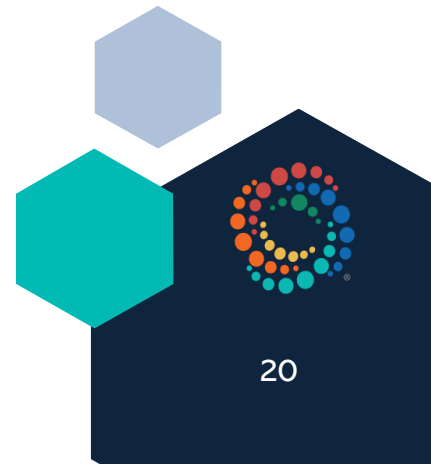
Culinary Medicine Curriculum

- Easily adaptable curriculum based on the foundational work of Michelle Hauser, MD, MS, MPA, FACP, FACLM, DipABLM, Chef
- Intended for:
 - Medical schools
 - Health professional programs
 - Adaptable for other settings
- Complimentary download at lifestylemedicine.org/culinary-medicine

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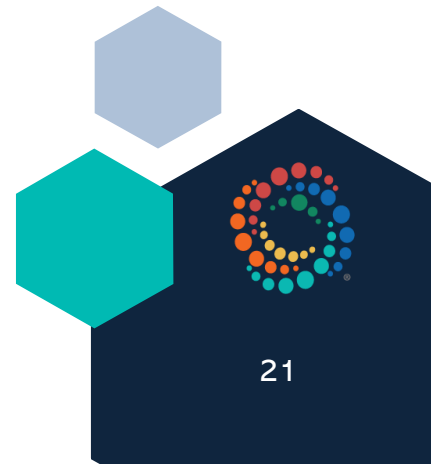
LMEd Strategic Partnership

Lifestyle Medicine Education (LMEd) provides open access, evidence-based lifestyle medicine curricular resources for medical schools to build knowledge, skills and advocacy in clinicians for the prevention and treatment of lifestyle-related chronic disease.

Initiative of University of South Carolina School of Medicine Greenville

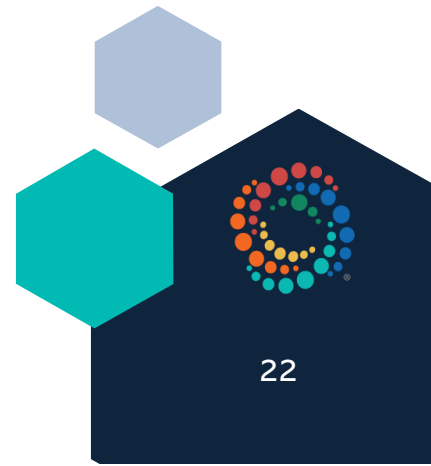
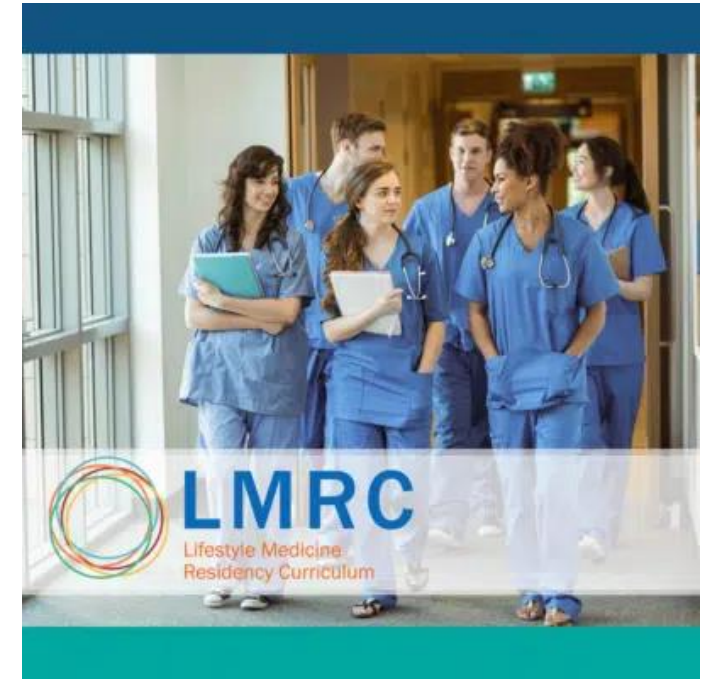


lifestylemedicineeducation.org

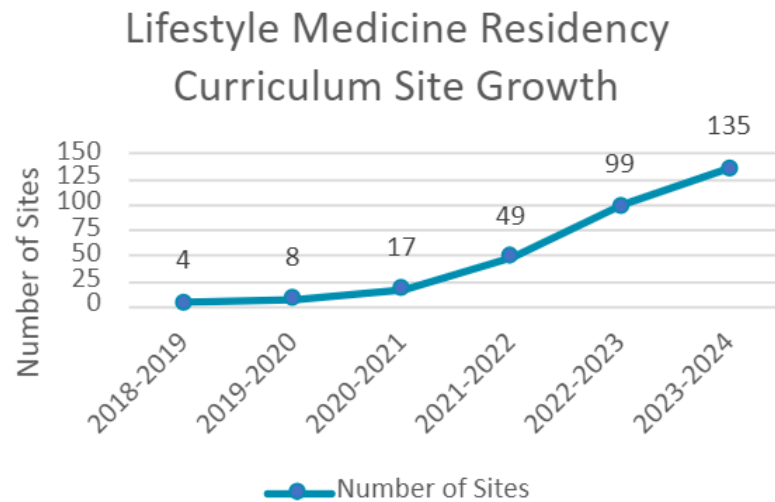


Lifestyle Medicine Residency Curriculum

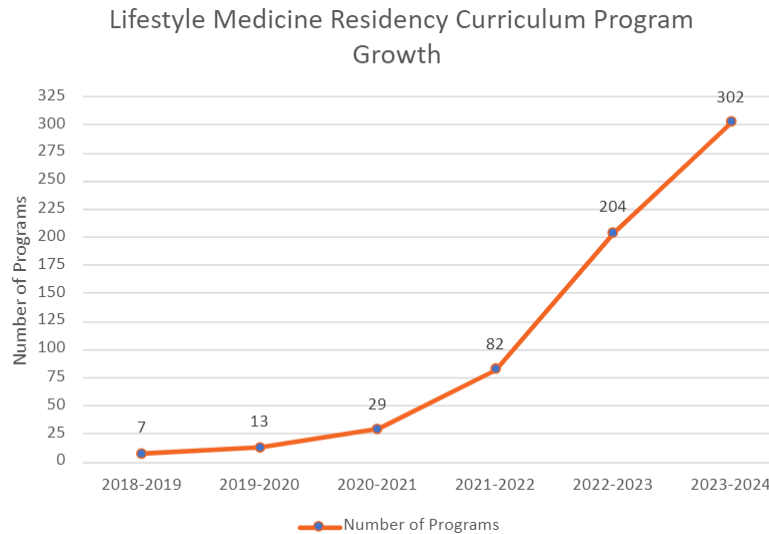
- Comprehensive, applicable, and flexible curriculum designed for integrated implementation into medical residency programs with educational and practicum components.
- Developed in collaboration with Loma Linda University Health.
- **Upon completion of the curriculum, residents qualify to sit for the American Board of Lifestyle Medicine certification exam.**



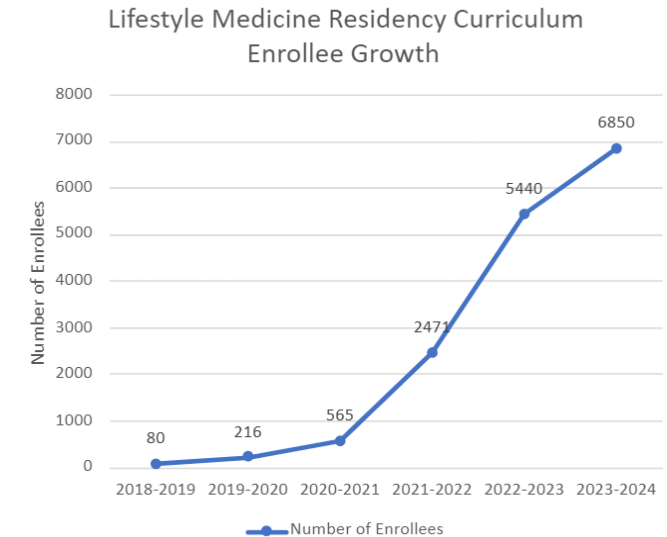
Lifestyle Medicine Residency Curriculum



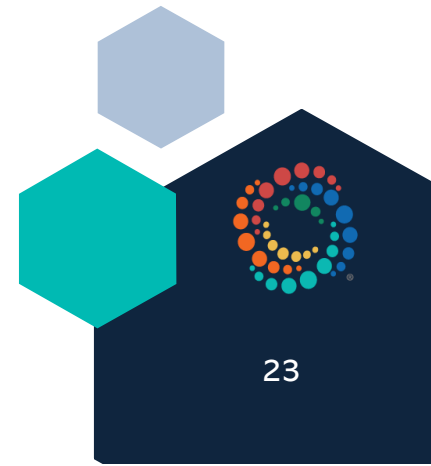
135 Sites



302 Programs



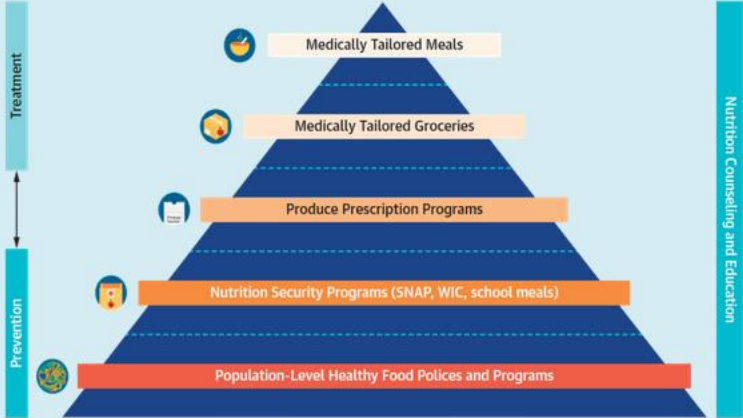
6850 Enrollees





Gerald J. and Dorothy R. Friedman
School of Nutrition Science and Policy
FOOD IS MEDICINE INSTITUTE

About Food Is Medicine @ Tufts



FOOD IS MEDICINE

Food is Medicine (FIM) programs integrate food-based nutritional interventions into healthcare to treat or prevent disease and advance health equity. These are health sector strategies that prescribe medically tailored meals, groceries, or produce to support disease management and optimal well-being, based on the presence of a specific health condition as well as social needs. FIM programs leverage RDN expertise and offer culturally appropriate, often digital nutrition and culinary education to patients.

The evolution and scope of Medicaid Section 1115 demonstrations to address nutrition: a US survey

Erika Hanson, Daniel Albert-Rozenberg, Kathryn M Garfield, Emily Broad Leib, Ronit A Ridberg, Kurt Hager, Dariush Mozaffarian

Health Affairs Scholar, Volume 2, Issue 2, February 2024, qxae013, <https://doi.org/10.1093/haschl/qxae013>

Published: 01 February 2024 Article history

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Abstract

Poor nutrition and food insecurity are drivers of poor health, diet-related diseases, and health disparities in the US. State Medicaid Section 1115 demonstration waivers offer opportunities to pilot food-based initiatives to address health outcomes and disparities. Several states are now leveraging 1115 demonstrations, but the scope and types of utilization remain undefined. To fill this gap, we conducted a systematic analysis of state Medicaid Section 1115 applications and approvals available on [Medicaid.gov](https://www.medicaid.gov) through July 1, 2023. We found that 19 approved and pending 1115 waivers address nutrition, with 11 submitted or approved since 2021. Fifteen states provide or propose to provide screening for food insecurity, referral to food security programs, and/or reporting on food security as an evaluation metric. Thirteen provide or propose to provide coverage of nutrition education services. Ten provide or propose to provide direct intervention with healthy food. The primary target populations of these demonstrations are individuals with chronic diet-sensitive conditions, mental health or substance use disorders, and/or who are pregnant or postpartum. Since 2021, state utilization of Medicaid 1115 demonstrations to address nutrition has accelerated in pace, scope, and population coverage. These findings and trends have major implications for addressing diet-related health and health equity in the United States.

Impact of Produce Prescriptions on Diet, Food Security, and Cardiometabolic Health Outcomes: A Multisite Evaluation of 9 Produce Prescription Programs in the United States

Kurt Hager, PhD, MS, Mengxi Du, MS, MPH, Zhongyu Li, MSPH, Dariush Mozaffarian, MD, DrPH, Kenneth Chui, PhD, Peilin Shi, PhD, Brent Ling, MSPH, Sean B. Cash, PhD, Sara C. Foltz, PhD, and Fang Fang Zhang, MD, PhD

[AUTHOR INFO & AFFILIATIONS](#)

Circulation: Cardiovascular Quality and Outcomes • Volume 16, Number 9 • <https://doi.org/10.1161/CIRCOUTCOMES.122.009520>

13,274 / 16

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[VIEW EDITORIAL: ADDRESSING SOCIAL DETERMINANTS OF HEALTH VIA FOOD AS MEDICINE INTERVENTIONS TO IMPROVE CARDIOMETABOLIC HEALTH](#)

Abstract

BACKGROUND:

Produce prescriptions may improve cardiometabolic health by increasing fruit and vegetable (F&V) consumption and food insecurity yet impacts on clinical outcomes and health status have not been evaluated in large, multisite evaluations.

METHODS:



→ ↻ <https://www.frontiersin.org/research-topics/38819/food-as-medicine/articles>

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Food as Medicine

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Published on 17 Apr 2023

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Rebecca K. Kelly · Janet Calhoun ·

ORIGINAL RESEARCH
Published on 20 Apr 2023

Culturally-tailored cookbook for promoting positive dietary change among hypertensive Filipino Americans: a pilot study

COMMUNITY CASE STUDY
Published on 04 Apr 2023

Whole-food plant-based Jumpstart for a Deaf and Hard of Hearing cohort

Susan M. Friedman · Kim Scheuer
· Beth Garver Beha · Maria Dewhirst · Ted D. Barnett

ACLM edited a special issue on
Food as Medicine in
Frontiers in Nutrition

23 articles on health outcomes
of implementation in health
systems, development of tools
and resources, evaluation of
interventions, teaching kitchen
evaluations, and more

<https://www.frontiersin.org/research-topics/38819/food-as-medicine>

Change in cardiometabolic risk factors in a pilot safety-net plant-based lifestyle medicine program

 Stephanie L. Albert^{1*}  Rachel E. Massar¹  Lilian Correa²  Lorraine Kwok¹  Shivam Joshi^{1,3}
 Sapana Shah^{1,2}  Rebecca Boas^{1,2}  Héctor E. Alcalá^{4,5}  Michelle McMacken^{1,2}

¹ NYU Grossman School of Medicine, New York, NY, United States

² NYC Health + Hospitals, New York, NY, United States

³ Veterans Affairs, Orlando, FL, United States

⁴ Department of Behavioral and Community Health, School of Public Health, University of Maryland, College Park, MD, United States

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Introduction: Interventions emphasizing healthful lifestyle behaviors are proliferating in traditional health care settings, yet there is a paucity of published clinical outcomes, outside of pay-out-of-pocket or employee health programs.

Methods: We assessed weight, hemoglobin A1c (HbA1c), blood pressure, and cholesterol for 173 patients of the Plant-Based Lifestyle Medicine Program piloted in a New York City safety-net hospital. We used Wilcoxon signed-rank tests to assess changes in means, from baseline to six-months, for the full sample and within baseline diagnoses (i.e., overweight or obesity, type 2 diabetes, prediabetes, hypertension, hyperlipidemia). We calculated the percentage of patients with clinically meaningful changes in outcomes for the full sample and within diagnoses.

Findings: The full sample had statistically significant improvements in weight, HbA1c, and diastolic blood pressure. Patients with prediabetes or overweight or obesity experienced significant improvements in weight and those with type 2 diabetes had significant improvements in weight and HbA1c. Patients with hypertension had significant reductions in diastolic blood pressure and weight. Data did not show differences in non-high-density lipoprotein cholesterol (non-HDL-C), but differences in low-density lipoprotein cholesterol (LDL-C) were approaching significance for the full sample and those with hyperlipidemia. The majority of patients achieved clinically meaningful improvements on all outcomes besides systolic blood pressure.

Conclusion: Our study demonstrates that a lifestyle medicine intervention within a traditional, safety-net clinical setting improved biomarkers of cardiometabolic disease. Our findings are limited by small sample sizes. Additional large-scale, rigorous studies are needed to further establish the effectiveness of lifestyle medicine interventions in similar settings.

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cardiometabolic disease

Thank you

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