



Introduction to Lifestyle Medicine



What Is Lifestyle Medicine?

What is Lifestyle Medicine?

“The evidence-based practice of helping individuals and families adopt and sustain healthy behaviors that affect health and quality of life.”



Why is Lifestyle Medicine Important?

“Lifestyle practices and health habits are among the nation’s most important health determinants. Changing unhealthy behaviors is foundational to medical care, disease prevention, and health promotion.”



The Field of Lifestyle Medicine



HOW WE GOT HERE



A Quick Trip Back in History

Major Advances that Changed Access to Food

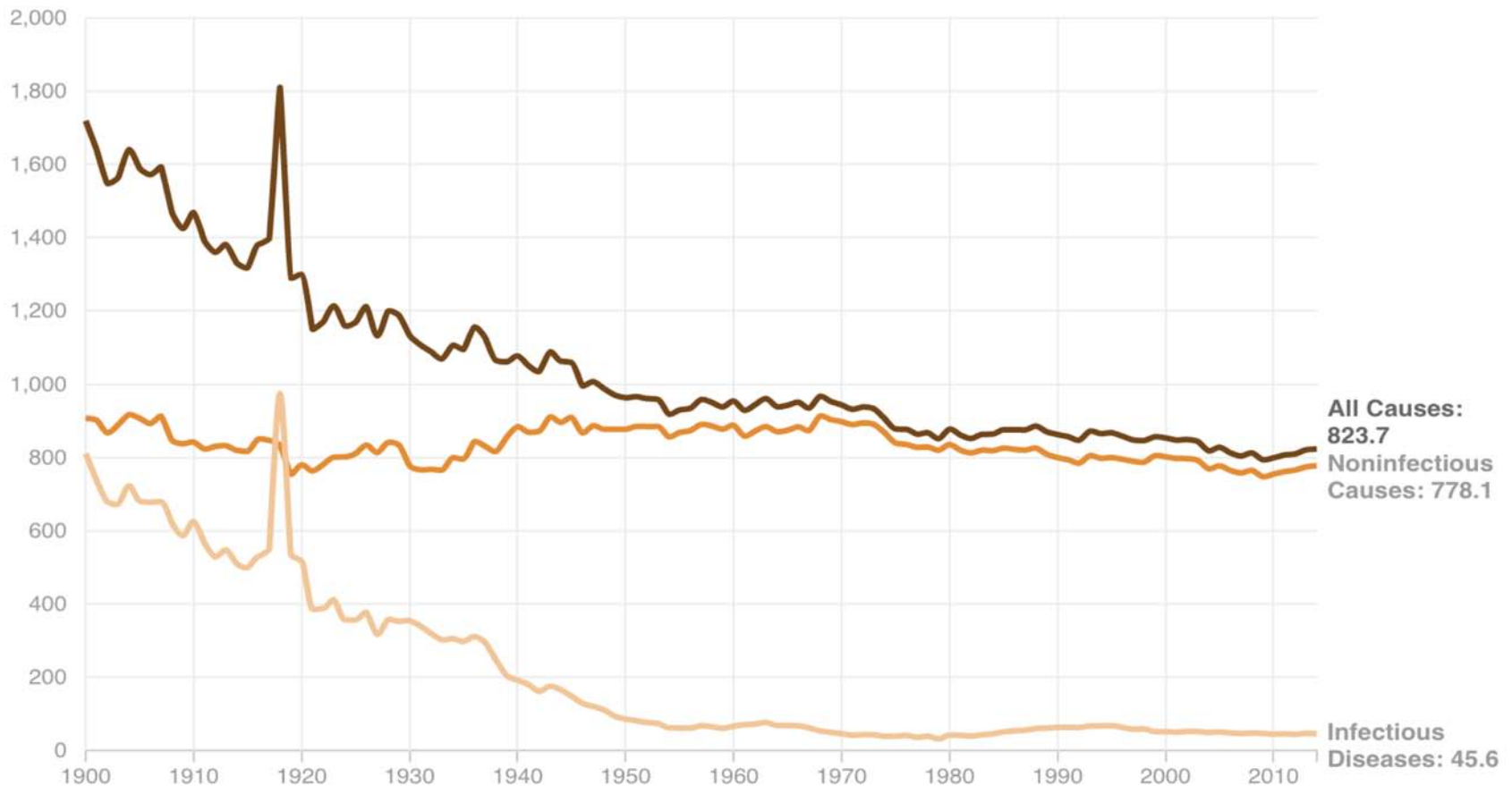


Health Advances that Changed the World



US Death from Infectious Disease

Mortality rate per 100,000 population (1900-2014)





WHERE ARE WE TODAY?

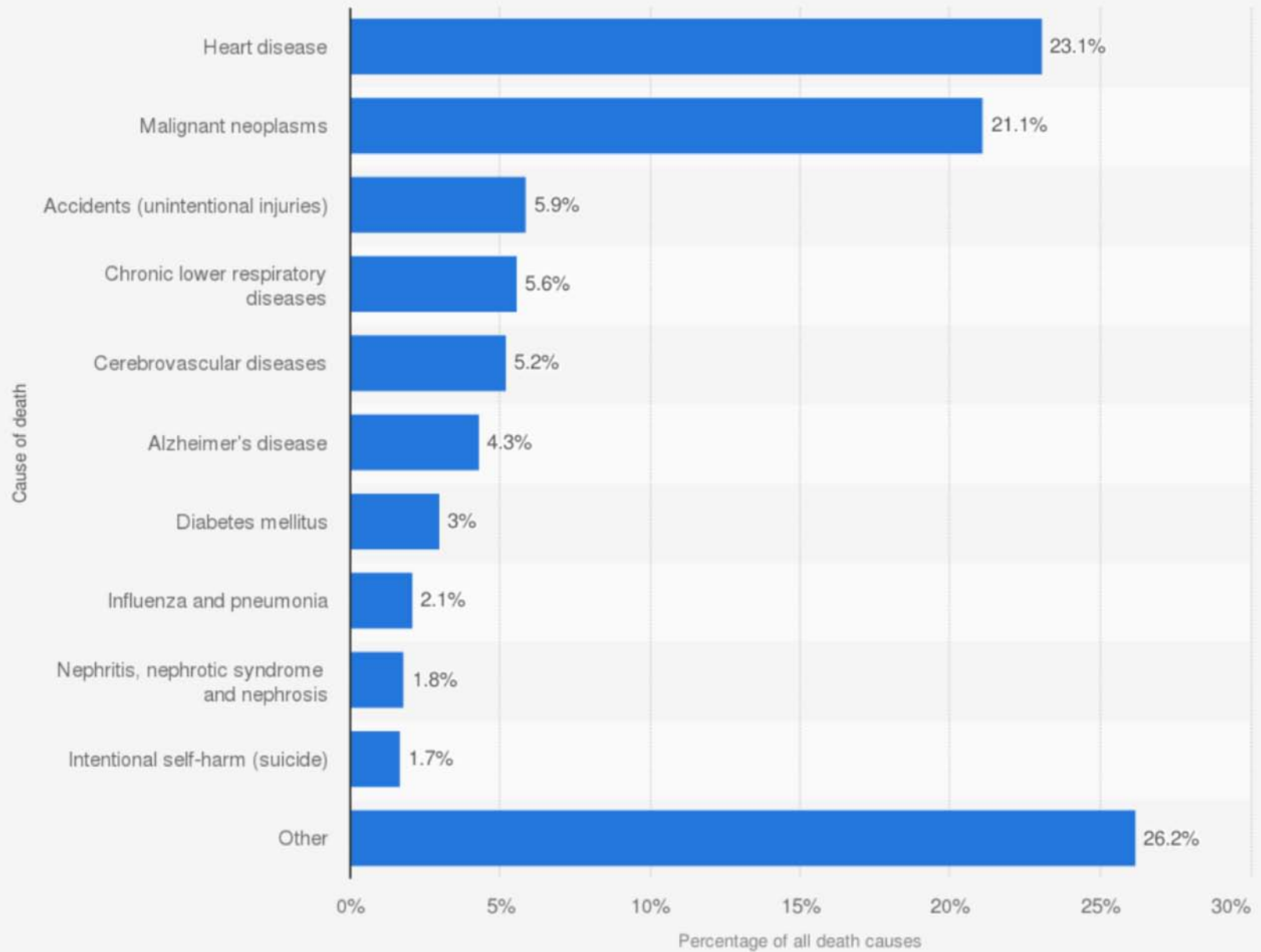
The State of US Health Today

Major Causes of Death in U.S.: 2018 Statistics

- Heart disease: 647,457
- Cancer: 599,108
- Accidents (unintentional injuries): 169,936
- Chronic lower respiratory diseases: 160,936
- Stroke (cerebrovascular diseases): 146,383
- Alzheimer's disease: 121,404
- Diabetes: 83,564



Distribution of the 10 leading causes of death in the United States in 2018

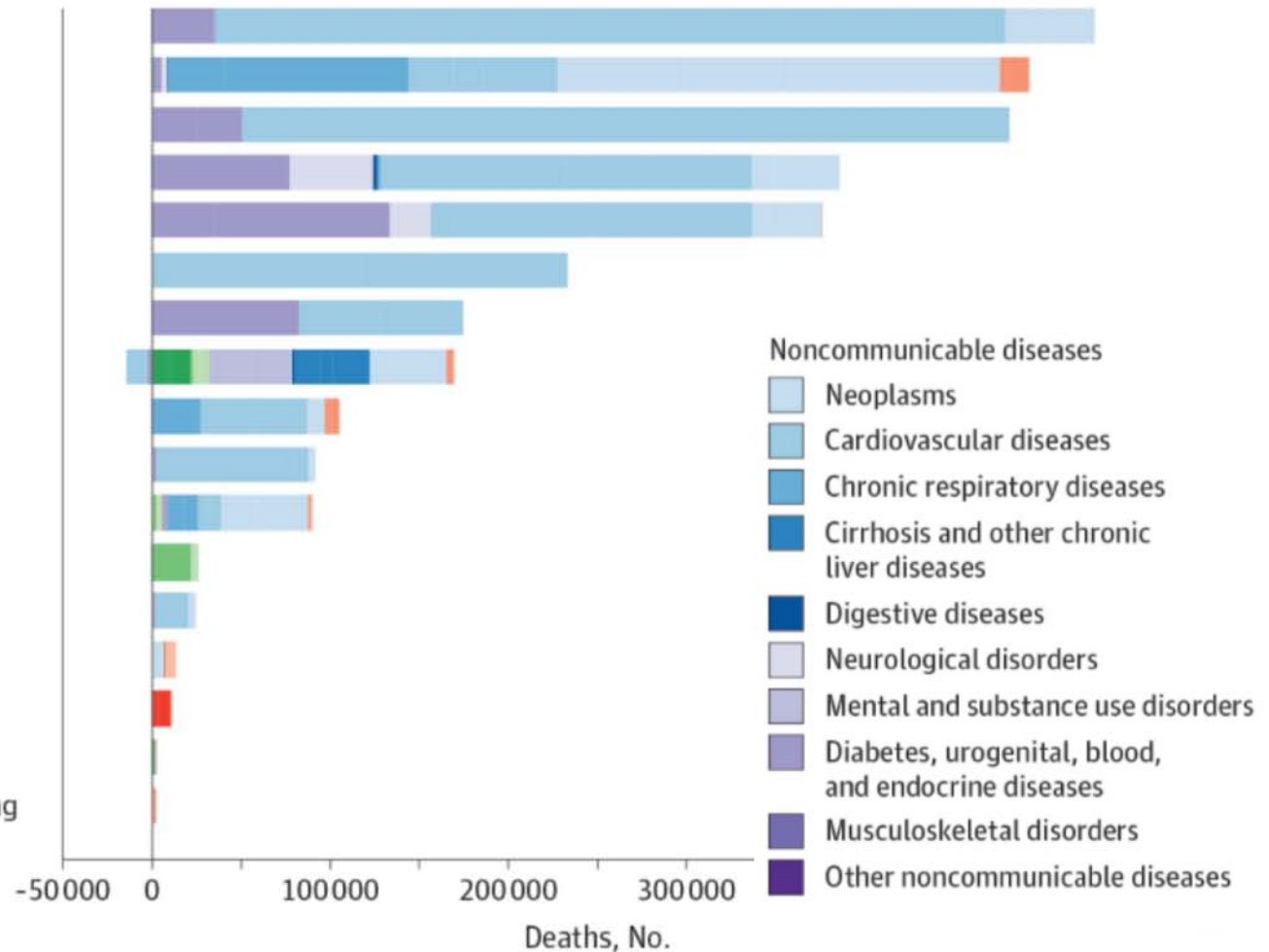


The State of US Health 1990-2016

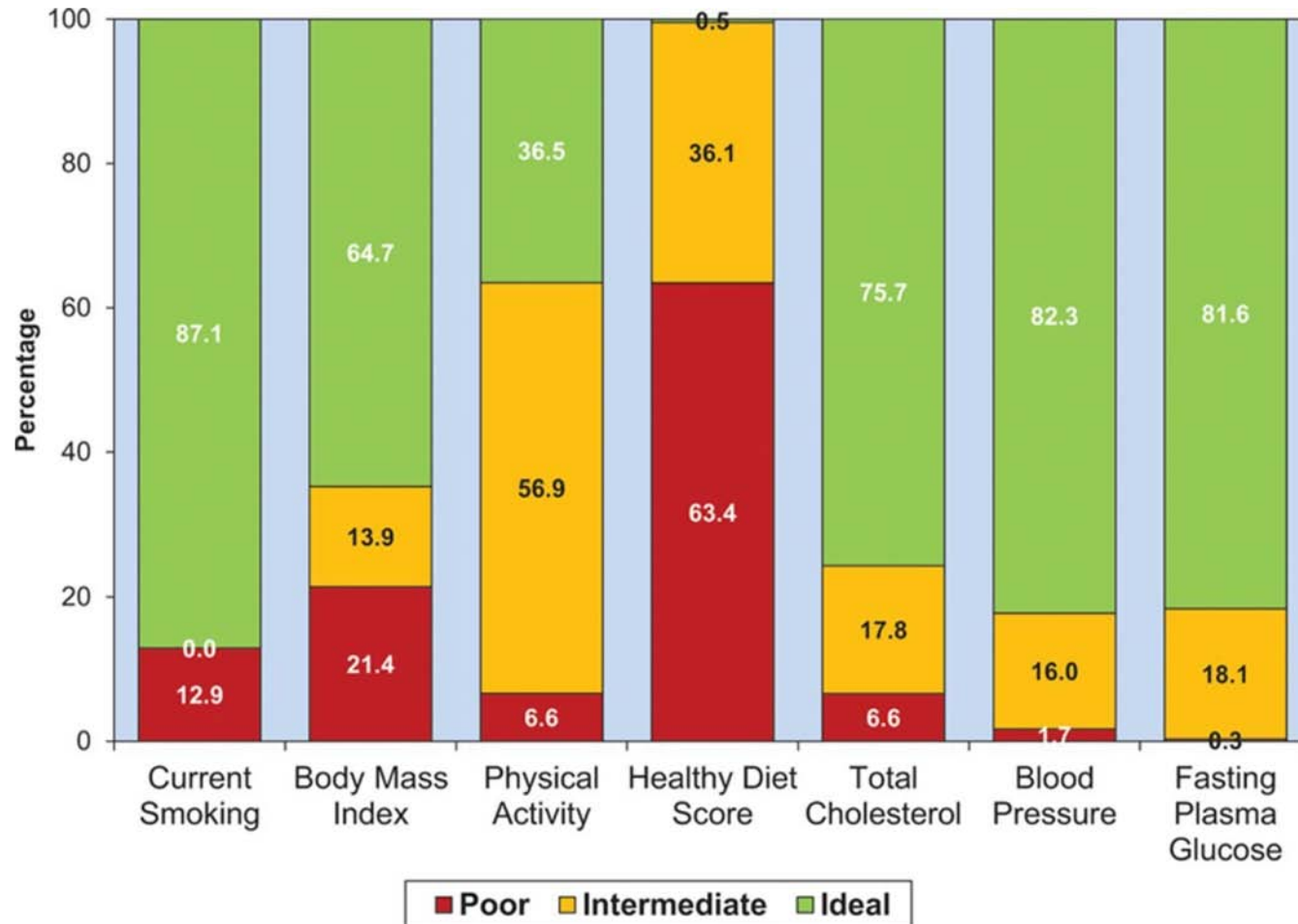
A Risk factors and related deaths

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



Prevalence for CV Risk Factors in US Adults 2016

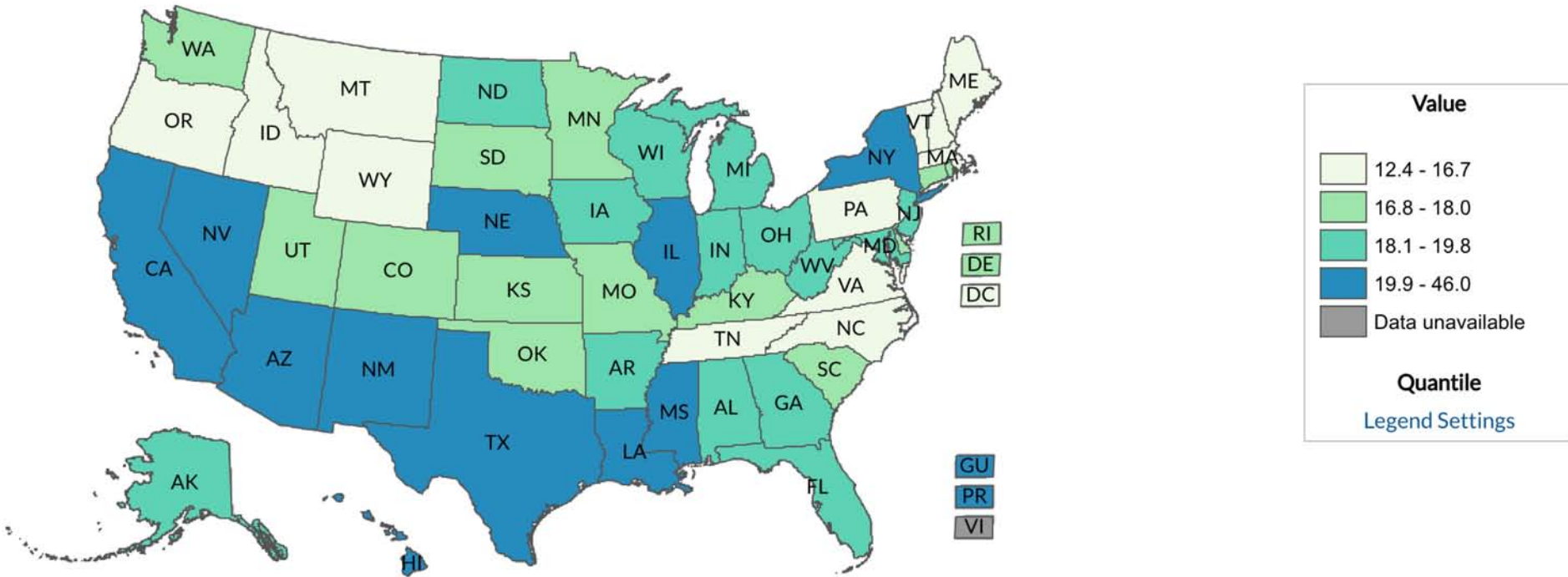


Vegetable Intake in U.S.

2017

Percent of adults who report consuming vegetables less than one time daily †

View by: Total

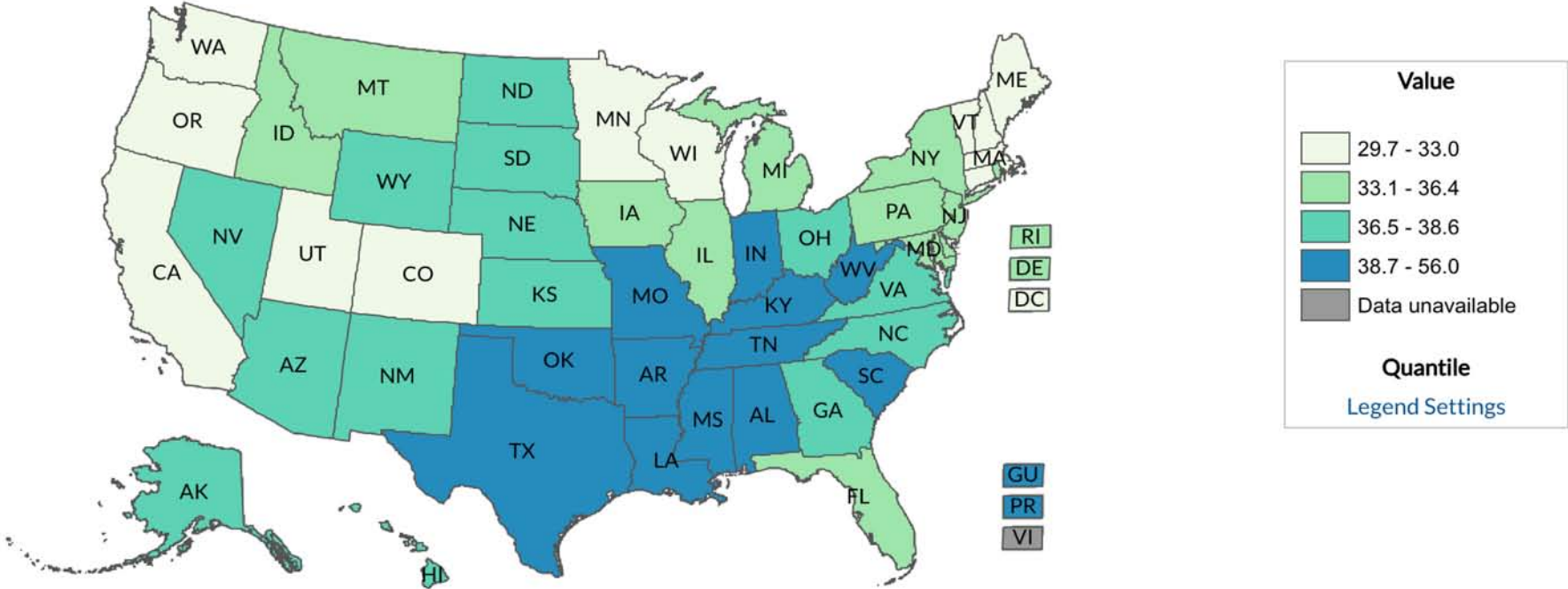


Fruit Intake in the U.S.

2017

Percent of adults who report consuming fruit less than one time daily †

View by: Total



Physical Activity Levels in U.S.

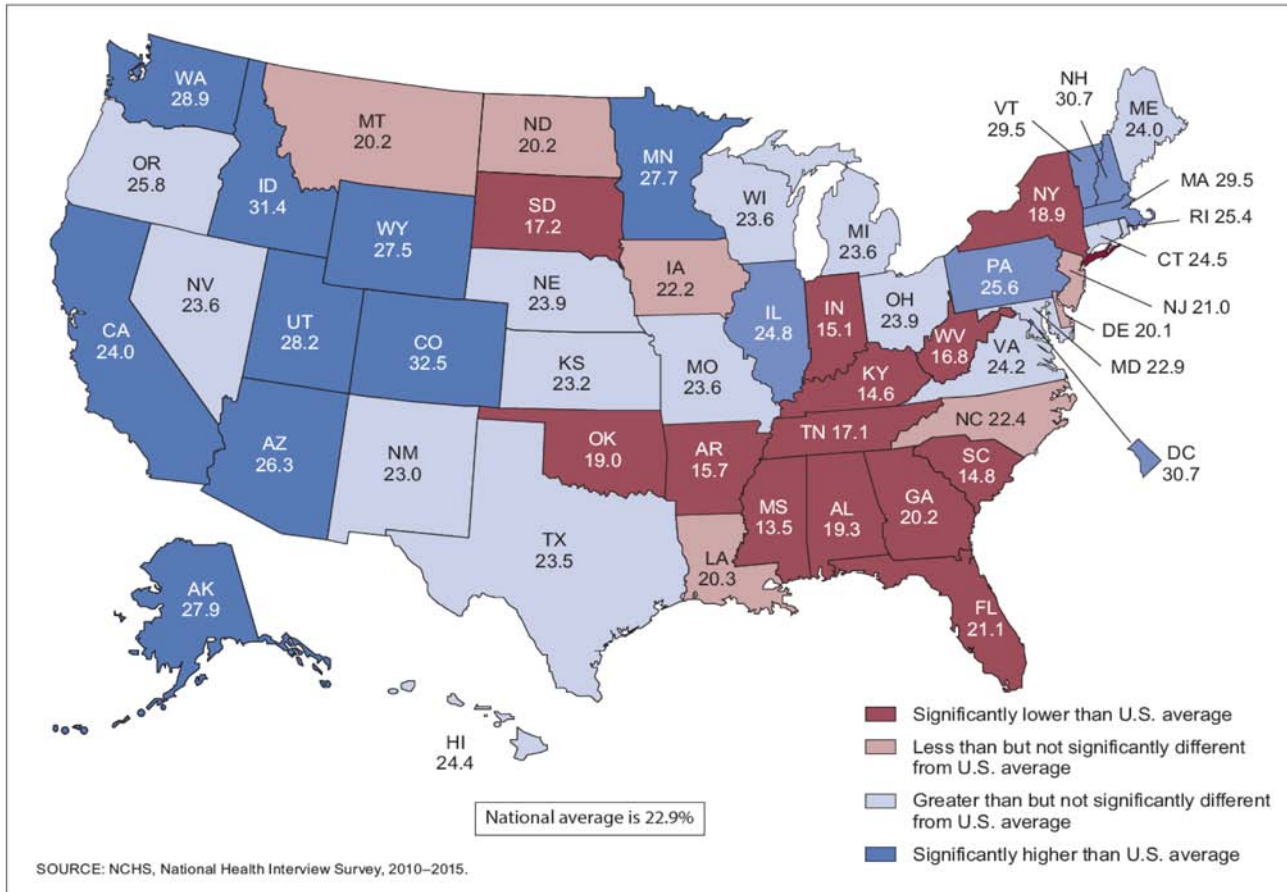
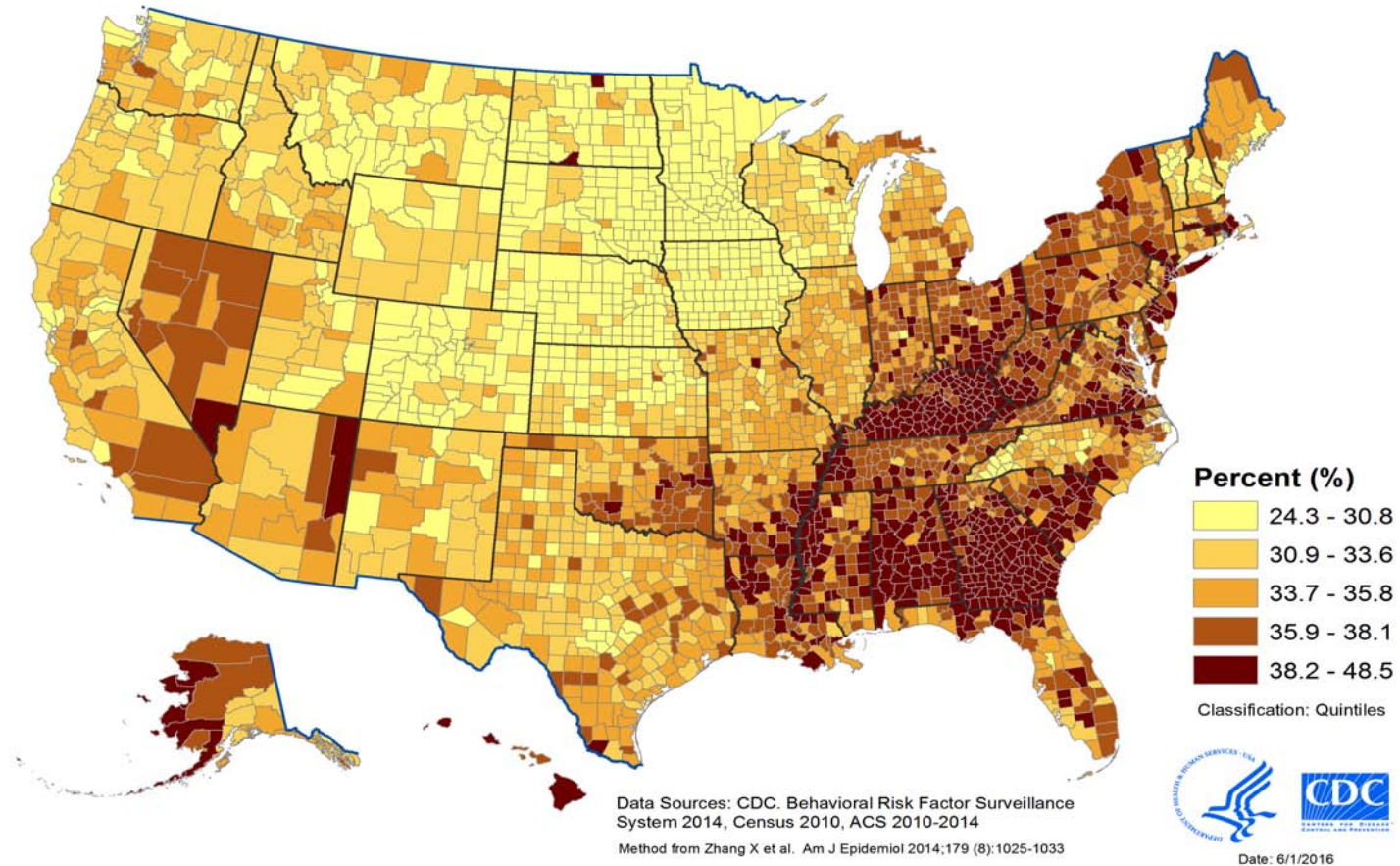


Figure 1. Age-adjusted percentages of adults aged 18–64 who met both aerobic and muscle-strengthening federal guidelines through leisure-time physical activity, by state: United States, 2010–2015



Short Sleep Duration in U.S.



https://www.cdc.gov/sleep/pdf/surveillance/SAE_County_2014_Sleep_508tagged.pdf



How Can Lifestyle Medicine Help Solve Chronic Disease?

5 Healthy Habits Study

- No Smoking
- $BMI \leq 25$ kg/m²
- Eat > 5 servings of fruits and vegetables per day
- One or less alcoholic drink per day
- >150 minutes of exercise per week



Comparison of Adherence to Healthy Lifestyle Habits in US Adults 1988-1994 and 2001-2006

Table 1 Characteristics of Adult Men and Women Ages 40-74 Years

	NHANES III				NHANES 2001-2006			
	Men	Women	Totals	χ^2 P-Value*	Men	Women	Totals	χ^2 P-Value*
BMI (kg/m ²) (%)				<.01				.02
<30	74.8	70.2	72.4		66.2	61.8	64.0	
≥30	25.2	29.8	27.6		33.8	38.2	36.0	
Physical activity (%)				<.01				.02
None	10.5	19.5	15.2		34.0	38.1	36.1	
1-12 times/month	32.5	31.5	31.9		22.7	18.6	20.6	
>12 times/month	57.0	49.0	52.8		43.3	43.2	43.3	
Smoking (%)				<.01				<.01
Yes	32.3	22.0	26.9		31.0	21.1	26.0	
No	67.7	78.0	73.1		69.0	78.9	74.0	
Fruit/Veg (%)				<.01				.44
<5 servings/day	54.8	61.0	58.0		73.5	75.2	74.4	
≥5 servings/day	45.2	39.0	42.0		26.4	24.8	25.6	
Alcohol (%)				<.01				<.01
None	40.0	61.9	51.5		32.6	47.4	40.1	
Moderate	49.8	31.5	40.2		57.2	45.9	51.5	
Exceeds moderate	10.2	6.6	8.3		10.1	6.7	8.4	
Healthy habits (%)				.16				.09
None	0.4	0.2	0.3		0.9	0.3	0.6	
One	4.0	4.1	4.0		8.2	6.0	7.1	
Two	19.2	19.7	19.4		26.9	27.4	27.1	
Three	29.2	32.4	30.9		31.4	32.6	32.0	
Four	31.4	28.9	30.1		24.5	24.8	24.6	
Five	15.8	14.6	15.2		8.2	8.8	8.5	

NHANES = National Health and Nutrition Examination Survey; BMI = body mass index.
*Males vs females.



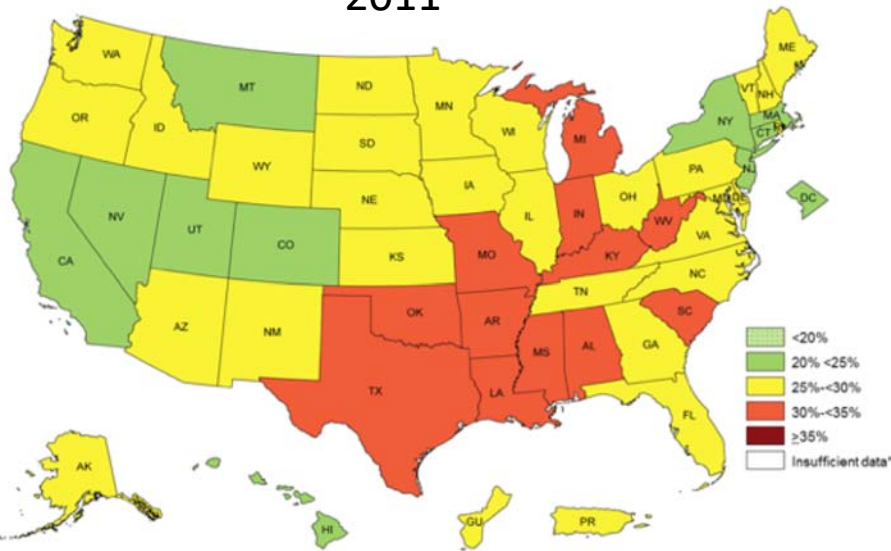
Highlights from the 5 Healthy Habits Study

- Obesity increased from **28% to 36%**
- Regular physical activity decreased from 53% to 43%.
- Eating 5 or more fruits and vegetables a day decreased from 42% to 26%.
- Adherence to all 5 healthy habits has gone from **15.8 % to 8.2%.**

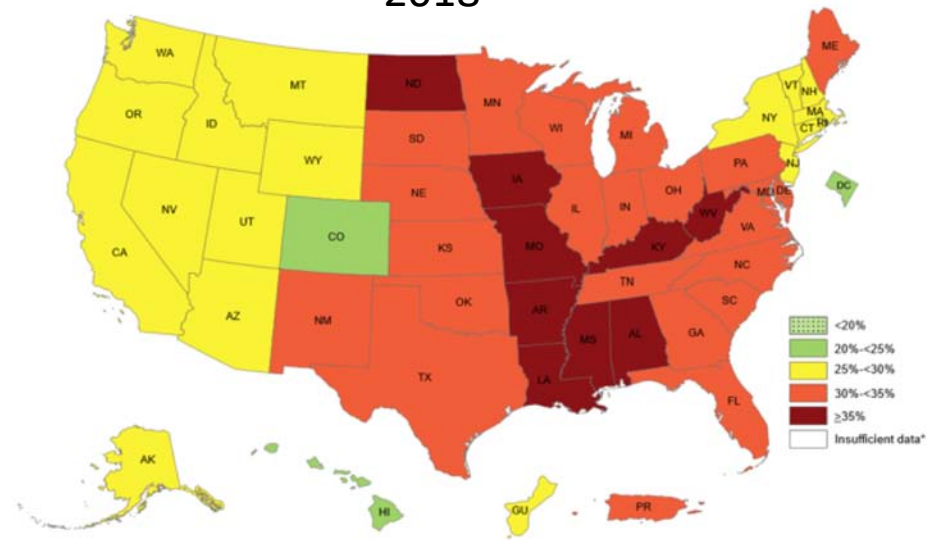


Adult Obesity Prevalence Maps

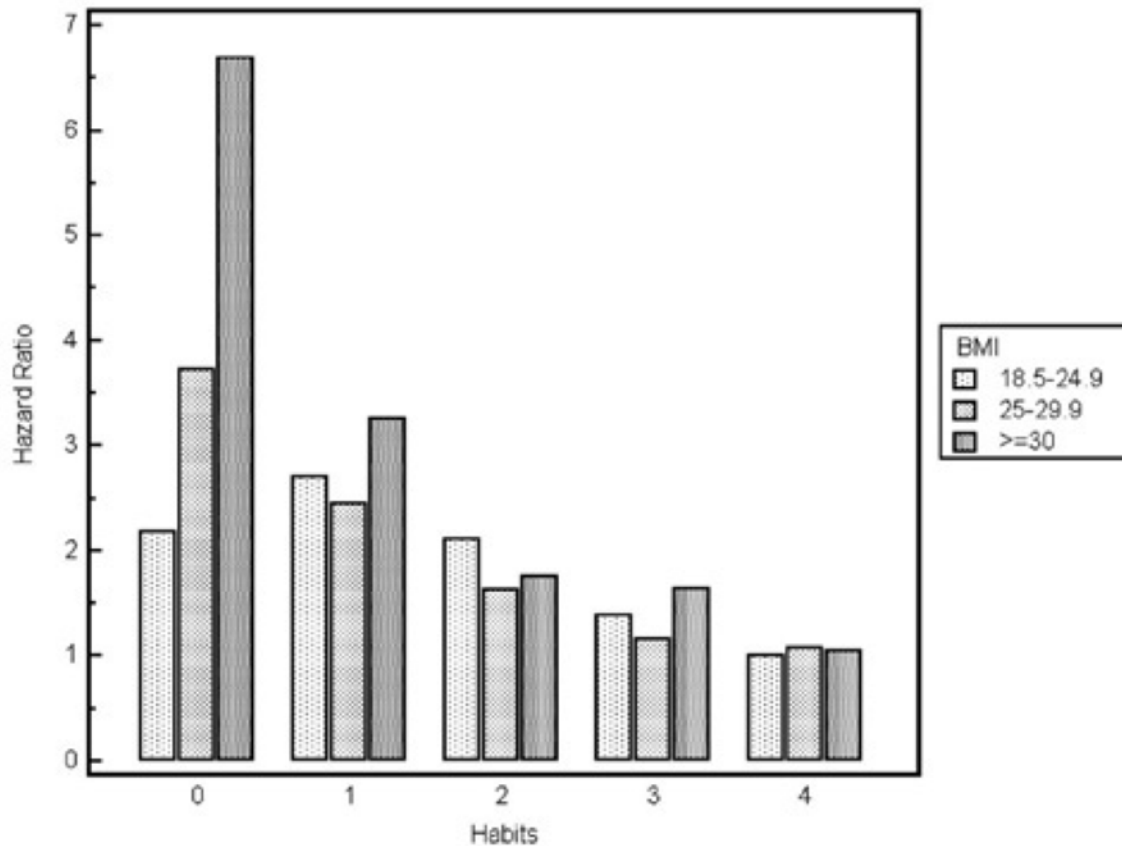
2011



2018



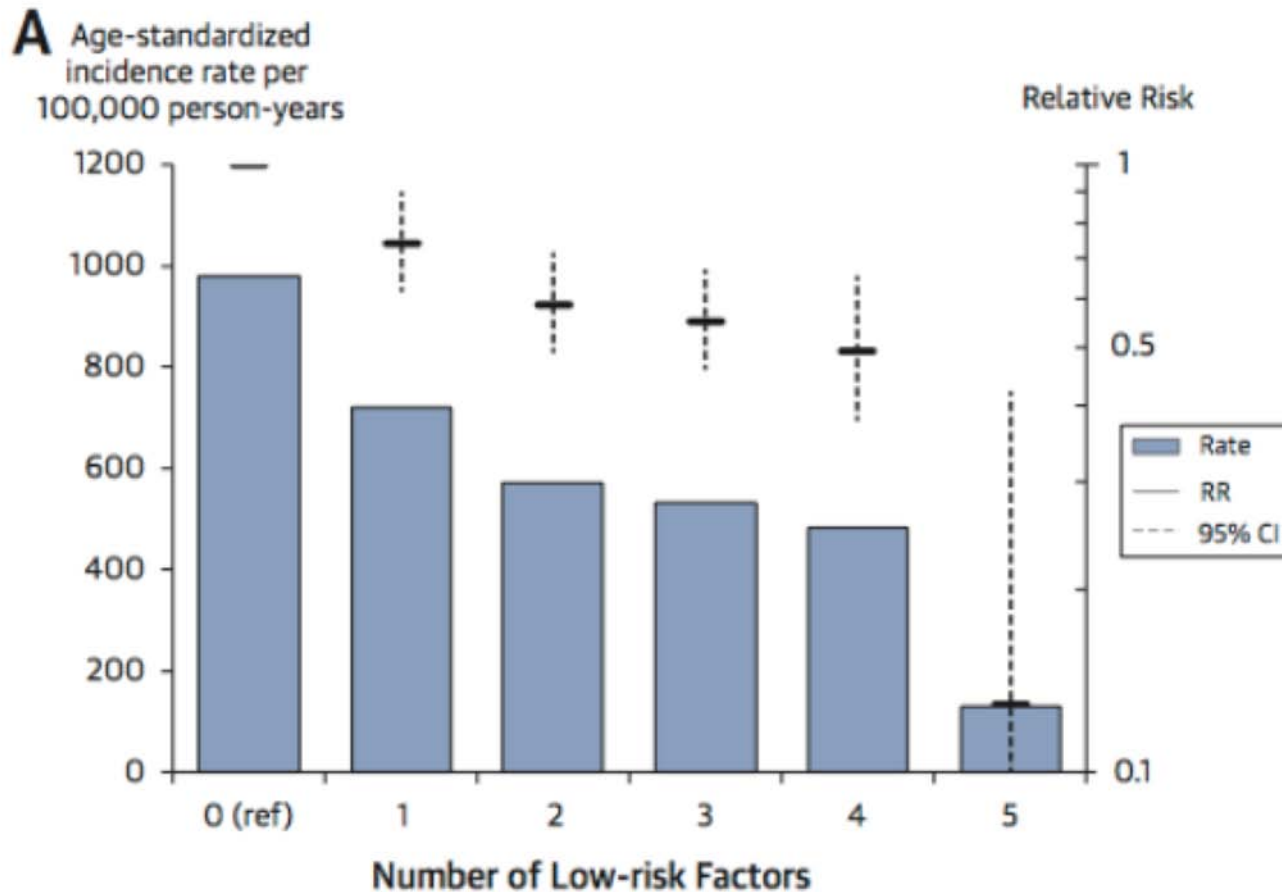
Lifestyle Habits and Mortality in Overweight Individuals



Eating 5 or more fruits and vegetables daily, exercising regularly (at least 12 times in a month), alcohol in moderation, not smoking



Healthy Behavior Impact on Incidence of MI in Men

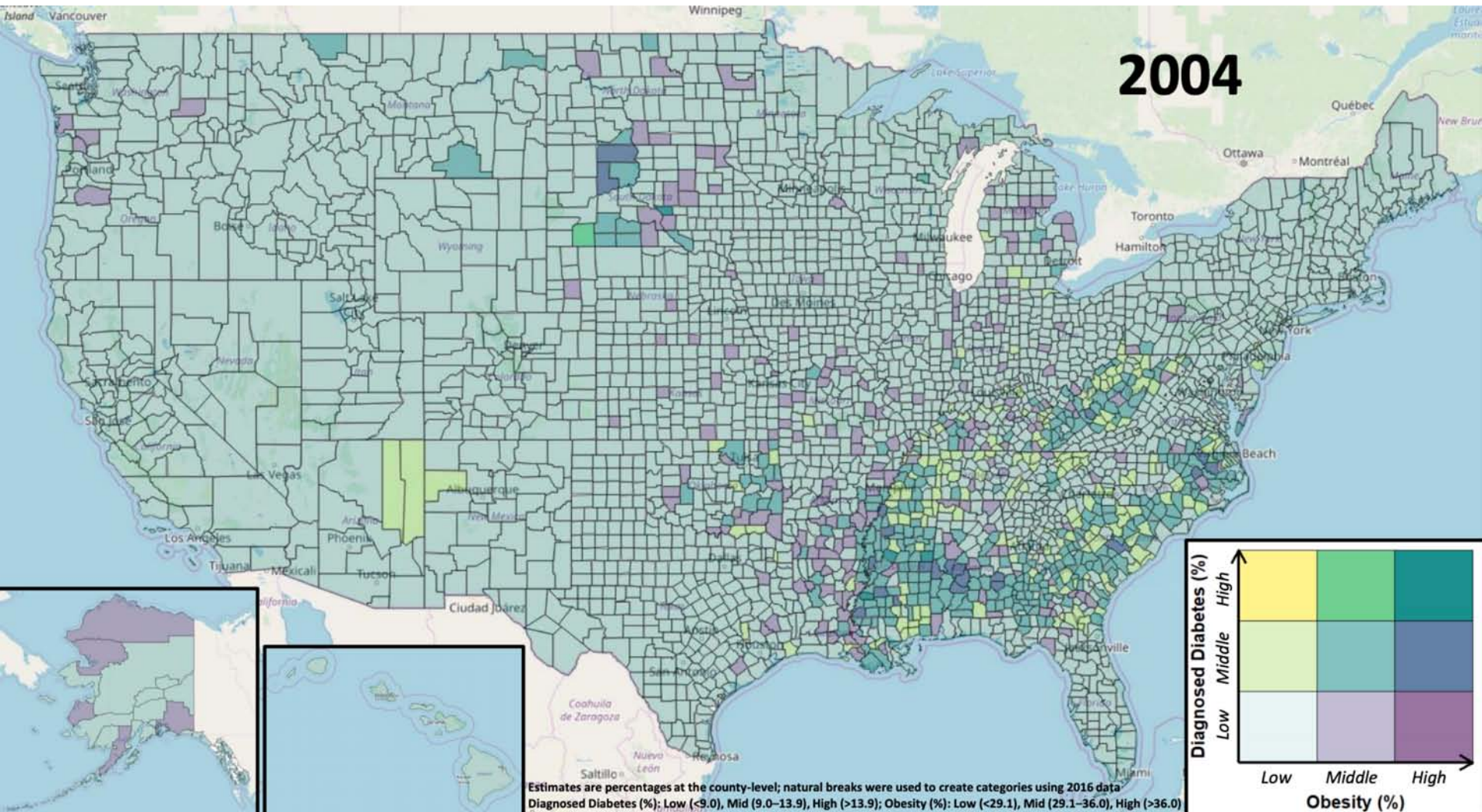


Coronary Artery Disease Risk Factors

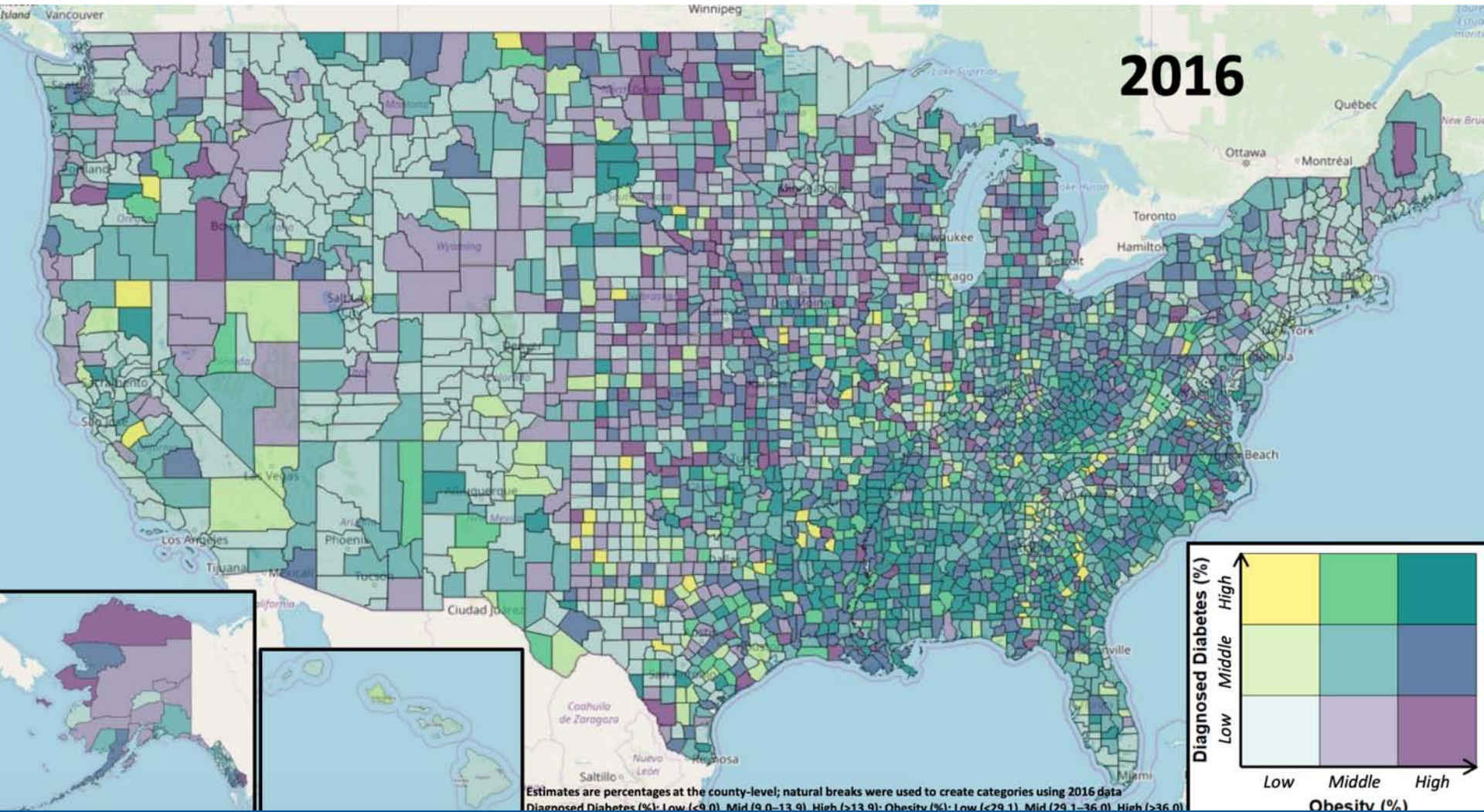
- High blood cholesterol and triglyceride
- High blood pressure
- **Diabetes**
- **Overweight and obesity**
- Smoking
- Lack of physical activity
- Unhealthy diet
- Stress



Prevalence of Diabetes and Obesity by County 2004



Prevalence of Diabetes and Obesity by County 2016



Diabetes Prevention Program

- Landmark Study funded by NIH, published in 2002 in the New England Journal of Medicine
- Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin
- 3234 non diabetic patients with elevated fasting and post-load plasma glucose levels
- Randomly assigned to placebo, Metformin, or lifestyle intervention

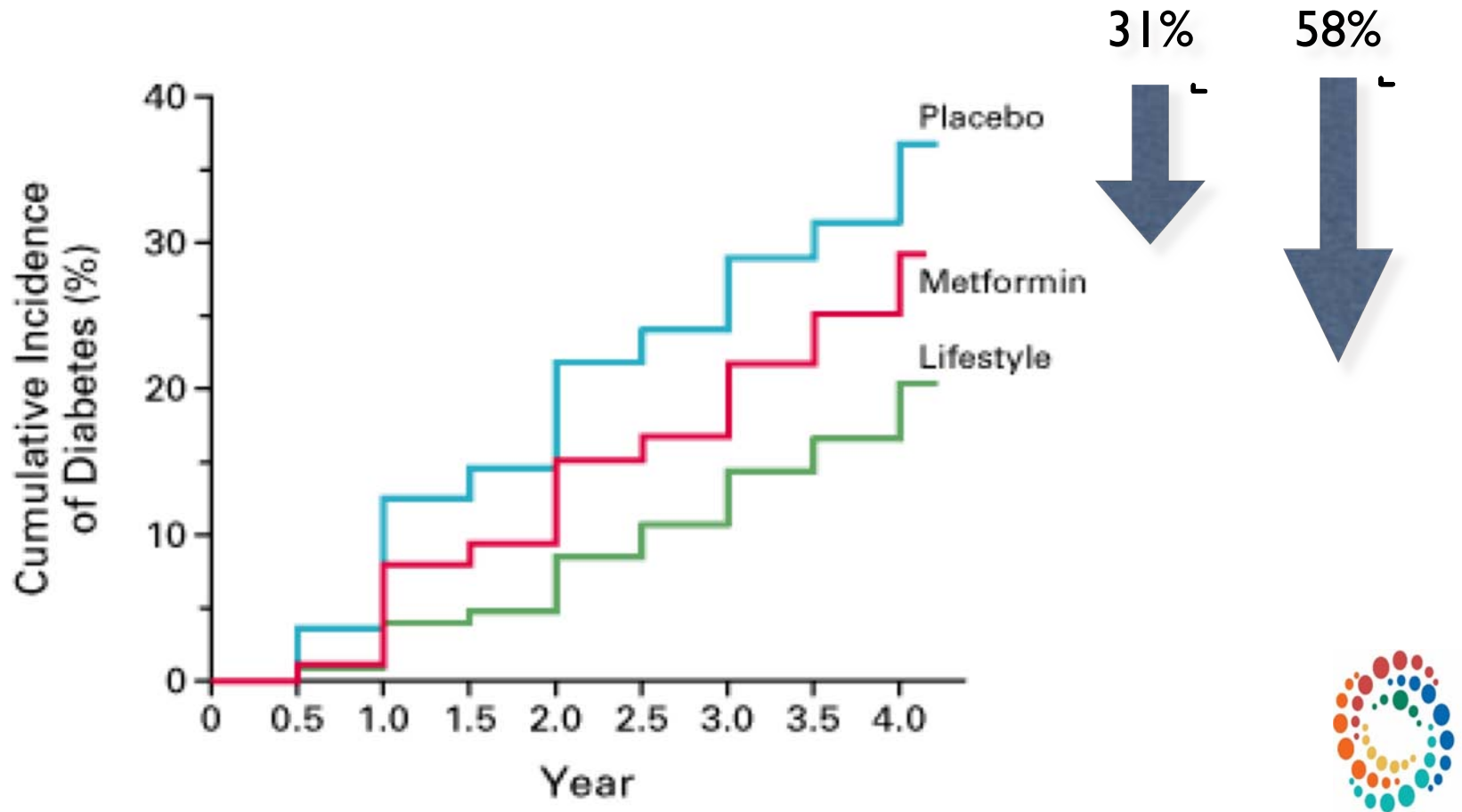


Lifestyle Intervention Details

- Lose 7% of initial body weight
 - Low calorie, low fat diet
- 150 minutes of moderate intensity physical activity per week
- 16 lesson curriculum covering diet, exercise, and behavior modification
 - Taught by case managers
 - Flexible
 - Individualized
 - Subsequent- individual (monthly) and group sessions



Lifestyle Counseling: Does It Work? Diabetes Prevention Program





The Financial Side

Health Care Costs in 2018

- \$3.6 trillion overall
- \$11,172 per **person**
- Top five most expensive conditions:
 - heart disease, cancer, trauma, mental disorders, and pulmonary conditions
- Top 5% of spenders responsible for 50% of healthcare costs:
 - Most suffering from chronic diseases



Where does this money go?

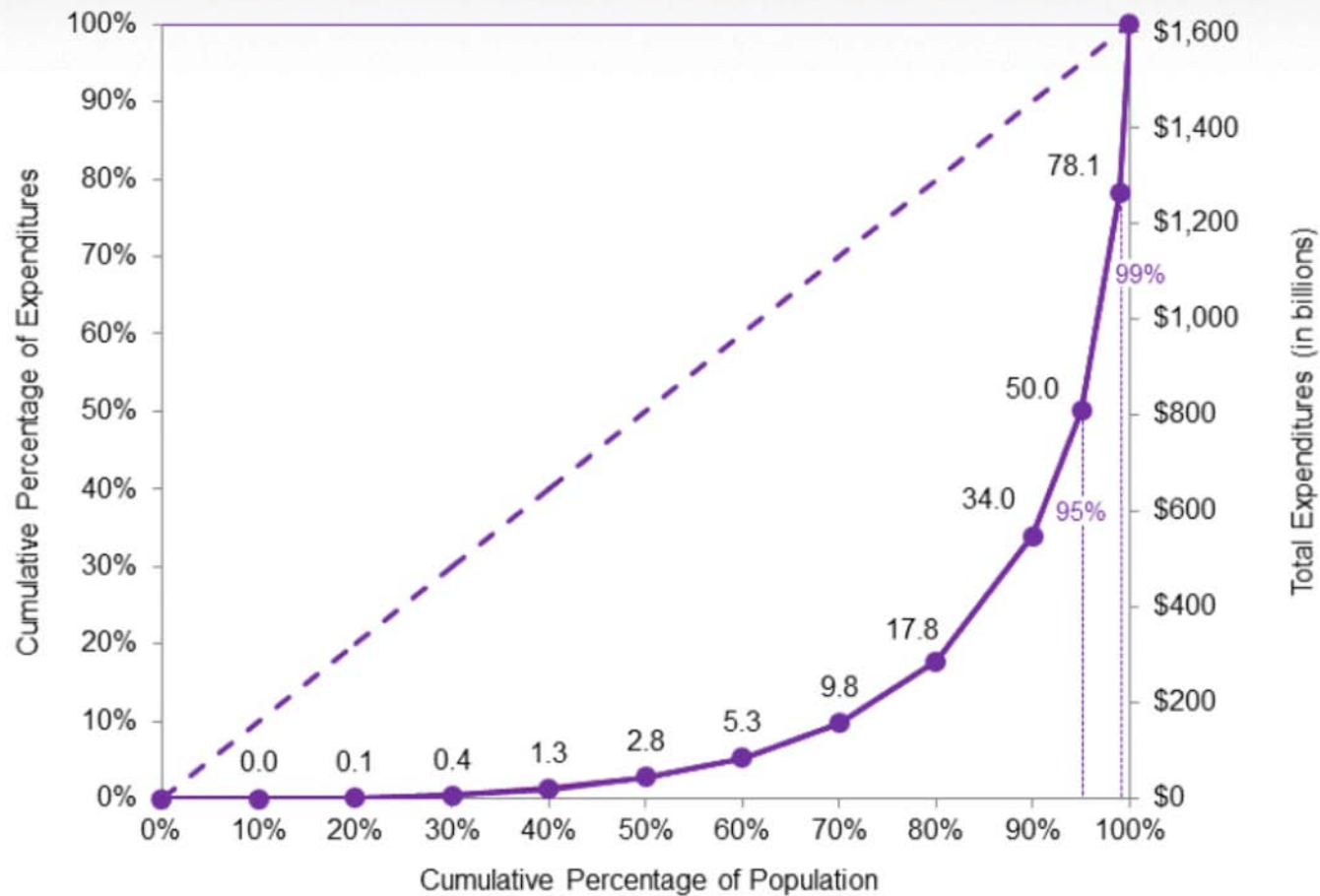
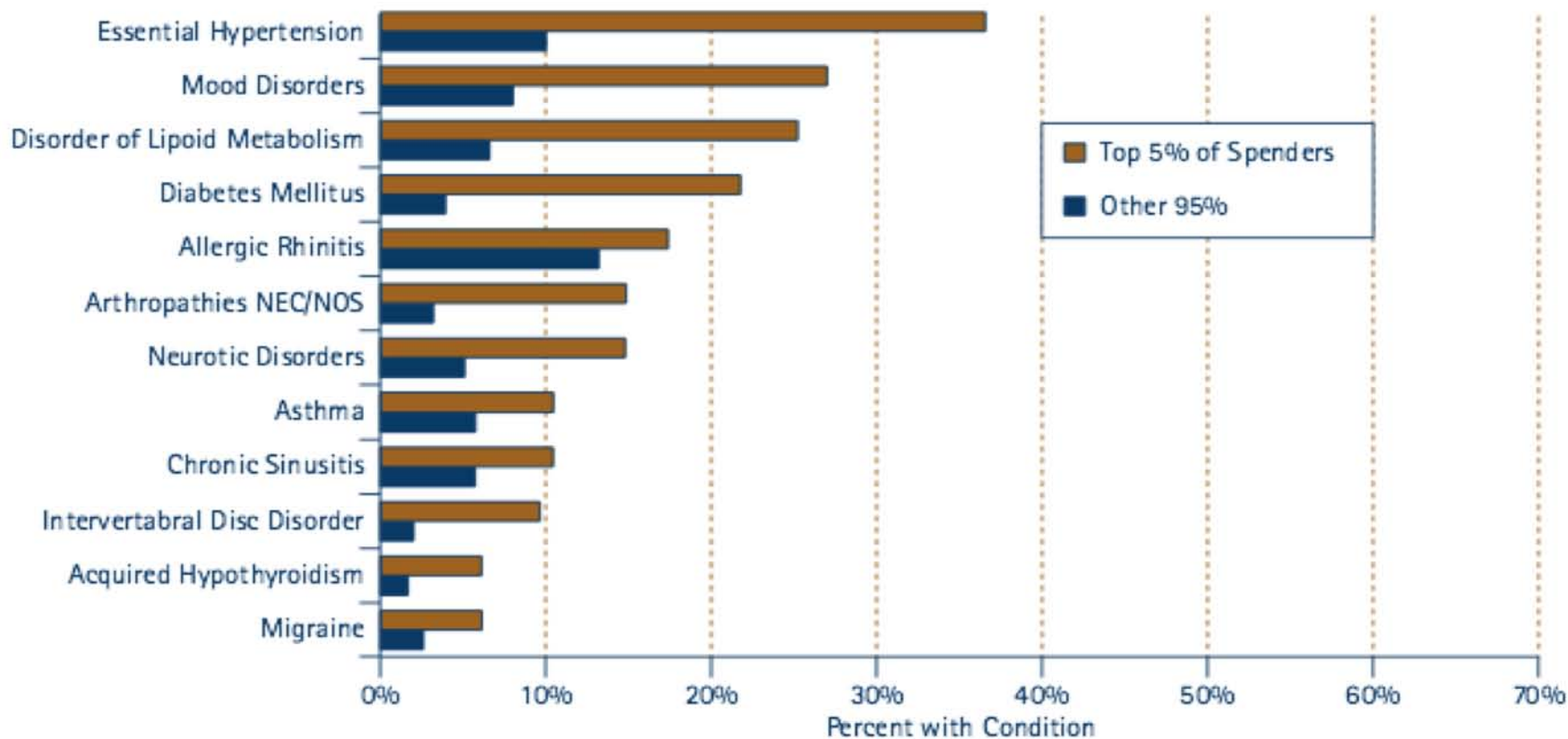
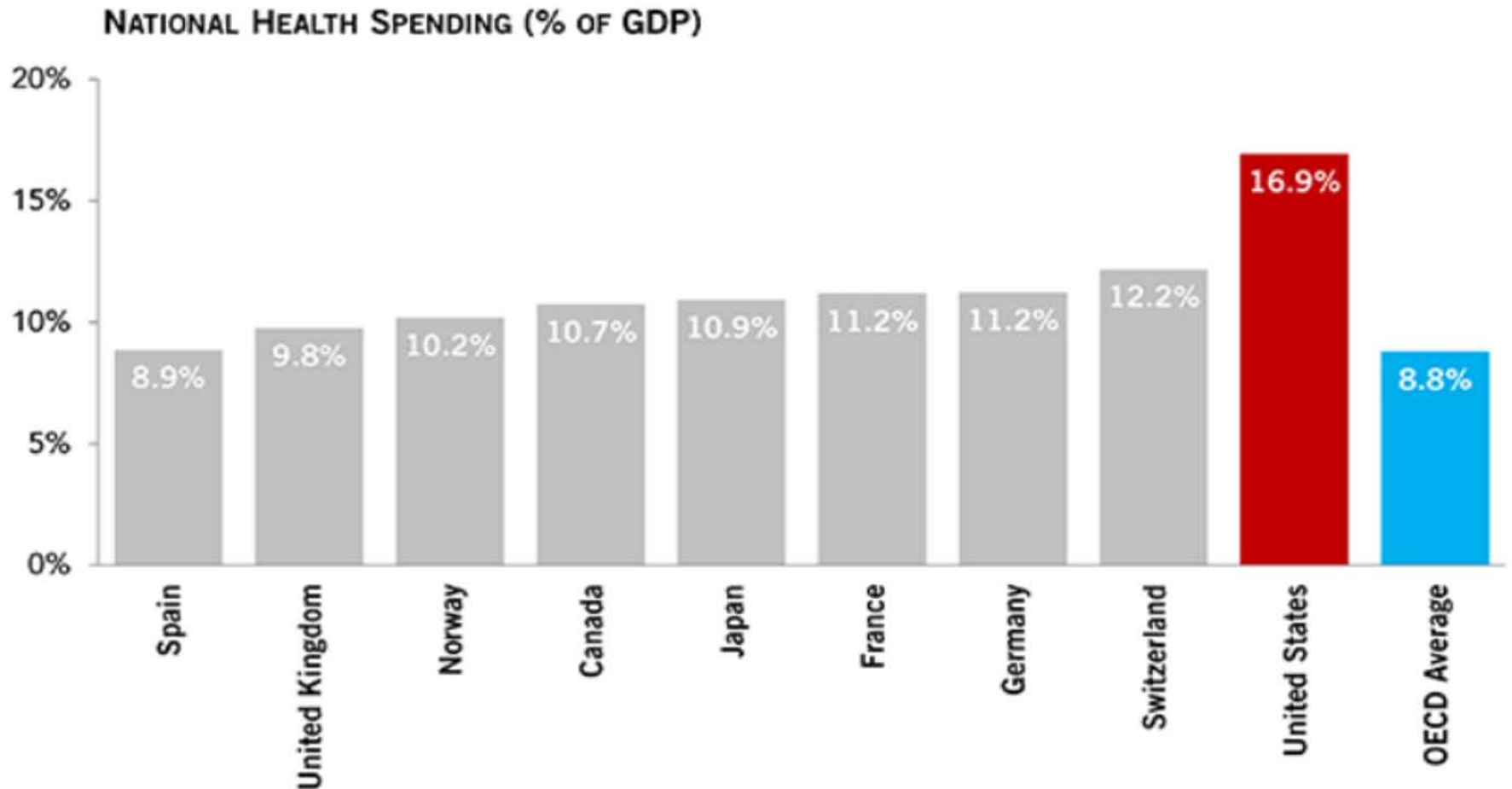


FIGURE 7. COMMON CONDITIONS AMONG NON-ELDERLY HIGH SPENDERS, 2006



NIHCM Foundation analysis of data in The Lewin Group, "Individuals Living in the Community with Chronic Conditions and Functional Limitations: Closer Look," Jan. 2010. Featured conditions are among the most prevalent for both high and non-high spenders.

Healthcare Costs in US are Significantly Higher than Comparable Countries



American Public Health Association

- What percentage of healthcare dollars are spent on prevention?
– **3%**
- What percent of our healthcare costs are related to preventable conditions?
– **75%**
- Reducing the prevalence of hypertension in the US by just five percent would save the economy
– **\$25 billion annually**





How We Can Make A Difference

Efficacy of Healthcare Counseling

In a 2008 study of hypertensive patients, what % received counseling to engage in physical activity as a way to manage their hypertension?



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33%



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Of the patients who were counseled, what % followed the recommendations to exercise and reduced their blood pressure?



Efficacy of Healthcare Counseling

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Of the patients who were counseled, what % followed the recommendations to exercise and reduced their blood pressure?

71%



There is Minimal Training on Exercise & Nutrition Counseling in Medical School

- 1975- “Will Physicians of the Future be Able to Prescribe Exercise?”
- **71%** of medical schools **fail to meet the minimum** recommendation of 25 hours of nutrition education
- 36% provided 12 or fewer hours,
- **9%** provided **no nutrition education at all.**



6 Pillars of Lifestyle Medicine

eat plants

keep moving

sleep well

be present

stay calm

love people





What Can We Do?

Become Part of the LM Movement

- [Join](#) the American College of Lifestyle Medicine (ACLM) and connect with others passionate about LM!
 - Plus, tons of [additional membership benefits!](#)



Start a Lifestyle Medicine Interest Group

- For trainees, we encourage you to become a member and get involved in spreading LM to campuses nationwide!
- Start your own Trainee Interest Group!
 - Lifestyle Medicine Interest Group (LMIG) [Starter Kit](#) and [Introductory Video](#) available online



Interested in Diving Deeper into LM and Advancing the Field?

There is a special award for Trainees

The [Donald Anderson Pegg Award](#) for innovative research and inspiring projects in LM.

Please go to the ACLM [website](#) for further information.

Teams of students can apply and attendings/mentors are encouraged to get involved, as well.



Join Us!

The Lifestyle Medicine Conferences are a great way to get connected with other healthcare professionals that are passionate about improving the lives of others through lifestyle medicine!

Come connect with colleagues and hear from LM visionaries to learn about current, evidence-based LM practices.

LMConference.org



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