



An Overview of Lifestyle Medicine

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Objectives

- What is Lifestyle Medicine
- Discuss why now
- Evidence and guidelines
- Lifestyle Medicine in Practice



Lifestyle Medicine Defined

Lifestyle Medicine is the use of a whole food, plant-predominant dietary lifestyle, regular physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connection as a primary therapeutic modality for treatment and reversal of chronic disease.





Simple, Powerful Therapy

- **NUTRITION:** Choose predominantly whole, plant-based foods that are fiber-filled, nutrient dense, health-promoting and disease-fighting
- **SLEEP:** Lack of, or poor-quality sleep can lead to a strained immune system. Identify and alter environmental habits that may hinder healthy sleep
- **EXERCISE:** Regular and consistent physical activity is an essential piece of an optimal health equation
- **SUBSTANCE USE:** The well-documented dangers of any addictive substance use can increase risk for many cancers and heart disease
- **STRESS MANAGEMENT:** Identify both positive and negative stress responses with coping mechanisms and reduction techniques for improved wellbeing
- **SOCIAL CONNECTION:** Being connected to others is essential to emotional resiliency and overall health



Discipline	Key Care Approach
Allopathic Medicine	<i>Symptom focused/Pharmacologic/Procedural</i>
Functional Medicine	<i>Novel diagnostic blood work/Nutraceuticals/Supplements</i>
Integrative Medicine	<i>Blended complementary and conventional approach</i>
Lifestyle Medicine	<i>Root Cause/Lifestyle first interventions for treatment and Remission.</i>

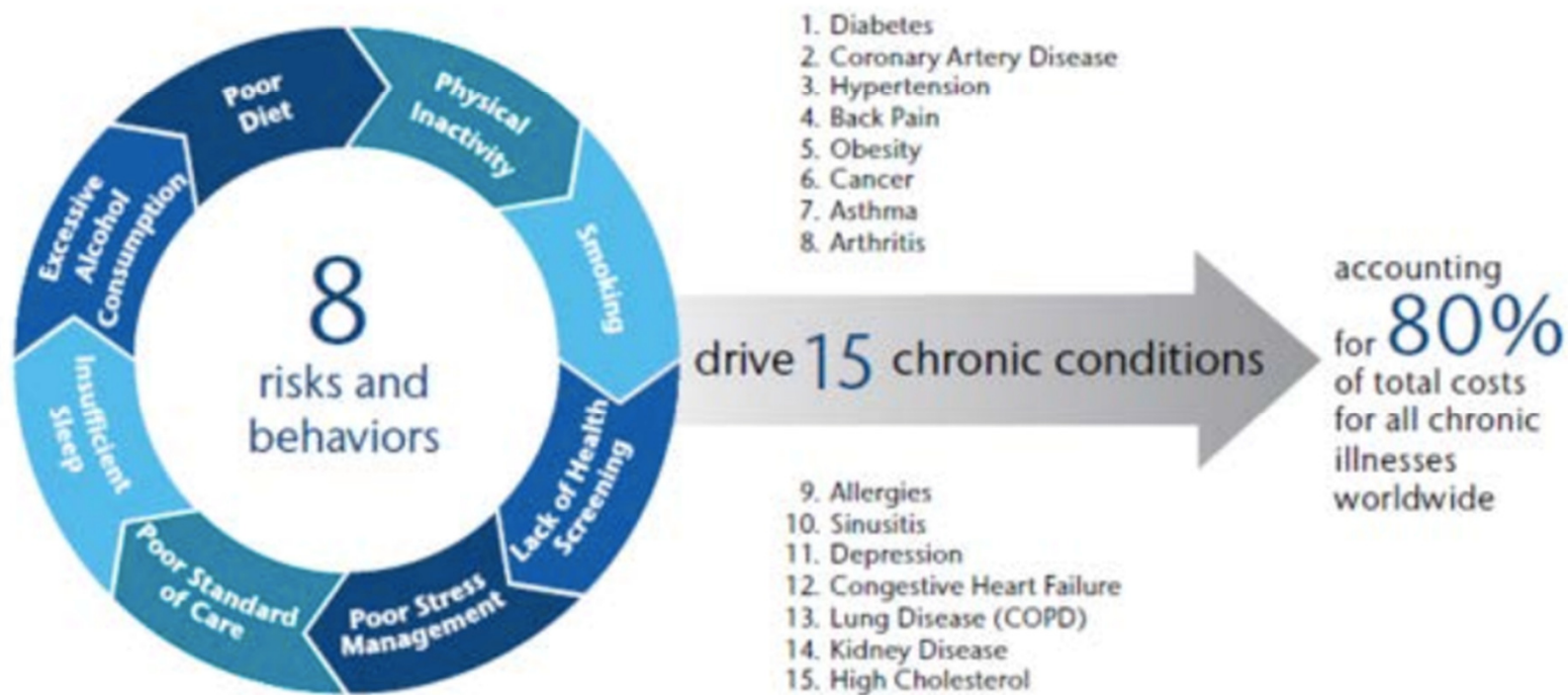




WHY NOW

The need for Lifestyle Medicine

Lifestyle Medicine focuses are the conditions that consume 80% of healthcare visits, hospitalizations, and costs



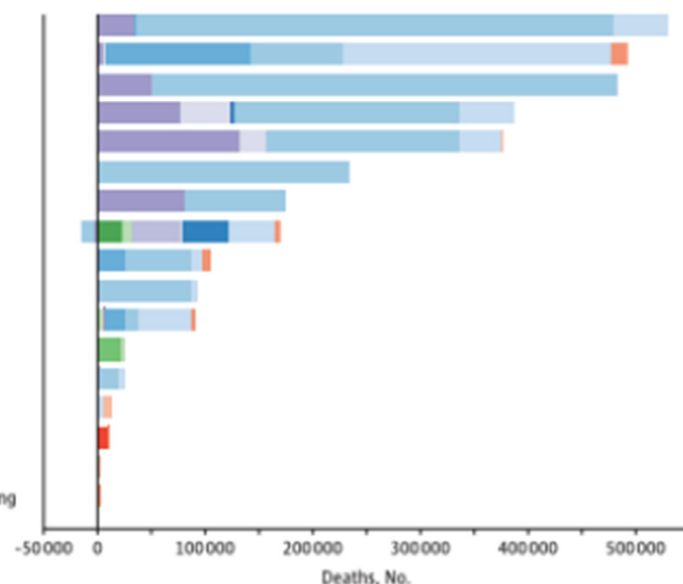
US Burden of Diseases Collaborators: Dietary Risks are Leading Cause of Disability

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

A Risk factors and related deaths

Risk factors

Dietary risks
Tobacco use
High systolic blood pressure
High body mass index
High fasting plasma glucose
High total cholesterol
Impaired kidney function
Alcohol and drug use
Air pollution
Low physical activity
Occupational risks
Low bone mineral density
Residential radon and lead exposure
Unsafe sex
Child and maternal malnutrition
Sexual abuse and violence
Unsafe water, sanitation, and handwashing



Epidemic

- Healthcare in US costs \$3.3 trillion annually
- 90% of these costs are attributed to the treatment of chronic conditions
- Lifestyle Medicine addresses the **root cause** to both improve health & reduce costs

Chronic Disease in U.S. Problem



6 in 10 Americans have a **Chronic Disease**



4 in 10 Americans have **2 or more Chronic Diseases**



38% of Americans will be diagnosed with **Cancer** during their lifetimes



Half of all Americans have **Cardiovascular Disease**



Chronic diseases - heart disease, cancer, diabetes, stroke, & Alzheimer's are the leading causes of disability and death



1 in 3 Americans have Pre-Diabetes

88 Million

Americans have Pre-Diabetes | 90% do NOT know it

34 Million people live with Type 2 Diabetes

72% of Americans with Overweight or Obesity

36 million men and 29 million women with overweight
32 million men and 36 million women with obesity



Less Than 3 Percent of Americans Live a 'Healthy Lifestyle'

Statistics from a Mayo Clinic study

Mayo Clinic researchers looked at data from a representative sample of 4,745 people who participated in the National Health and Nutrition Examination Survey.

They found that less than 3 percent of Americans live a "Healthy Lifestyle" defined by four qualifications:

1. Moderate or vigorous exercise for at least 150 minutes a week
2. A diet score in the top 40 percent on the Healthy Eating Index
3. A body fat percentage under 20 percent (for men) or 30 percent (for women)
4. Not smoking

Mayo Clinic Proceedings, April 2016, Volume 91, Issue 4, Pages 432–442



A Decline in US Life Expectancy

US has higher per capita health care spending compared with peer high income nations but downward trend in life expectancy

Life Expectancy and Mortality Rates in the United States, 1959-2017

Steven H. Woolf, MD, MPH; Heidi Schoomaker, MAEd

IMPORTANCE US life expectancy has not kept pace with that of other wealthy countries and is now decreasing.

OBJECTIVE To examine vital statistics and review the history of changes in US life expectancy and increasing mortality rates; and to identify potential contributing factors, drawing insights from current literature and an analysis of state-level trends.

EVIDENCE Life expectancy data for 1959-2016 and cause-specific mortality rates for 1999-2017 were obtained from the US Mortality Database and CDC WONDER, respectively. The analysis focused on midlife deaths (ages 25-64 years), stratified by sex, race/ethnicity, socioeconomic status, and geography (including the 50 states). Published research from January 1990 through August 2019 that examined relevant mortality trends and potential contributory factors was examined.

FINDINGS Between 1959 and 2016, US life expectancy increased from 69.9 years to 78.9 years but declined for 3 consecutive years after 2014. The recent decrease in US life expectancy culminated a period of increasing cause-specific mortality among adults aged 25 to 64 years that began in the 1990s, ultimately producing an increase in all-cause mortality that began in 2010. During 2010-2017, midlife all-cause mortality rates increased from 328.5 deaths/100 000 to 348.2 deaths/100 000. By 2014, midlife mortality was increasing across all racial groups, caused by drug overdoses, alcohol abuse, suicides, and a diverse list of organ system diseases. The largest relative increases in midlife mortality rates occurred in New England (New Hampshire, 23.3%; Maine, 20.7%; Vermont, 19.9%) and the Ohio Valley (West Virginia, 23.0%; Ohio, 21.6%; Indiana, 14.8%; Kentucky, 14.7%). The increase in midlife mortality during 2010-2017 was associated with an estimated 33 307 excess US deaths, 32.8% of which occurred in 4 Ohio Valley states.

CONCLUSIONS AND RELEVANCE US life expectancy increased for most of the past 60 years, but the rate of increase slowed over time and life expectancy decreased after 2014. A major contributor has been an increase in mortality from specific causes (eg, drug overdoses, suicides, organ system diseases) among young and middle-aged adults of all racial groups, with an onset as early as the 1990s and with the largest relative increases occurring in the Ohio Valley and New England. The implications for public health and the economy are substantial, making it vital to understand the underlying causes.

JAMA. 2019;322(20):1996-2016. doi:10.1001/jama.2019.16932

Editorial page 1963

Supplemental content

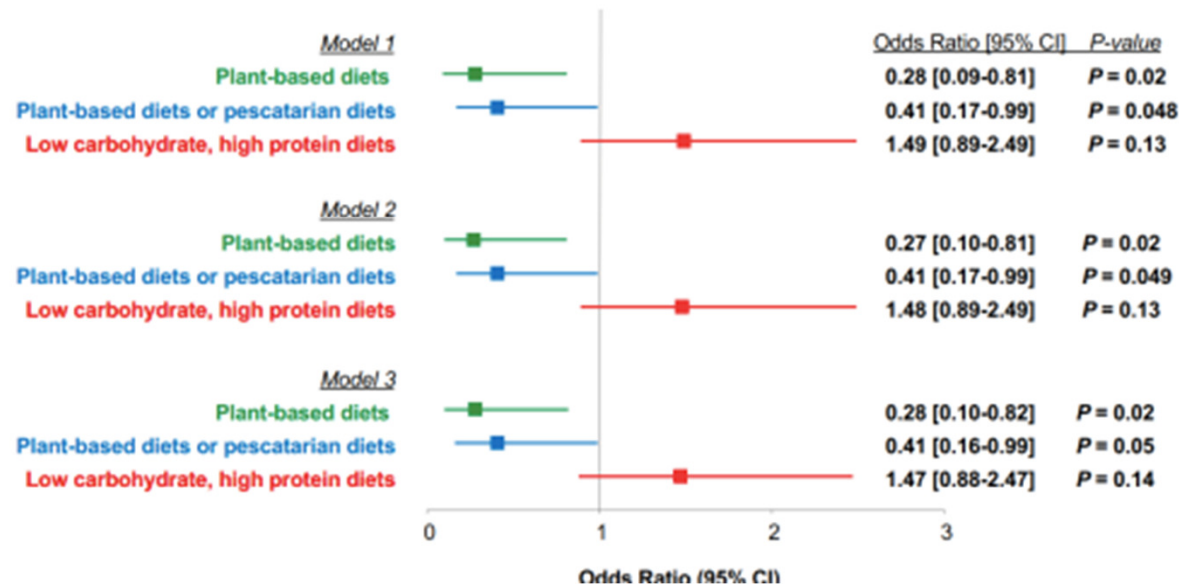
CME Quiz at
jamanetwork.com/learning

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Plant-based diets, pescatarian diets and COVID-19 severity: a population-based case-control study in six countries

Hyunju Kim,^{1,2} Casey M Rebholz,^{1,2} Sheila Hegde,³ Christine LaFiura,⁴ Madhunika Raghavan,⁴ John F Lloyd,⁵ Susan Cheng,⁵ Sara B Seidelmann^{6,7}



Relevance in a Pandemic

> [Emerg Infect Dis.](#) 2020 Jul 3;26(9). doi: 10.3201/eid2609.202117. Online ahead of print.

Updated Estimates of Chronic Conditions Affecting Risk for Complications from Coronavirus Disease, United States

Mary L. Adams, David L. Katz, Joseph Grandpre

PMID: 32620181 DOI: [10.3201/eid2609.202117](#)

[Free article](#)

Abstract

We updated estimates of adults at risk for coronavirus disease complications on the basis of data for China by using recent US hospitalization data. This update to our previous publication substitutes obesity for cancer as an underlying condition and increases adults reporting any of the conditions from 45.4% to 56.0%.

The New York Times



Where Chronic Health Conditions and Coronavirus Could Collide

By [Nadja Popovich](#), [Anjali Singhvi](#) and Matthew Conlen May 18, 2020

As the new coronavirus continues to spread over the next months, [and maybe even years](#), it could exact a heavy new toll in areas of the United States that have not yet seen major outbreaks but have high rates of diabetes, obesity, high blood pressure and other chronic health conditions.

Large parts of the South and Appalachia are especially vulnerable, according to a health-risk index created for The New York Times



Unsustainable Economics

- US Healthcare Spend = \$3.3 trillion (\$10,739 per person) 18% of US Gross Domestic Product. By 2050 Medicaid and Medicare alone will account for 20% of the GDP.
- **90% of this spend is on chronic disease.**
- **By 2030**, the number of people with three or more conditions is expected to increase to 83 million, with a total cost of over \$42 trillion.
- Employers foot a hefty bill for the cost of disease. Absenteeism because of the top five chronic conditions cost employers a total of \$11.2 billion (obesity), \$10.3 billion (hypertension) \$9.1 billion (physical inactivity), \$3.6 billion (current smoking), and \$2.2 billion (diabetes)

Source: <https://www.cdc.gov/chronicdisease/about/costs/index.htm>



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.



The National Academies of
SCIENCES • ENGINEERING • MEDICINE



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



Scientific Report of the
2015 Dietary Guidelines Advisory Committee

Advisory Report to the Secretary of Health and Human Services
and the Secretary of Agriculture



DIABETES UK
KNOW DIABETES. FIGHT DIABETES.



FOOD
PLANET
HEALTH

Lancet Commission



**CROHN'S
& COLITIS**
FOUNDATION



Guideline Driven



GUIDELINES MADE SIMPLE

2018 Guideline on the Management of Blood Cholesterol

[Back to Table of Contents](#)

Top 10 Take-Home Messages to Reduce Risk of Atherosclerotic Cardiovascular Disease (ASCVD) through Cholesterol Management **(1 of 3)**

1

In all individuals, emphasize heart-healthy lifestyle across the life-course.

A healthy lifestyle reduces atherosclerotic cardiovascular disease (ASCVD) risk at all ages. In younger individuals, healthy lifestyle can reduce development of risk factors and is the foundation of ASCVD risk reduction. In young adults 20 to 39 years of age, an assessment of lifetime risk facilitates the clinician–patient risk discussion (see #6) and emphasizes intensive lifestyle efforts. In all age groups, lifestyle therapy is the primary intervention for metabolic syndrome.

2019 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines



Evidence-Based Research

2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

2013 ACC/AHA Blood Cholesterol Guideline

Table of Contents

Preamble and Transition to ACC/AHA Guidelines to Reduce Cardiovascular Risk.....

1. Introduction.....

1.1. Organization of the Panel.....

1.2. Document Review and Approval.....

1.3. Scope of Guideline.....

1.4. Methodology and Evidence Review.....

2. Overview of the Guidelines.....

2.1. Lifestyle as the Foundation for ASCVD Risk Reduction Efforts.....

2.2. Four Major Statin Benefit Groups.....

3. Critical Questions and Conclusions.....

3.1. Identification of CQs.....

3.1.1. CQ1: LDL-C and Non-HDL-C Goals in Secondary Prevention.....

3.1.2. CQ2: LDL-C and Non-HDL-C Goals in Primary Prevention.....

3.1.3. CQ3: Efficacy and Safety of Cholesterol-Lowering Medications.....

2.1 "Lifestyle as the Foundation for ASCVD Risk Reduction Efforts"

Secondary Prevention.....

LDL-C $\geq$ 190 mg/dL.....

etes.....

diabetes and With LDL-C 70 to 189 mg/dL.....

5. Safety: Recommendations.....

6. Managing Statin Therapy: Recommendations.....

6.1. Monitoring Statin Therapy.....

6.2. Optimizing Statin Therapy.....

6.3. Insufficient Response to Statin Therapy.....

6.3.1. Testing.....

6.3.2. Nonstatins Added to Statins or in Statin Intolerant Individuals.....

7. Selected Clinical and Populations Subgroups.....

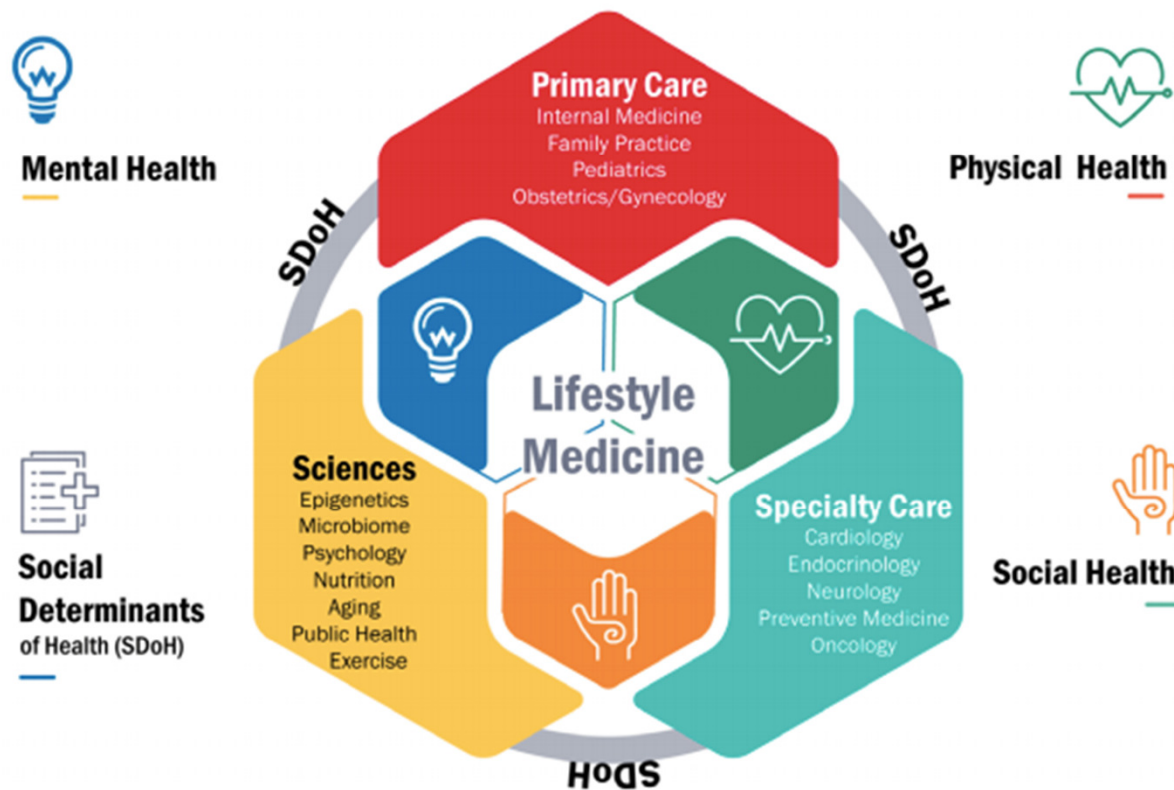
7.1. Sex and Racial and Ethnic Subgroups.....

7.2. Individuals $>$ 75 Years of Age.....

8. Limitations.....

9. Evidence Gaps and Future Research Needs.....

At the Center of Medicine, Science, and Health



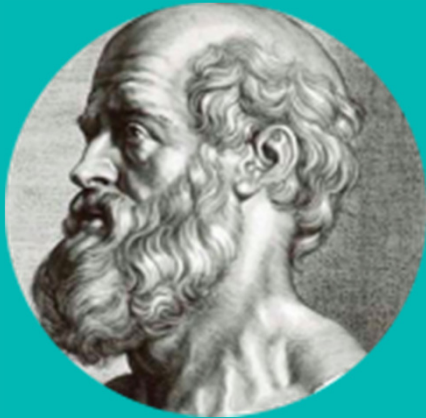
Fact: More than 80 percent of Americans fail to eat the recommended amounts of fruits and vegetables.

75 Percent of Americans Say They Eat Healthy — Despite Evidence To The Contrary

NPR poll conducted with Truven Health Analytics, which surveyed a nationally representative sample of 3,000 U.S. adults in May. 2016.

One question they asked: How healthy would you consider your eating habits to be? About 75 percent of respondents ranked their diets as good, very good or excellent.

“Let food be thy
medicine...”



Hippocrates

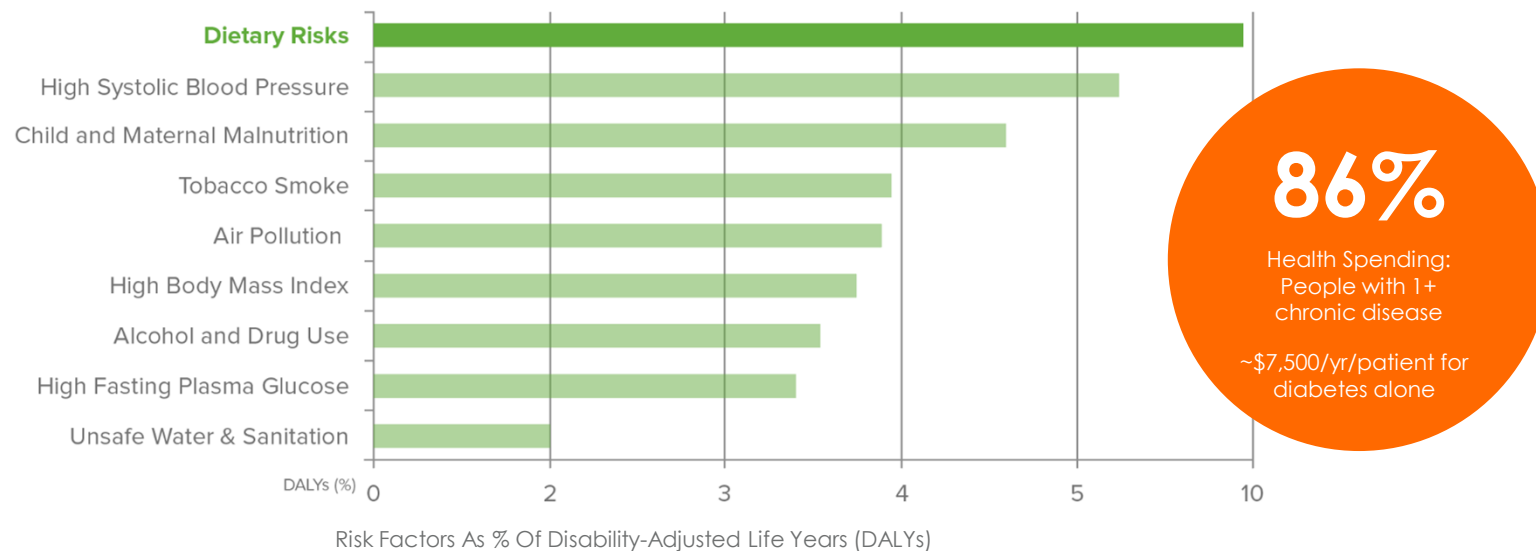
-The Father of Medicine-

460 BC – 370 BC



Diet is the leading cause of chronic disease and disability

- “The most important dietary risks in the United States are diets low in fruits, low in nuts and seeds, high in sodium, high in processed meats, low in vegetables, and high in trans fats”¹
 - These risks are the leading cause of chronic disease, not other common culprits



¹The State of US Health, 1990-2010. Burden of Diseases, Injuries, and Risk Factors. JAMA. 2013; 310(6):591-606. doi:10.1001/jama.2013.13805; CDC FastStats on overweight and obesity, 2017; CDC National Diabetes Statistics Report, 2017; Zipongo Analysis

Why is LM so Powerful?

- It empowers patients to have ownership of their personal health outcomes.
- It fosters a meaningful and relational exchange between provider and patient.

We have long known what behaviors promote health and prevent disease. Lifestyle medicine embodies this idea of true 'health' care. Rather than pills and procedures, the focus is on the lifestyle choices we make every day, that ultimately bring us closer to, or further from, the health and happiness we all deserve.

- **Jonathan Bonnet, MD**



Nutrition

Extensive scientific evidence supports the use of a whole-food, plant-based (WFPB) dietary pattern as treatment for diet-related chronic diseases. Plant-based dietary patterns that approximate the WFPB pattern include the Mediterranean, Nordic, flexitarian, and vegetarian diets. The closer the approximation, the greater the expected health benefits. WFPB dietary patterns increase the intake of nutrient dense, antioxidant-rich foods and decrease or eliminate exposure to dietary toxins such as oxysterols/cholesterol oxidation products (ChOPs).



Dean Ornish, MD

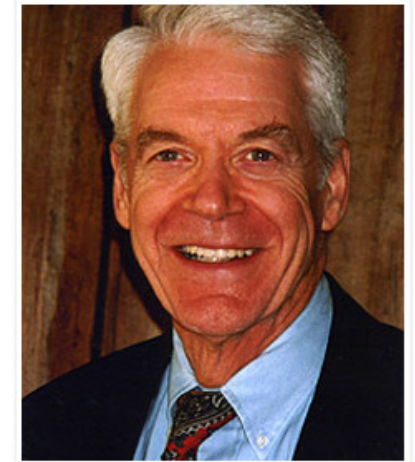
- Renowned American physician and researcher
- Lifestyle Heart Trial: 82% of participants adhering to his diet saw an average change toward regression of their CAD
- Ornish Lifestyle Medicine program has been proven to prevent the progression of CAD as well as facilitate an actual improvement in coronary artery plaques
- Dr. Ornish's program is one of the only programs covered by insurance for cardiac patients



Ornish D, Brown SE, Billings J, et al. Can lifestyle changes reverse coronary heart disease?: The Lifestyle Heart Trial. *The Lancet*. 1990;336(8708):129-133.

Caldwell B Esselstyn, Jr., MD

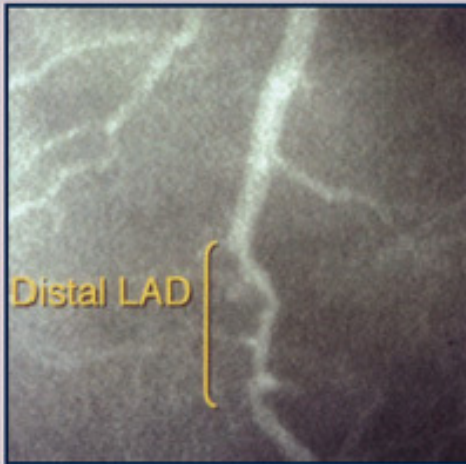
- Former Cleveland Clinic physician
- Author of Prevent and Reverse Heart Disease
- WFPB diet advocate
- Digesting meat releases a byproduct, TMAO, that's an even stronger predictor of heart disease than cholesterol
- Heavily emphasizes eating dark leafy greens with every meal



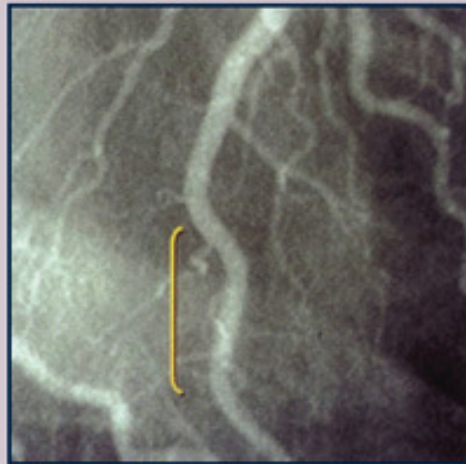
Esselstyn CB. *Prevent and reverse heart disease: The revolutionary, scientifically proven, nutrition-based cure*. Penguin; 2007.

Reversal of Coronary Disease Achieved with Plant-Based Diet

1996



1999



Coronary angiograms of the distal left anterior descending artery before (left bracket) and after (right bracket) 32 months of a plant-based diet without cholesterol-lowering medication, showing profound improvement. Used with permission from Dr. Caldwell B. Esselstyn, Jr. (Source: *Prevent and Reverse Heart Disease* by Dr. Esselstyn.)

**Lifestyle change has
the power to reverse
disease**



The Plant-Based Plate



Used with permissions from:

Davis B, Melina V. *Becoming Vegan: The Complete Reference to Plant-Based Nutrition*. Book Publishing Company; 2014.



Sleep

Sleep requirements vary from person to person and are believed to follow a bell-shaped curve that peaks around 8.25 hours. The National Sleep Foundation recommends 7-9 hours of sleep a day for most adults. It is reasonable to suspect sleep deprivation in any adult with a clinical complaint of daytime hypersomnolence who reports consistently getting less than 7 hours of sleep per night.¹ Nurses and other essential workers who get less than 7 hours of sleep each night have an increased the risk of burnout. Sleeping less than 6-8 hours a night increases the risk of early death by approximately 12 percent.²



Sleep Hygiene

DON'T

- Have a television in bedroom or watch television in bed
- Use the computer in the bedroom or sleep with electronic devices by the bed.
- Argue or do vigorous exercise just before bed.
- Have caffeine in the late afternoon or evening.

DO

- Try to go to bed and get up at the same time each day.
- Restrict the use of the bedroom to sleep and sex.
- Get regular exercise each day, preferably in the morning or afternoon.
- Get regular exposure to outdoor light



Sleep Hygiene

DON'T

- Use alcohol or other aids to help you sleep.
- Go to bed too hungry or too full.
- Take over the counter medications to aid sleep
(e.g. antihistamines)

DO

- Keep the temperature in the bedroom cool.
- Keep the bedroom quiet when sleeping and use ear plugs.
- Keep the bedroom completely dark using black-out curtains or use an eye mask.
- Keep your feet and hands warm and use bed socks



Sleep Hygiene

DON'T

- Take daytime naps longer than 20 minutes.
- Use a nightlight, but if you need one, use as dim a red-orange light as possible.
- Become anxious about not sleeping.
- Be pressured by others regarding your sleep needs and times.

DO

- Take short daytime naps.
- Have the lights as dim as possible in the hour or two before bed.
- Do something relaxing before you go to bed such as relaxation exercises, meditation, have a warm bath or warm non-caffeinated drink.
- Listen to your body about the amount of sleep you need.



Physical Activity

Ideally, exercise prescriptions are based on the patient's diagnosis, fitness assessment and supporting medical literature, but research on exercise as treatment for specific diseases is limited. The Physical Activity Guidelines for Americans and Exercise is Medicine guidelines from the American College of Sports Medicine are useful starting points. The recommendations for adults 18-64 years old is at least 150-300 minutes of moderate intensity, or 75-150 minutes of vigorous activity weekly along with two or more days weekly of strength training.¹ This could mean walking briskly at least 30 minutes a day, five or more days per week.



USHHS Physical Activity Guidelines for Americans: Adults

- **150** minutes of moderate intensity physical activity per week

OR

- **75** minutes of vigorous physical activity per week (bouts of at least 10 minutes)



Piercy KL, Troiano RP, Ballard RM, et al. The physical activity guidelines for Americans. *Jama*. 2018;320(19):2020-2028.

More extensive health benefits

300 minutes of moderate
intensity physical activity

OR

150 minutes of vigorous
intensity physical activity



Piercy KL, Troiano RP, Ballard RM, et al. The physical activity guidelines for Americans. *Jama*. 2018;320(19):2020-2028.

Strength Training Twice a Week on Non-Consecutive Days

“Adults should also do muscle-strengthening activities of moderate or greater intensity and that involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits “

2018 PA Guidelines



Piercy KL, Troiano RP, Ballard RM, et al. The physical activity guidelines for Americans. *Jama*. 2018;320(19):2020-2028.

Office Dance Party



Substance Use

The underlying cause of substance use/abuse disorders is addiction. Addiction is a chronic disease characterized by compulsive, or uncontrollable use of a substance or behavior despite harmful consequences. Over 40 million Americans meet the clinical criteria for addiction to nicotine, alcohol or other drugs.¹ Another 80 million may not be addicted but are risky users, that is more than the number of people with cancer, diabetes or hypertension. The presence of an addiction or risky use doubles the risk of overdose, motor vehicle crashes, traumatic injuries and chronic conditions, such as arthritis, chronic pain, hypertension, heart disease, stroke, diabetes, and asthma.^{2, 3}



Stress Management

LM practitioners need to assist patients with managing high stress and boosting emotional well-being. This may require treating mild or early stage mental health conditions and referring to mental health professionals as needed.

Stress can be defined as “any demand for change.”¹ The stress response is a cascade of physiological events that can lead to improved health and productivity or to anxiety, depression, obesity, immune dysfunction and poor health outcomes ²⁻⁴ Assisting patients to recognize maladaptive stress responses and transform them into responses that improve health and well-being is an essential part of LM practice at all levels.



FITT Prescriptions For Stress Resilience

Find a purpose

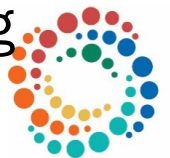
- *F* – one evening in the week
- *I* – spend focused quality time alone for contemplation
- *T* – one hour
- *T* – strengths, gifts, talents, personal mission

Express gratitude

- *F* – five nights in the week
- *I* – focus on the things for which you feel gratitude
- *T* – spend 5 to 10 minutes
- *T* – 2-3 things in gratitude journal

Find beauty

- *F* – once a week
- *I* – focus on the flowers, birds, trees
- *T* – 10 to 20 minutes
- *T* – make careful observations using all senses



Social Connection

Humans are social beings; the need for social connection is a basic survival urge that is hardwired into our nervous systems. The areas in our brain involved in processing social stimuli and decision making are noticeably larger in those with large social networks.¹ Social relationships are as important to our health as diet, exercise and smoking habits. In fact, the quality of our relationships may determine whether or not we choose to engage in healthy lifestyle behaviors.²

Unhealthy social relationships, isolation and loneliness are associated with increased mortality and morbidity especially among individuals with established lifestyle-related diseases.³⁻⁷



FITT Prescriptions for Social Connection

CULTIVATING HIGH QUALITY CONNECTIONS

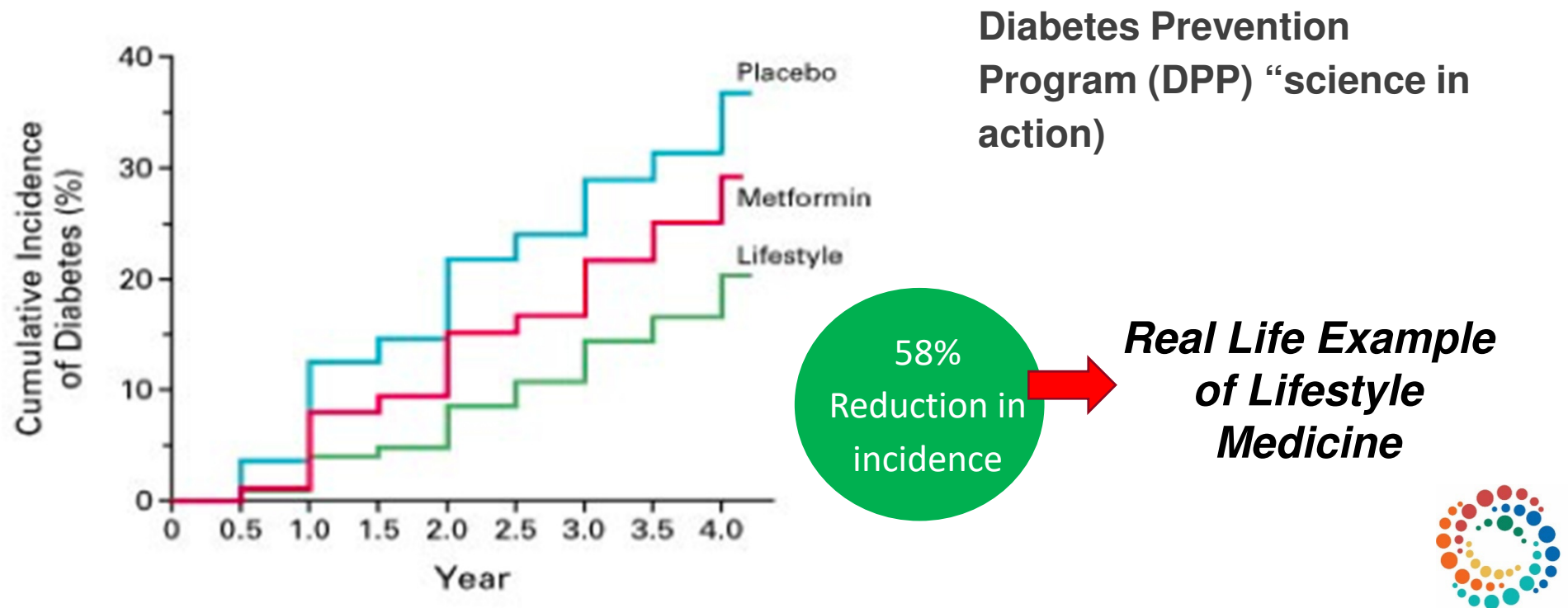
- *F* – one day per week
- *I* – deep conversation/connection with friend
- *T* – 30 minutes
- *T* – Family dinner or meal with a friend

INCREASING SOCIAL CONTACT

- *F* – three days per week
- *I* – superficial/new connection
- *T* – less than 5 minutes
- *T* – Strike up a friendly conversation with someone you don't know well at work, at the store, or at a social event

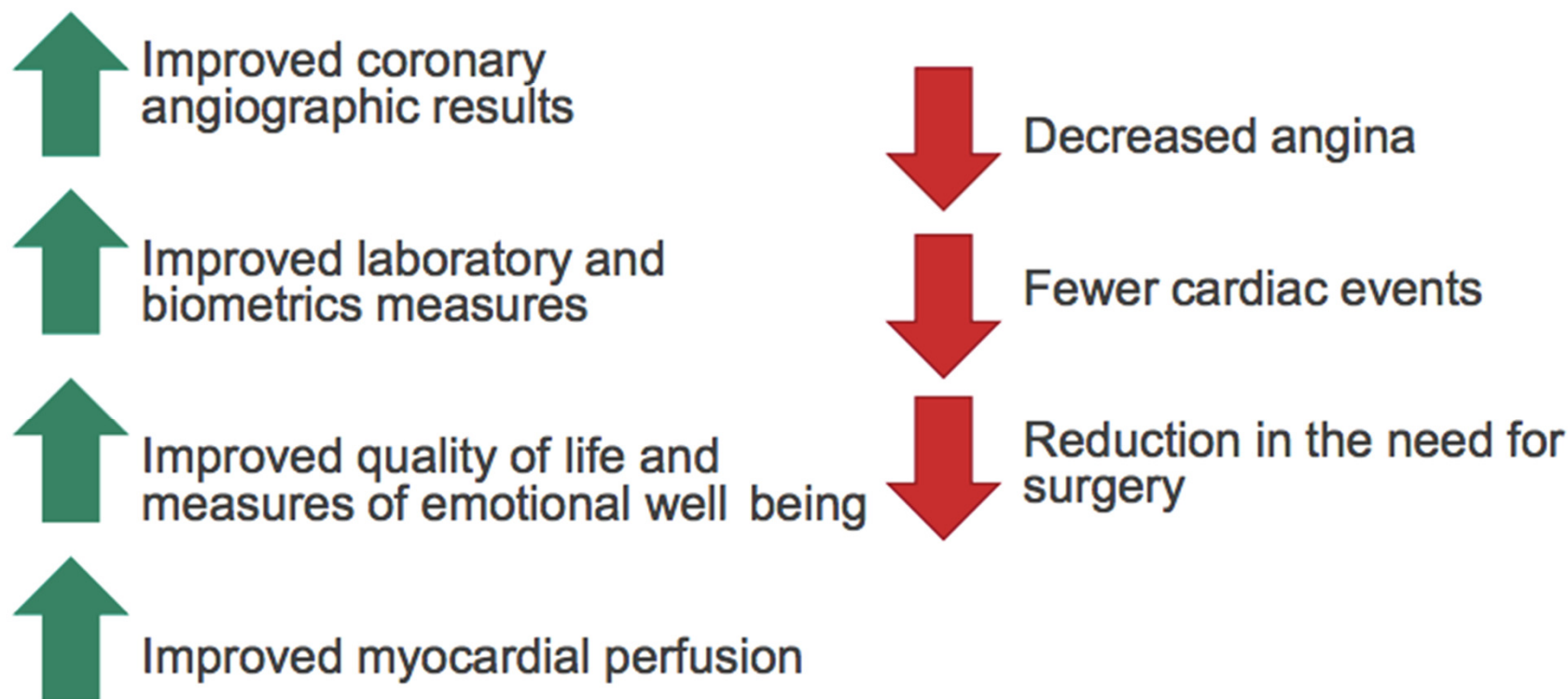


Lifestyle change has the power to prevent disease

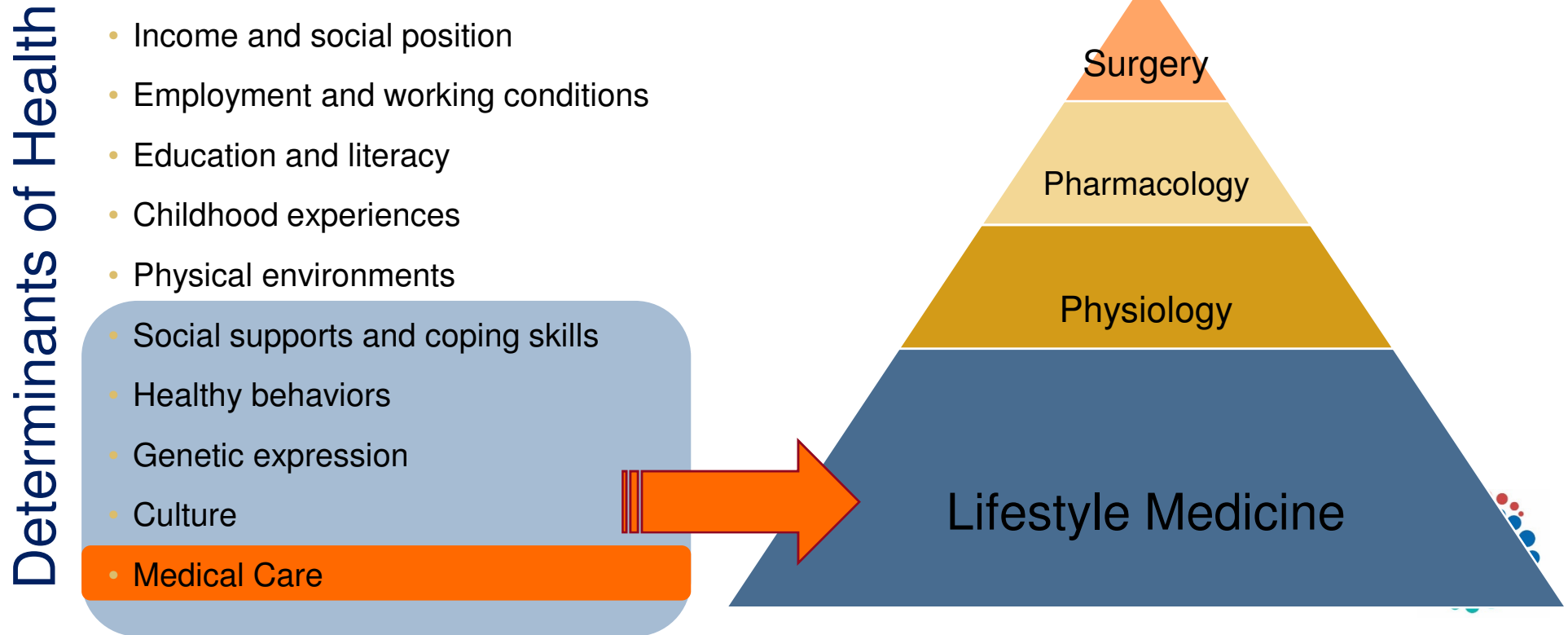


Diabetes Prevention Program Research Group 346 (6): 393, Figure 2, February 7, 2002, NEJM

Intensive Cardiac Rehabilitation: A Premier Lifestyle Intervention for Patients with Moderate to Severe CAD



Impact of LM on Health Determinants



#RealHealthcareReform

Lifestyle Medicine creates sustainable transformation in care delivery

- Team-Based Care
- Group Visits & Support Groups
- Value-Based Care
- Proven Outcomes
- Improved Patient Satisfaction
- Renewed Health Care Provider Passion





-
- Founded in 2004, the American College of Lifestyle Medicine (ACLM) is the medical professional society for physicians, nurses, and other professionals dedicated to clinical and worksite practice of Lifestyle Medicine as the foundation of a transformed and sustainable health care system.
 - ACLM educates, equips, empowers and supports its members as they provide evidence-based Lifestyle Medicine as the first treatment option in clinical practice and worksite settings through live and online CME-accredited events and educational offerings, certification, clinical practice tools, patient education resources, economic research, networking opportunities and advocacy efforts.



Thank you

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Facebook: @lifestylemed

Instagram: aclifemed

Linkedin: American College of Lifestyle Medicine

Twitter: ACLifeMed

lifestylemedicine.org



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