

Obesity Is Not What We Thought It Was So Where Do We Go From Here?

Ted Kyle, RPh, MBA

March 4, 2022

Disclosures

- **Professional fees**

- Gelesis
- Novo Nordisk
- Nutrisystem
- The Obesity Society

- **Personal biases that favor:**

- Evidence-based interventions, both prevention and treatment
- Respect for people living with obesity
- Critical thinking about all evidence

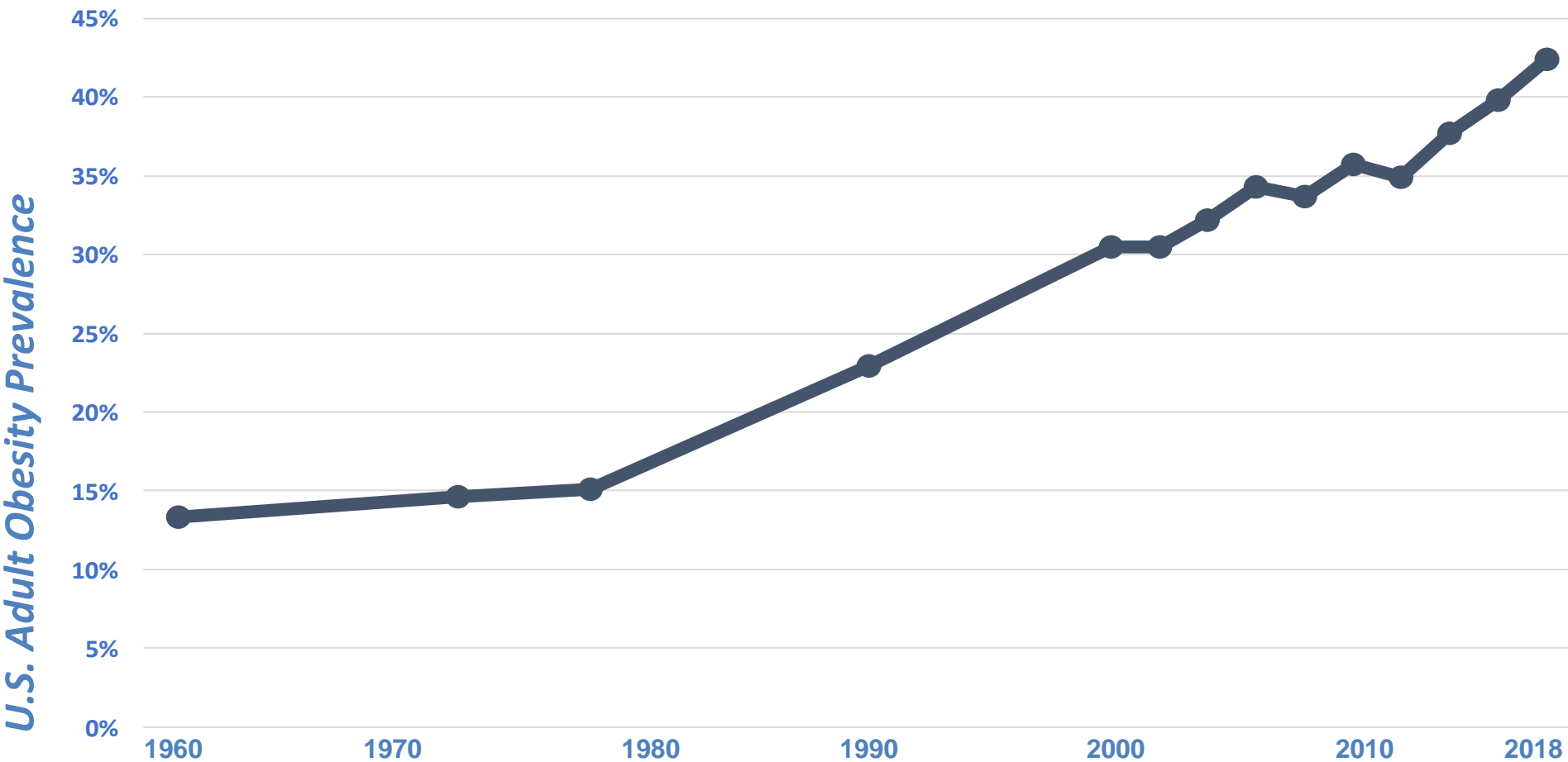
Presentation Objectives

- **Review the history of efforts to address the obesity epidemic**
 - Policy, prevention, and clinical care
 - Objective outcomes
- **Discuss the challenge of prevailing bias**
 - Research agendas and funding
 - Lived experiences with obesity
 - Health policy related to obesity
 - Clinical care
- **Identify indications of progress**
- **Describe a pathway for more success**

Obesity Is Not What We Thought It Was

A Brief History of Efforts to Overcome Obesity

Four Decades of Relentlessly Rising Obesity



Four Decades of Ineffective Efforts to Reduce Obesity

- 1974

“Most Obesity Could, with Care, Be Prevented”

doi: [10.1016/S0140-6736\(74\)93004-9](https://doi.org/10.1016/S0140-6736(74)93004-9)

THE LANCET

Volume 303, Issue 7845, 5 January 1974, Pages 17-18

Infant and Adult Obesity

OBESITY is the most important nutritional disease in the affluent countries of the world. In the absence of an internationally agreed criterion for diagnosis an exact figure for prevalence cannot be given, but surveys in Britain and the United States show that about a third of the population is overweight to an extent associated with diminished life expectancy.¹

The exact significance of hyperplastic and hypertrophic obesity is still not clear, but on balance the evidence suggests that we need to be more vigilant in preventing obesity throughout childhood. Probably the obese adult can never be “cured”, but most obesity could, with care, be prevented.

doi: [10.1016/S0140-6736\(74\)93004-9](https://doi.org/10.1016/S0140-6736(74)93004-9)

Four Decades of Ineffective Efforts to Reduce Obesity

- 1974
Most Obesity Could, with Care, Be Prevented
- 1986
“Unique Merits of Low Fat for Weight Control”
doi: 10.1016/0306-9877(86)90125-8



<https://www.snackwells.com/product/devils-food-cookie-cakes>

Four Decades of Ineffective Efforts to Reduce Obesity

- **1974**
Most Obesity Could, with Care, Be Prevented
- **1986**
Unique Merits of Low Fat for Weight Control
- **1998**
Clinical Guidelines for Overweight and Obesity
doi: [10.1093/ajcn/68.4.899](https://doi.org/10.1093/ajcn/68.4.899)



Primary Care, illustration © Morgan Schweitzer / flickr

Four Decades of Ineffective Efforts to Reduce Obesity

- **1974**
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- **1986**
Unique Merits of Low Fat for Weight Control
- **1998**
Clinical Guidelines for Overweight and Obesity
- **2003**
Low Carb Diets Gain Prominence

ORIGINAL ARTICLE

A Randomized Trial of a Low-Carbohydrate Diet for Obesity

Gary D. Foster, Ph.D., Holly R. Wyatt, M.D., James O. Hill, Ph.D., Brian G. McGuckin, Ed.M., Carrie Brill, B.S., B. Selma Mohammed, M.D., Ph.D., Philippe O. Szapary, M.D., Daniel J. Rader, M.D., Joel S. Edman, D.Sc., and Samuel Klein, M.D.

May 22, 2003

N Engl J Med 2003; 348:2082-2090

DOI: 10.1056/NEJMoa022207




The NEW ENGLAND
JOURNAL of MEDICINE

Four Decades of Ineffective Efforts to Reduce Obesity

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- **1998**
Clinical Guidelines for Overweight and Obesity
- **2003**
Low Carb Diets Gain Prominence
- **2010**
Let's Move! doi: 10.1089/chi.2012.0800.obam



Now: Turning to Plant-Based Diets To Reduce Obesity and Save the Planet



“The Global Syndemic represents the paramount health challenge for humans, the environment, and our planet in the 21st century.”

The Global Syndemic of Obesity, Undernutrition and Climate Change

THE LANCET

The best science for better lives



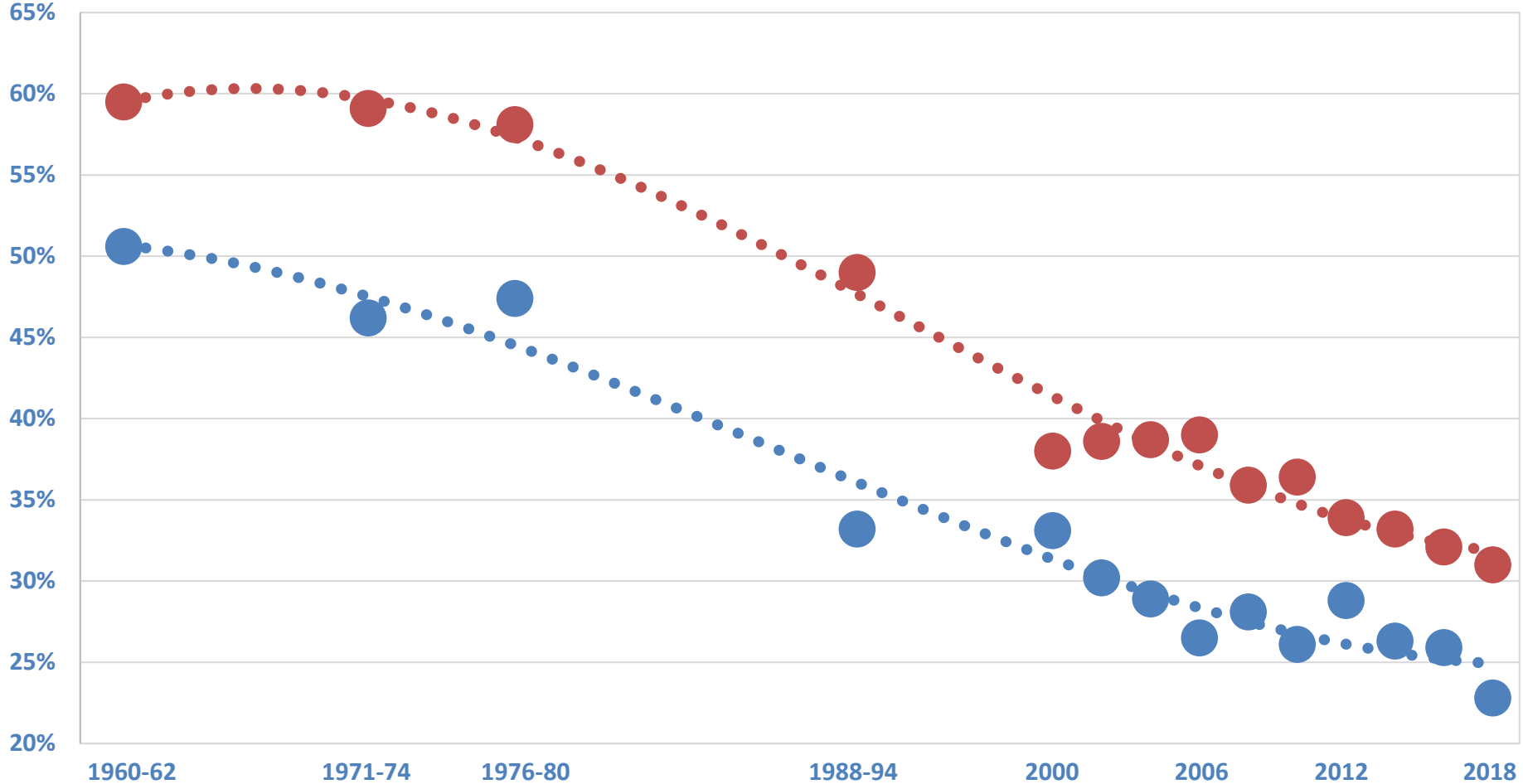
Big Promises for Plant-Based Diets To Reduce Obesity and Save the Planet

“ Compared with typical Western diets with high amounts of animal products, healthy plant-based diets are not only more sustainable, but have also been associated with lower risk of chronic diseases such as obesity, type 2 diabetes, cardiovascular disease, and some cancers. ”

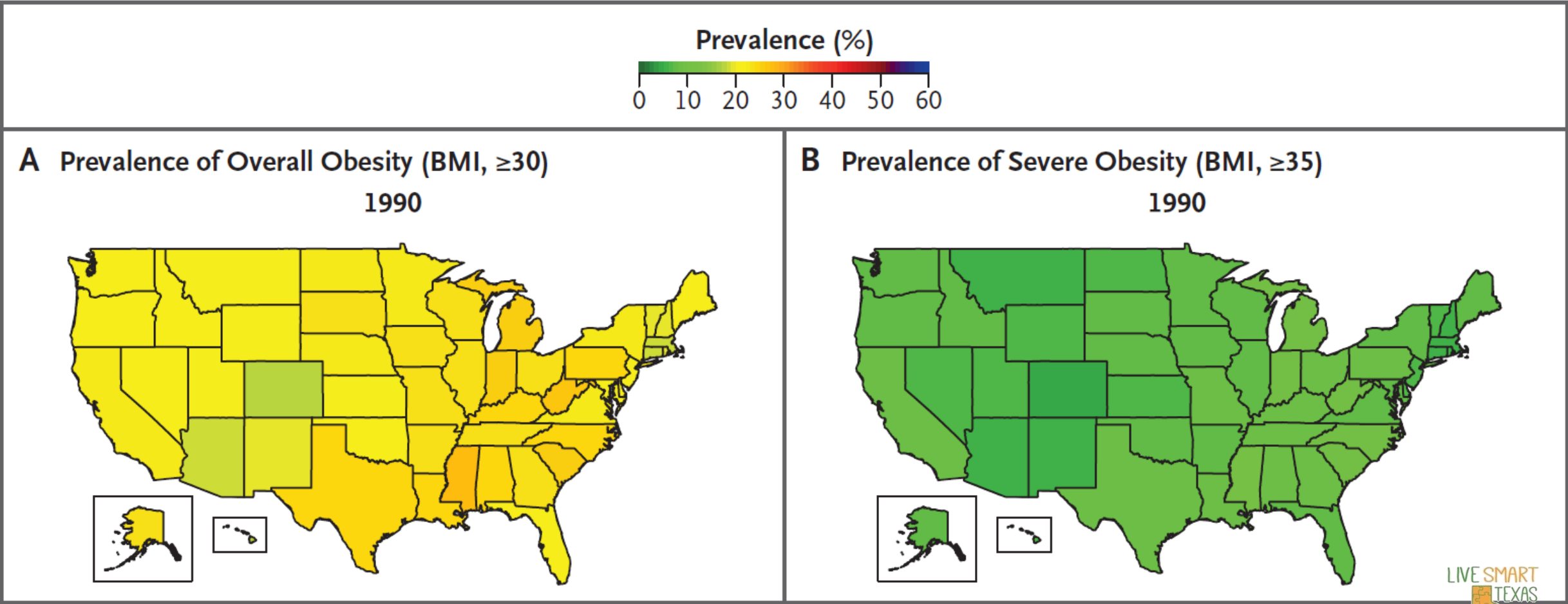
“ If widely implemented, interventions and policy changes that shift the globe towards healthy plant-based dietary patterns could be instrumental in ensuring future personal, population, and planetary health. ”

Hemler & Hu: Plant-Based Diets for Personal, Population, and Planetary Health (2019)

Prevalence of BMI < 25 May Be Bottoming Out



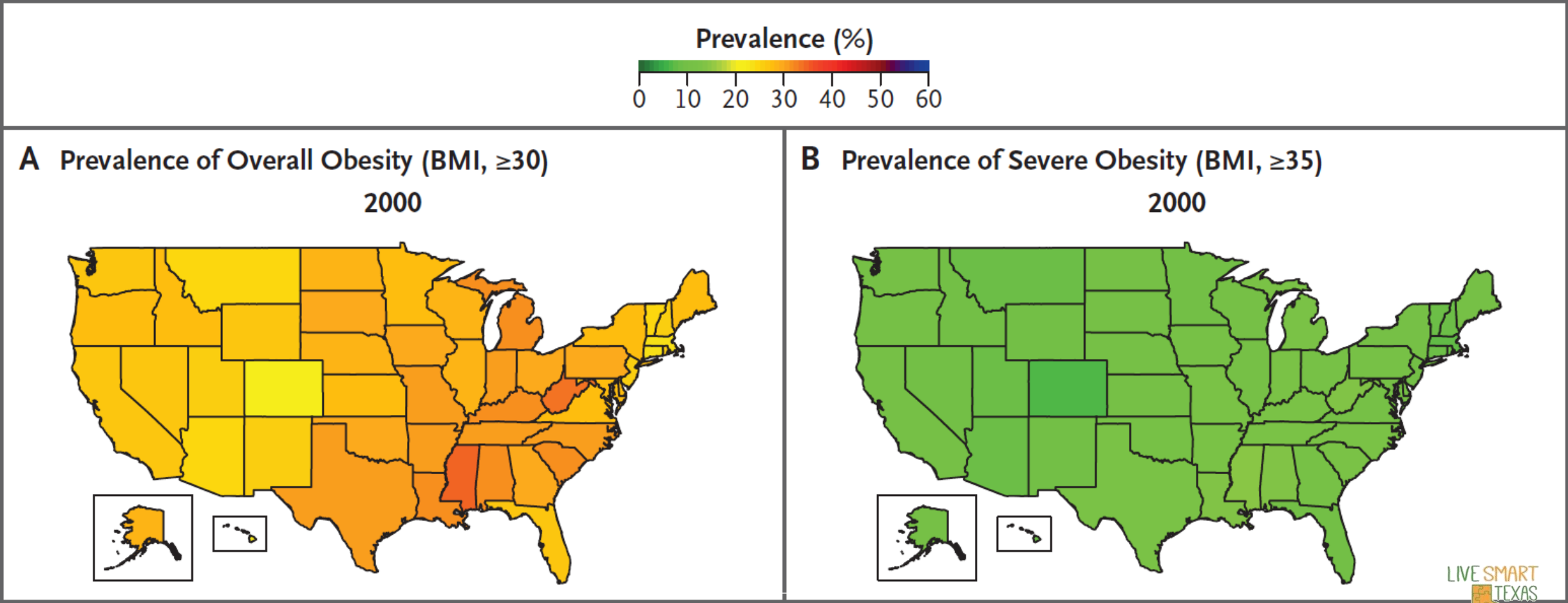
But Obesity and Severe Obesity Are Still Growing



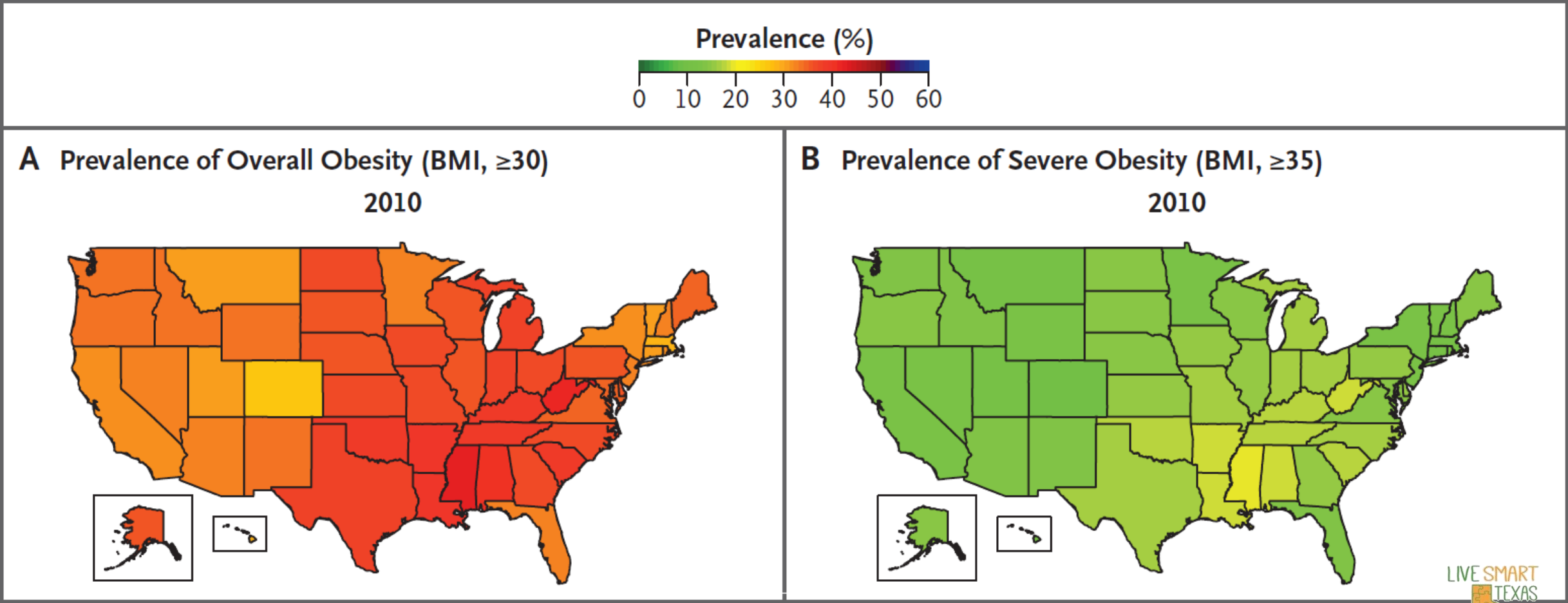
LIVE SMART
TEXAS



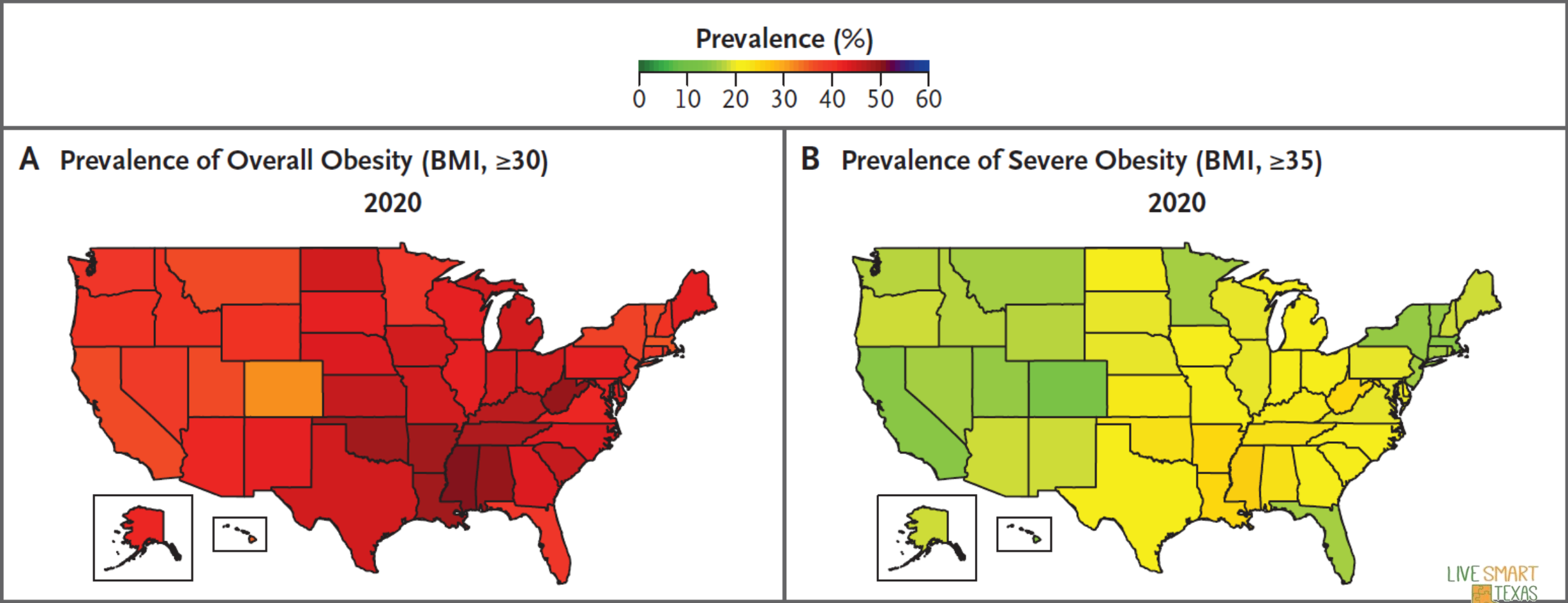
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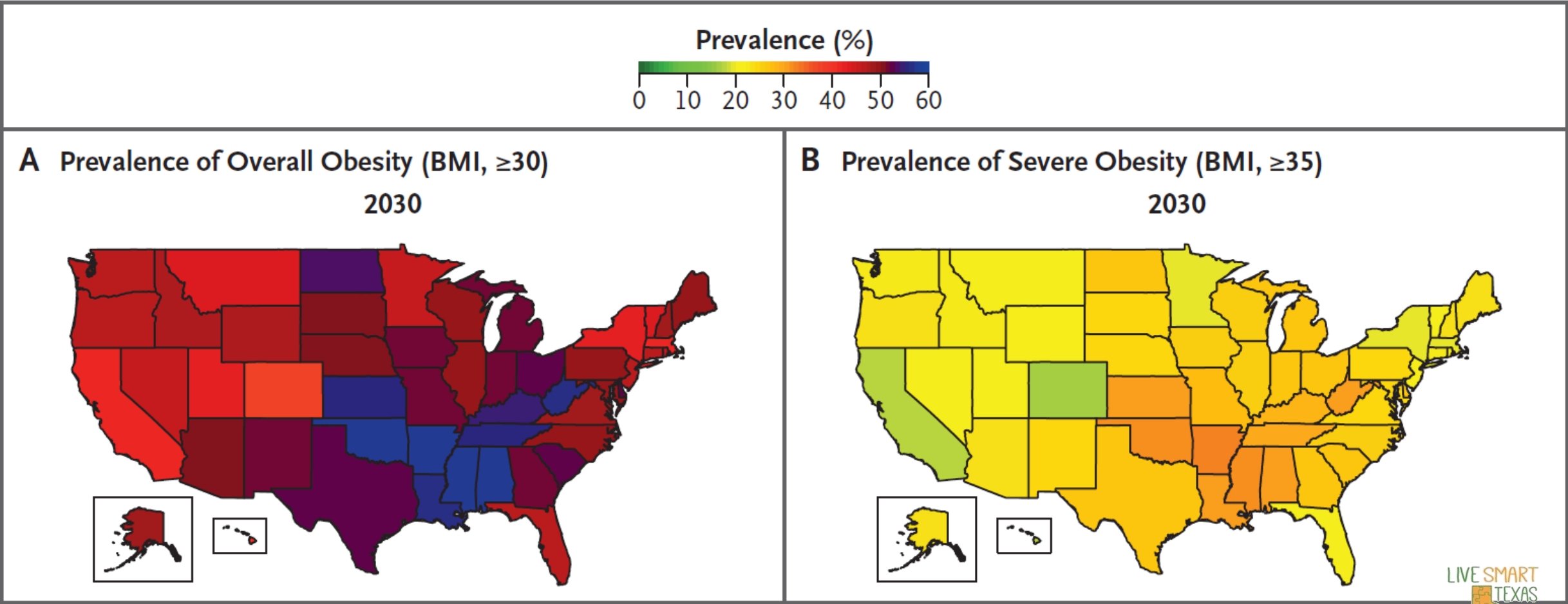
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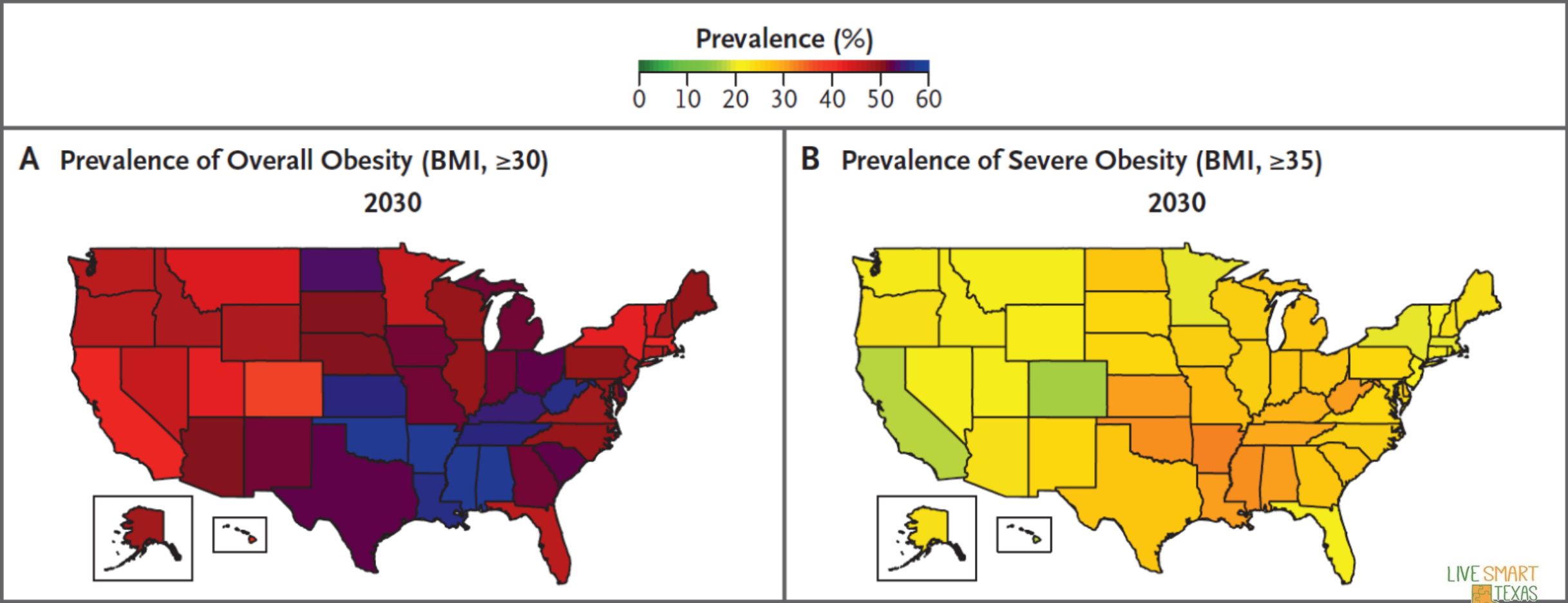
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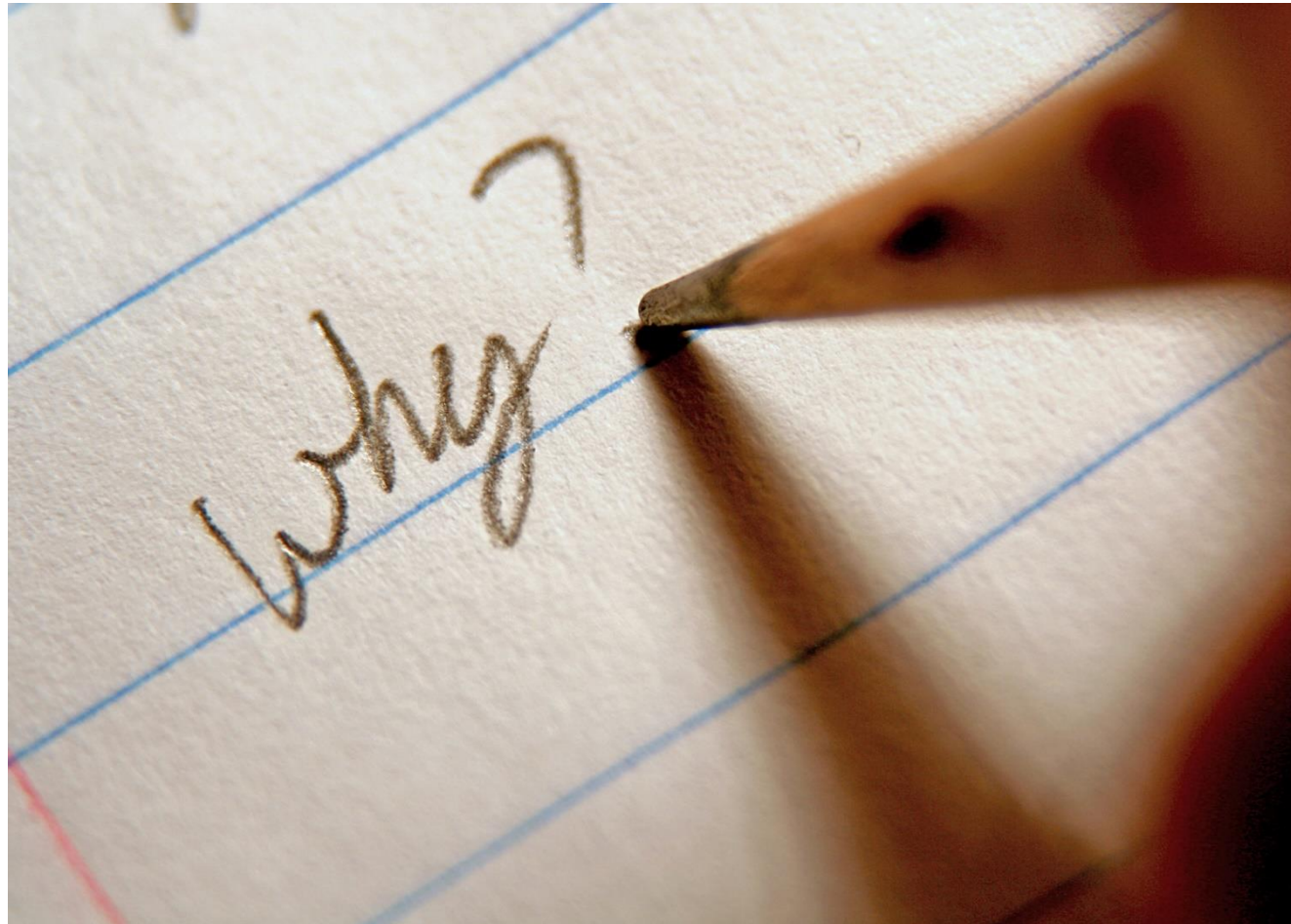
Obesity Will Reach 50% Prevalence by 2030



Growing Fastest, Severe Obesity Will Reach 25%



Why Has Progress Been So Elusive?



Good Question, photograph © Eric (e-magic) / flickr

Obesity Is Not What We Thought It Was

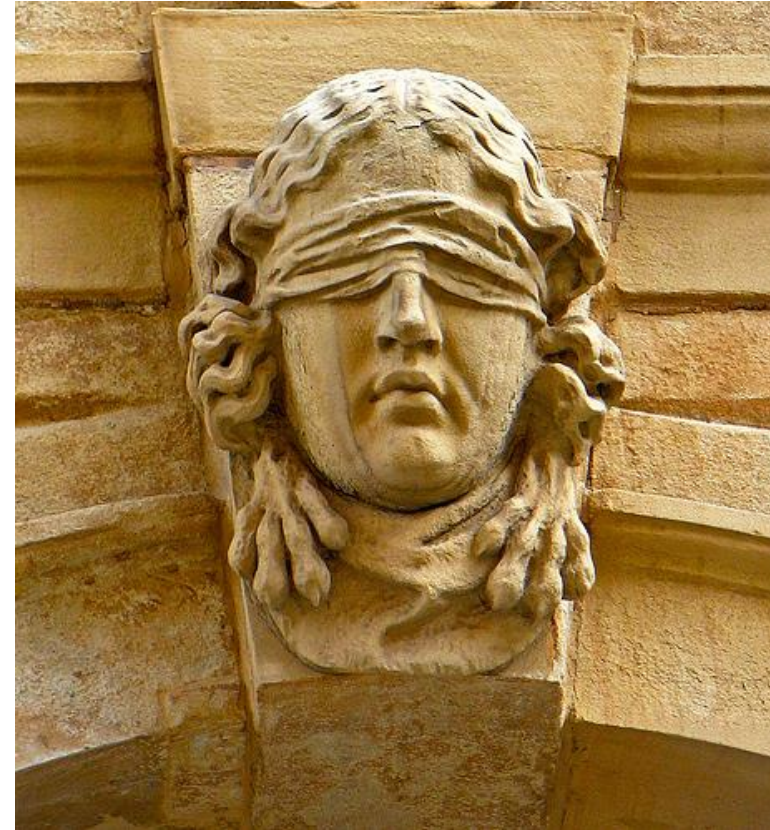
The Challenge of Bias

About Obesity and Against the People Who Have It

Pervasive Bias Gets in the Way of Progress

Bias is an inclination or outlook to present or hold a **partial perspective**, often accompanied by a **refusal to consider** the possible merits of **alternative points of view**. Biases are learned implicitly within cultural contexts. People may develop biases toward or **against** an **individual**, an ethnic **group**, a nation, a religion, a social class, a political party, theoretical **paradigms** and **ideologies** within academic domains, or a species.

– Adapted from
Psychology: Contemporary Perspectives
Paul Okami



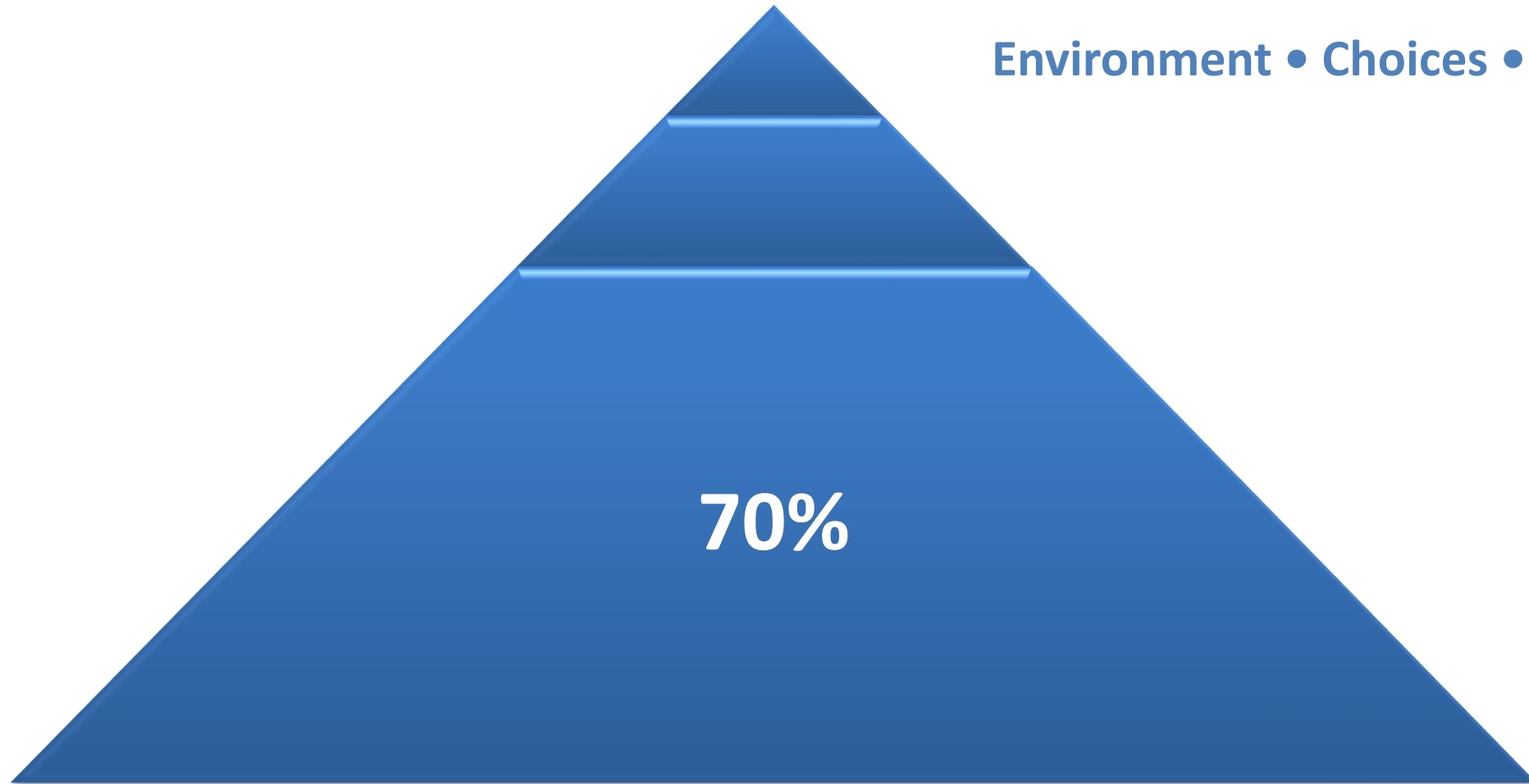
Two Kinds of Bias Get in the Way of Reducing the Harm of Obesity

- **Intellectual bias**
favoring personal convictions
- **Weight bias**
directed at people with obesity



God Judging Adam, Etching by William Blake / WikiArt

People Typically View Obesity as the Result of Poor Choices



Environment • Choices • Genes

70%

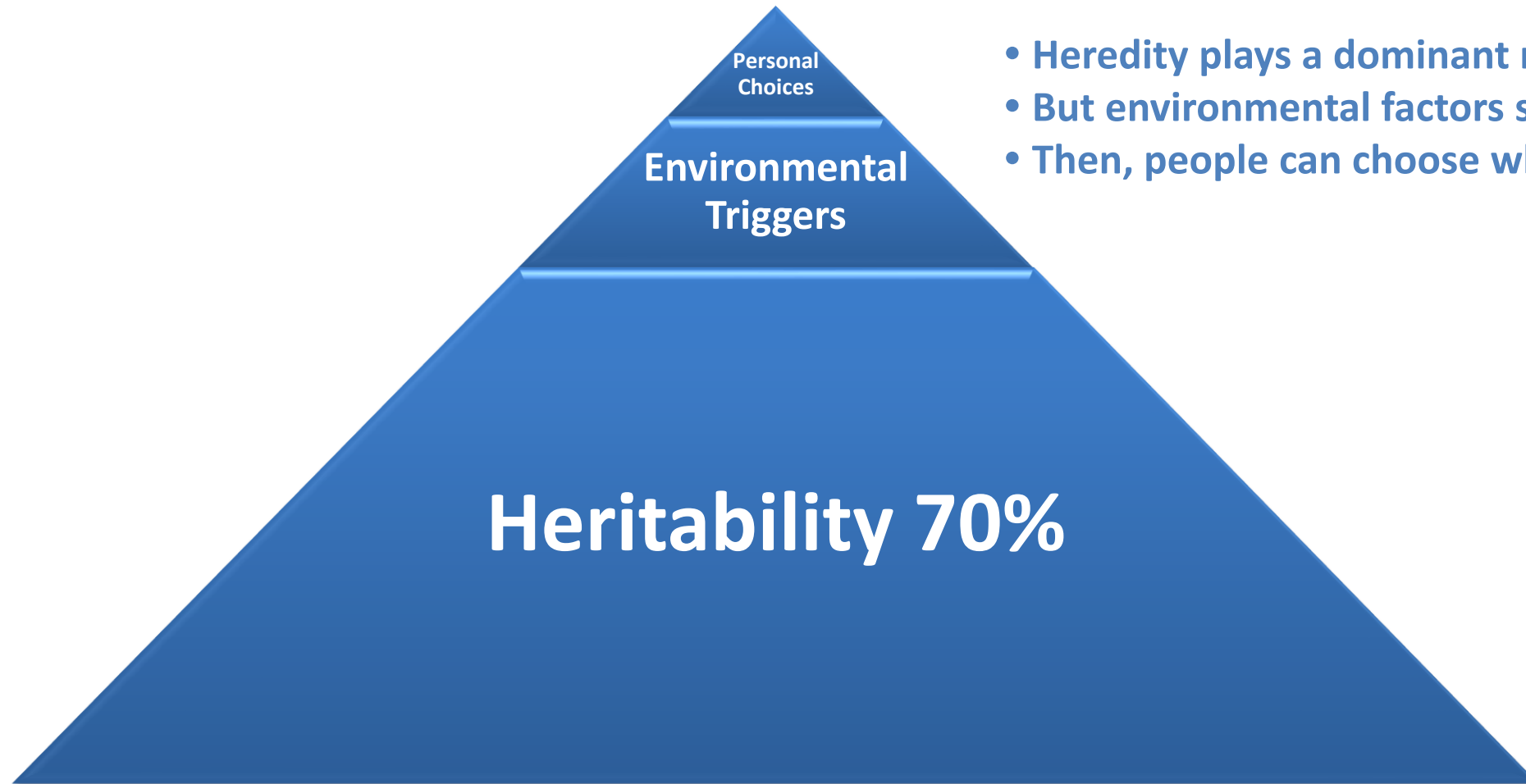
Even Today, Healthcare Providers Misunderstand Obesity



*"Let's confront the **elephant** in the room. Healthcare policy should promote personal **responsibility**, rather than encourage free riders. In America we are free to **overeate** and **under-exercise** but we have **no right** to make **innocent bystanders pay** for the consequences."*

– Marilyn M. Singleton, MD, JD
Past President, Association of American Physicians and Surgeons
Jan 11, 2020

The Truth Is That Obesity Is a Highly Heritable Chronic Disease



Is It All About Energy Balance?

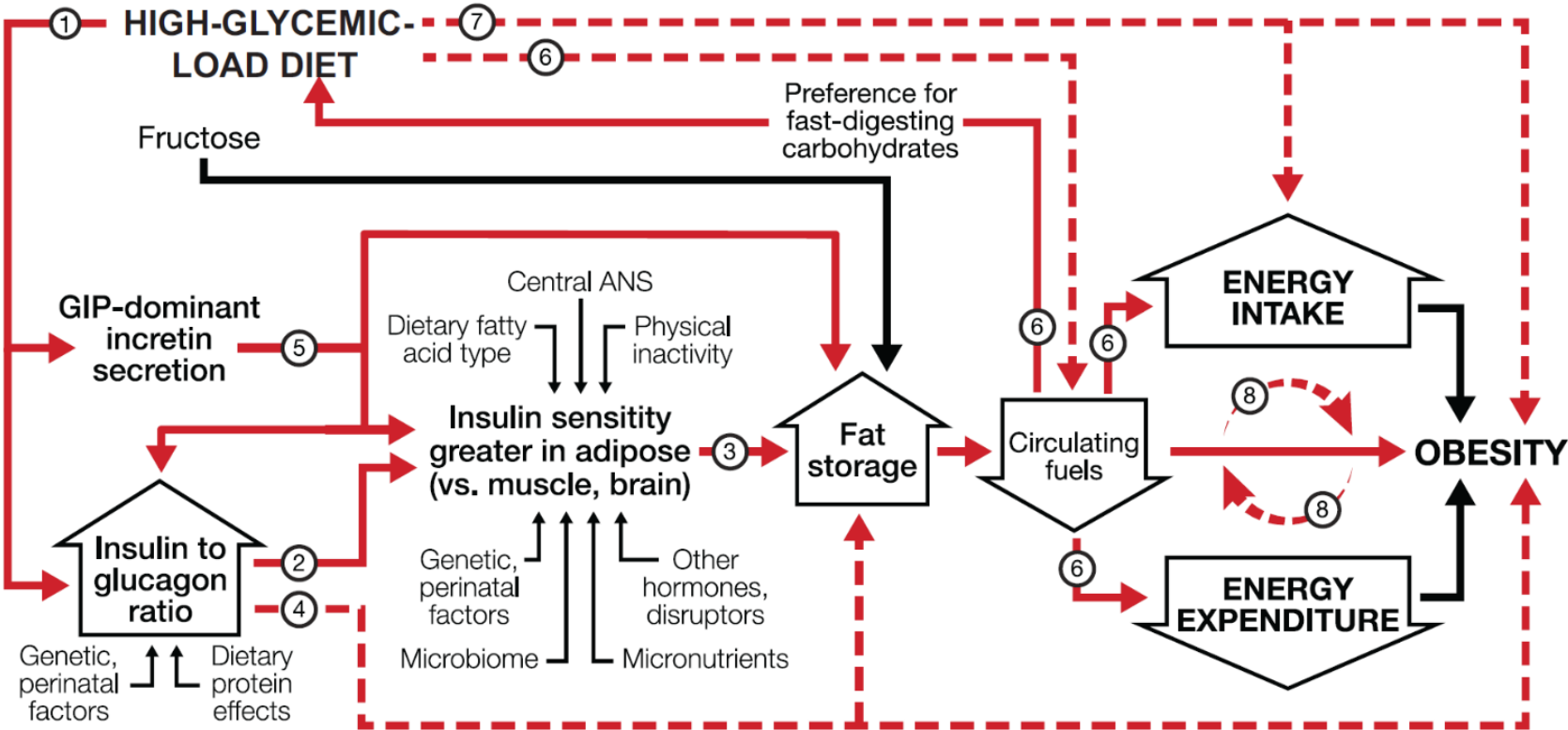


Is It All About Energy Balance?



How About Carbs and Insulin?

Dynamic Phase of Obesity Development in the Carbohydrate-Insulin Model



Source: Ludwig et al, AJCN, 2021.09.13

How About Carbs and Insulin?

REVIEW DOI: 10.1111/obr.13195

OBESITY
Reviews

WILEY

Low-carbohydrate ketogenic diets in body weight control: A recurrent plaguing issue of fad diets?

Yves Schutz | Jean-Pierre Montani | Abdul G. Dulloo

4.6 | **Limits of the carbohydrate-insulin model**

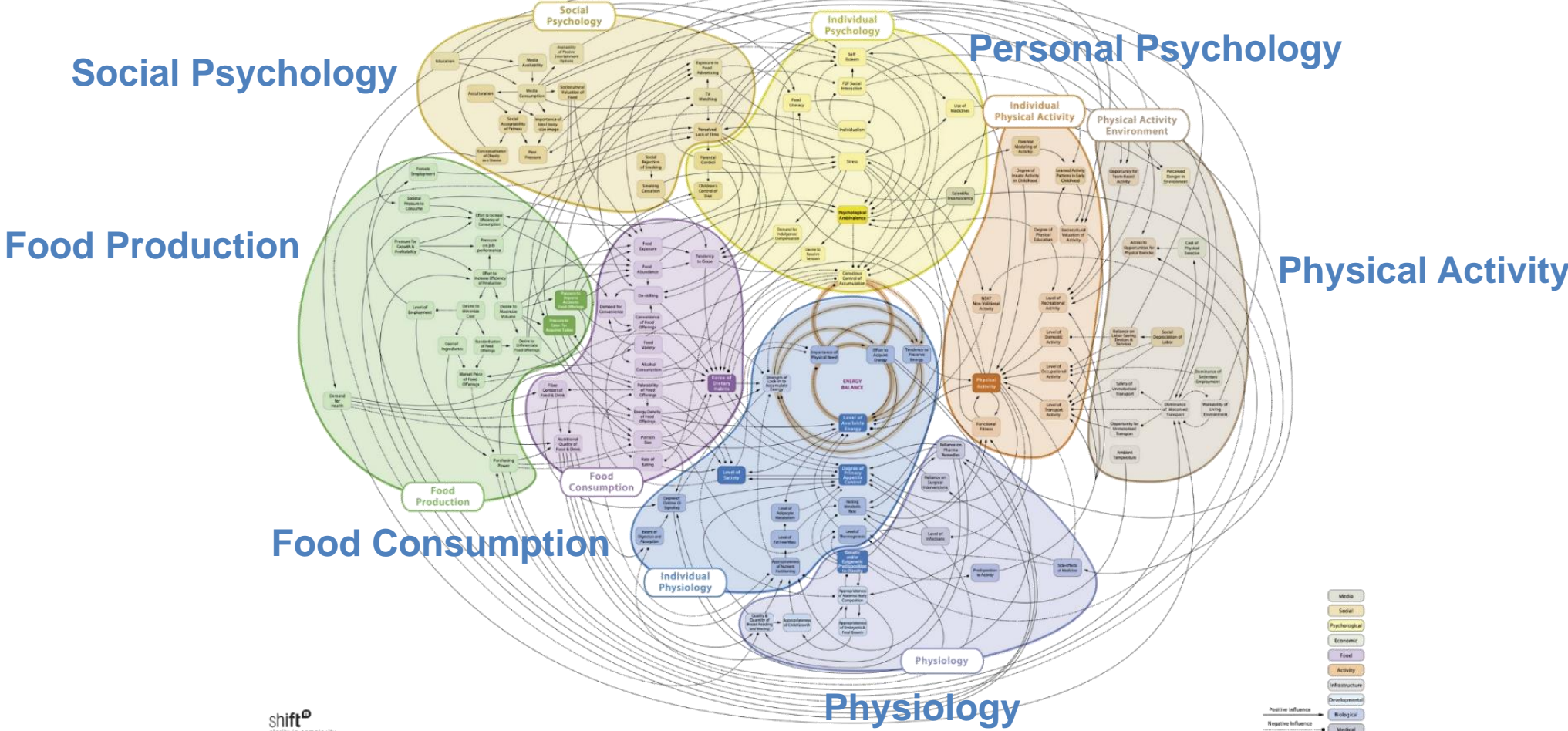
The carbohydrate-insulin model of obesity, which often forms the basis for limiting dietary CHO and hence for promoting low-CHO diets,⁹ considers the insulin released by CHO-containing meals to exert only “anabolic” effects—by diverting fuel substrates to storage in adipose tissues thereby leading to a state of cellular starvation in metabolically active tissues that would trigger increased appetite and

In Fact, Multiple Factors Are Driving Obesity Rates



Interacting with Complex, Adaptive Systems

Obesity System Map
Variable Clusters



shift[®]
clarity in complexity

Source: Vandebroek IP, Goossens J, Clemens M. 2007. Building the Obesity System Map.

Obesity Is Not What We Thought It Was

Bias Influences Research Agendas and Funding

The Impact of Bias

Starts with Research & Scientific Literature

- Observational studies
- Short-term endpoints
- Surrogate endpoints
- Publication bias
- Repetitive studies
build a bias of familiarity

“Many conjectures commonly advanced as recommendations to reduce weight gain or promote weight loss – ‘eat breakfast every day,’ ‘eat more fruits and vegetables,’ ‘eat more meals with family members,’ ‘reduce fast food availability,’ ‘eliminate vending machines from schools,’ etc. – could be tested and we should challenge ourselves to do so more often.”

Casazza and Allison:
Stagnation in the clinical, community
and public health domain of obesity

Myths and Presumptions Taken as Facts

Myths

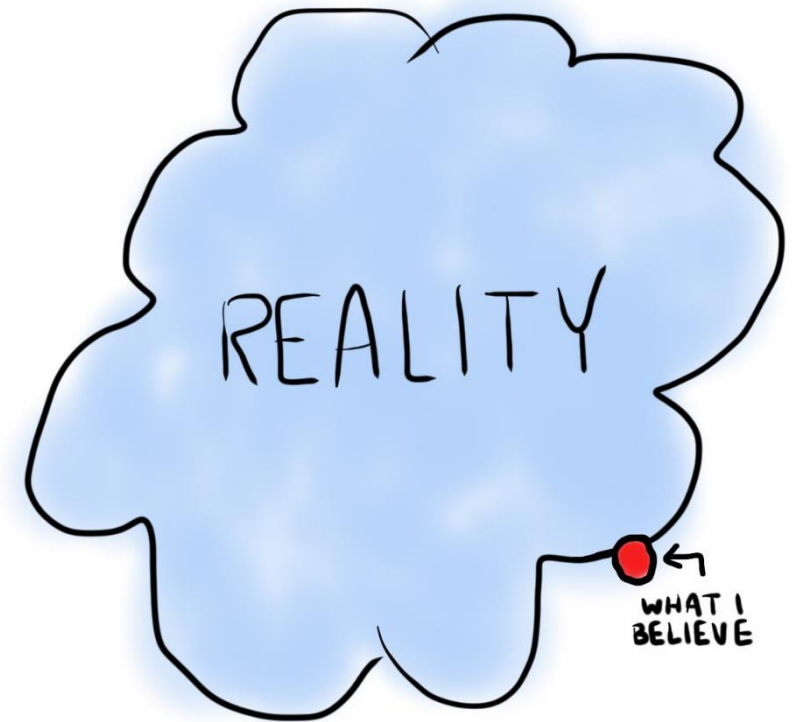
- Small energy changes add up to big weight loss
- Realistic goals yield better weight outcomes
- Slow weight loss is best
- Readiness to change matters
- PE prevents childhood obesity
- Breastfeeding prevents childhood obesity
- Sex burns 100-300 calories

Presumptions

- Breakfast prevents weight gain
- Early exercise and eating habits shape weight for life
- Eating fruits and veggies will reduce weight or prevent gain
- Snacking causes obesity
- Sidewalks and parks prevent obesity

Intellectual Investment in Presumptions Can Be Potent

- Sugar is toxic
- SSB taxes save lives
- Artificial sweeteners cause weight gain
- Obesity treatment is futile
- H.E.A.L. prevents obesity



What I Believe, image © Botgirl Questi / flickr



World Obesity Day Summit

Intellectual Investment in Presumptions Can Be Potent

≡ TIME

HEALTH • DIET & NUTRITION

Sugar Is Definitely Toxic, a New Study Says

“Dr. Robert Lustig, from the department of pediatrics at the University of California, San Francisco, who has made a name for himself publishing books and research addressing the question of sugar’s effects on the body, wanted clearer answers. Now, in a paper published Tuesday, he and his colleagues believe they have come up with the **definitive evidence** that sugar, as Lustig says, ‘is toxic.’”

Proving a Point Versus Discovering Facts

- Study design for the “sugar is toxic” study:
 - 42 subjects
 - 9 days duration
 - Dietary sugar reduced to 10%
 - No control group

“We know that a healthy diet and weight loss cause good metabolic changes, and although this study tries to attribute its effects to low fructose, in fact it is impossible to do that because of the study design.”

- Prof Susan Roberts

Intellectual Investment in Presumptions Can Be Potent

NOV. 3, 2016 9:14 AM PT

Los Angeles Times

Mexico's soda tax will save 18,900 lives and more than \$983 million over 10 years, study says

Mexico adopted an SSB tax in 2014 and survey research suggested a 12% drop in consumption by year end.

“If Mexicans sustain this pattern of consuming fewer sweetened beverages, the model developed by researchers predicts that over 10 years, the 10% excise tax could prevent 189,300 new cases of Type 2 diabetes, 20,400 strokes and heart attacks, and 18,900 deaths among adults 35 to 94 years old.”

Proving a Point Versus Discovering Facts

- Study design for the “soda tax saves lives” study:
 - Modeling study
 - Health effects assumed, not demonstrated
 - No saved lives actually documented
 - Effectiveness claims come only from data on consumption

“Despite efforts to limit sales of junk food to children and tax consumption of sugary drinks, Mexico’s diabetes problem is worsening.

“In two years, the proportion of the population suffering from the disease jumped a full percentage point to 10.3% – one of the highest rates in the world – as more than a decade of poor eating habits started to be reflected in government statistics.”

- Reuters, June 17, 2021

Intellectual Investment in Presumptions Can Be Potent

Obesity Science and Practice

Open Access



ORIGINAL ARTICLE |  Open Access |   

A child-centered health dialogue for the prevention of obesity in child health services in Sweden – A randomized controlled trial including an economic evaluation

- This prevention program “did not show statistically significant effects”
- “But is suggested to be cost-effective”

For Prevention, Believing Is Seeing and Funding Follows Beliefs



Presumptions Triumph Over Scientific Complexity



Spinning a Web, photograph © Steve Byrne / flickr

“I believe we have a pretty good idea of how to curb childhood (& adult) obesity. However, the challenge is in practical implementation within a social context that does not foster needed changes in the sociopolitical arena.”

– Comment on *Spinning for a Noble Purpose Defeats the Purpose*
July 2017

Obesity Is Not What We Thought It Was

Bias Influencing Clinical Care and Lived Experience

Health Professionals Harbor Bias Against Patients with Obesity

Presumptions that larger patients are:

- Non-compliant
- Sloppy
- Lazy
- Unsuccessful
- Lack self-control
- Unintelligent
- Awkward
- Dishonest
- Weak-willed



Prevalent Bias About Obesity

The best place to start is by simply telling the patient the truth.

“Sir or Madam, it’s not OK to be obese. Obesity is bad. You are overweight because you eat too much. You also need to exercise more. Your obesity cannot be blamed on the fast food or carbonated beverage industry or on anyone or anything else.

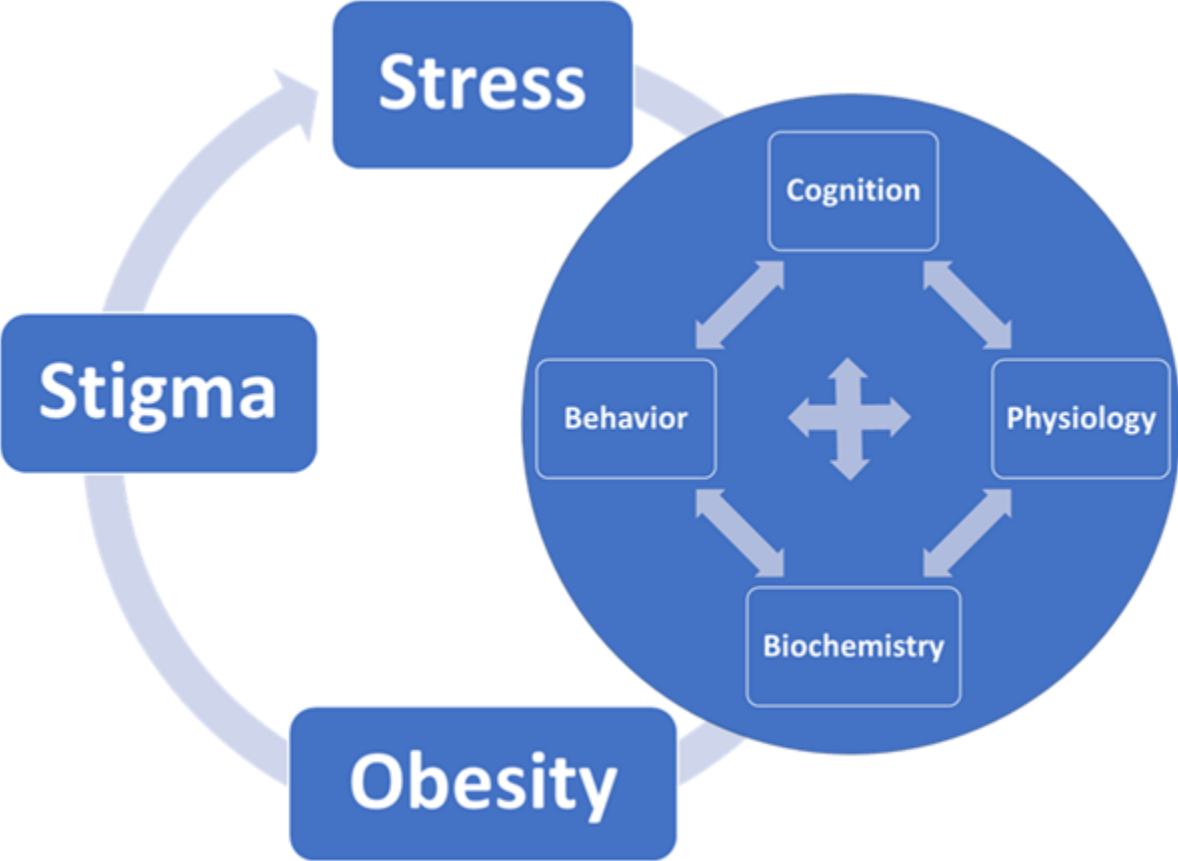
***You weigh too much because you eat too much.
Your health and your weight are your responsibility.”***

Robert Doroghazi, MD

AJM, Mar 2015

Living with Discrimination Makes People Sicker

*Pathways from
stress to obesity*



Bias Drives Policy Decisions That Affect Clinical Care

“Prevention obviously has to be the primary strategy for dealing with obesity, because there’s just too much obesity to treat.”

Good Obesity Care Requires Access To the Full Range of Obesity Care Tools



Bias Makes It Easy for Health Systems to Discourage People from Seeking Obesity Care



Saving Cash, photograph by 401(K) 2012 / flickr

- Routine policy exclusions for obesity “Regardless of any potential health benefit”
- Lifetime procedure caps
- High out of pocket costs
- Problematic reimbursement rates and procedures
- But obesity complications are fully covered

For Obesity

The Standard of Care Is No Care

- Most PCPs do not routinely address obesity
- If they do, they merely instruct the patient to lose weight
 - Referral to IBT is uncommon
 - Most physicians will not consider drug therapy
 - Few are considered for surgery



No Admittance, photograph © Martin LaBar / flickr

Self-Care Is Often the Only Option Available for Obesity



A Sample of “Patient Counseling” Delivered on the Way Out the Door

April 5, 2018

Patient Information

For: ●●● DOB: ●●●●●●

Healthy Eating

Healthy Eating for a Healthy Weight

Your BMI today: 26.97

	Normal	TODAY	2 nd Most Recent	3 rd Most Recent	4 th Most Recent
Your past BMI	< 25	26.97	26.67	26.67	26.52

- **below 23** is underweight
- **23 to 24.9** is normal
- **25 to 29** means you're overweight
- **30** or more indicates obesity

A healthy lifestyle involves many choices. Among them, choosing a balanced diet or eating plan. So how do you choose a healthy eating plan? Let's begin by defining what a healthy eating plan is.

According to the *Dietary Guidelines for Americans*, a healthy eating plan:

- Emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products
- Includes lean meats, poultry, fish, beans, eggs, and nuts
- Is low in saturated fats, *trans* fats, cholesterol, salt (sodium), and added sugars
- Stays within your daily calorie needs

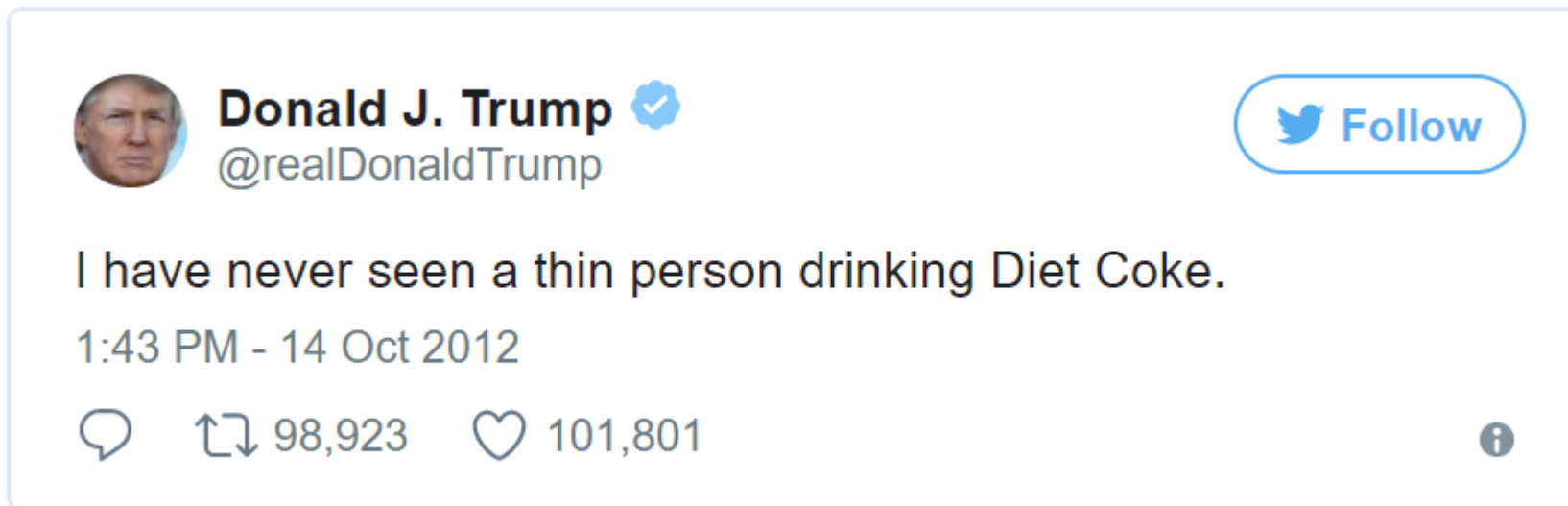
Obesity Is Not What We Thought It Was

Bias Influencing Health Policy

Bias Favors Simplistic Policy Solutions



Correlations Can Become Foundations for Policy



Correlations Can Become Foundations for Policy

Nonnutritive sweeteners and cardiometabolic health:

A systematic review and meta-analysis of randomized controlled trials and prospective cohort studies

Observational Studies

“We found that consumption of nonnutritive sweeteners was **associated** with modest long-term weight gain in observational studies.”

Randomized Trials

“Previous reviews concluded that, although data from RCTs support weight-loss effects from sustained nonnutritive sweetener interventions, observational studies provide inconsistent results. Building on these findings, we included new studies and found that consumption of nonnutritive sweeteners was not generally associated with weight loss among participants in RCTs, **except in long-term (≥ 12 mo) trials with industry sponsorship.**”

Conclusion

Given the widespread and increasing use of nonnutritive sweeteners, **caution is warranted** until the long-term risks and benefits of these products are fully characterized.

Correlations Can Become Foundations for Policy

philly.com

The Inquirer
DAILY NEWS

Surprised by diet soda tax, some health experts say: Why not?

Updated: JUNE 11, 2016 — 1:07 AM EDT

by Don Sapatkin, Staff Writer

Philadelphia City Council's decision to include diet drinks in a proposed beverage tax took public-

If You're Trying to Lose Weight, Avoid This One Food at All Costs

Toss out those Splenda packets, stat! They won't move the scale in the right direction.

BY BROOKE NELSON

Myths and Presumptions Become the Basis for Policy Decisions

- Low-fat dietary recommendations
- Reliance on breastfeeding programs to prevent childhood obesity
- Investments to eradicate food deserts
- Restaurant menu labeling



Allegory, painting by El Greco / National Galleries Scotland

BMI Screening in Schools Was a Policy Driven by Presumptions



SUPPLEMENT ARTICLES | SEPTEMBER 01 2009

BMI Measurement in Schools

Allison J. Nihiser, MPH; Sarah M. Lee, PhD; Howell Wechsler, EdD; Mary McKenna, PhD; Erica Odom, MPH; Chris Reinold, PhD, RD; Diane Thompson, MPH, RD; Larry Grummer-Strawn, PhD

CONCLUSION: Schools initiating BMI-measurement programs should adhere to safeguards to minimize potential harms and maximize benefits, establish a safe and supportive environment for students of all body sizes, and implement science-based strategies to promote physical activity and healthy eating.



Possible Unintended Consequences of Screening



ELSEVIER

Clinical Psychology Review

Available online 8 July 2019, 101753

In Press, Accepted Manuscript [?](#)



Review

Does perceived overweight increase risk of depressive symptoms and suicidality beyond objective weight status? A systematic review and meta-analysis

Ashleigh Haynes ^{a, b}  , Inge Kersbergen ^c, Angelina Sutin ^d, Michael Daly ^{e, f}, Eric Robinson ^a

- Perception of overweight explains the association between high BMI, depression, and suicidality
- Risk/benefit assessment of screening should consider the possibility for unintended consequences

BMI Screening in Schools Has No Benefit and Possible Harm

This Issue

Views **2,168**

Citations **11**

Altmetric **167**

JAMA Pediatrics



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Original Investigation

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November 16, 2020

Effect of School-Based Body Mass Index Reporting in California Public Schools

A Randomized Clinical Trial

Kristine A. Madsen, MD, MPH¹; Hannah R. Thompson, PhD, MPH²; Jennifer Linchey, MPH²; [et al](#)

“ Body mass index reports alone do not improve children’s weight status and may decrease weight satisfaction. To improve student health, schools should consider investing resources in evidence-based interventions. ”

Fear and Dread Campaigns Are Unhelpful



Dietary Guidance Sometimes Relies Upon Observational Evidence

“Some researchers consider RCTs as the be-all and end-all of causal inference. This sentiment may be appropriate in the pharmaceutical industry, but the drug trial paradigm cannot be readily translated for use in the nutritional sciences.”

Satija et al, 2015, AdvNutr
Understanding Nutritional Epidemiology and Its Role in Policy

Uncontrolled Policy Experiments

The New York Times

Magazine

What if It's All Been a Big Fat Lie?

By GARY TAUBES

If the members of the American medical establishment were to have a collective find-yourself-standing-naked-in-Times-Square-type nightmare, this might be it. They spend 30 years ridiculing Robert Atkins, author of the phenomenally best-selling "Dr. Atkins' Diet Revolution" and "Dr. Atkins' New Diet Revolution," accusing the Manhattan doctor of quackery and fraud, only to discover that the unrepentant Atkins was right all along. Or maybe it's this: they find that their very own dietary recommendations -- eat less fat and more carbohydrates -- are the cause of the rampaging epidemic of obesity in America. Or, just possibly this: they find out both of the above are true.



Lendon Flanagan for The New York Times

How Well Does Health Policy Serve Basic Principles of Healthcare Ethics?

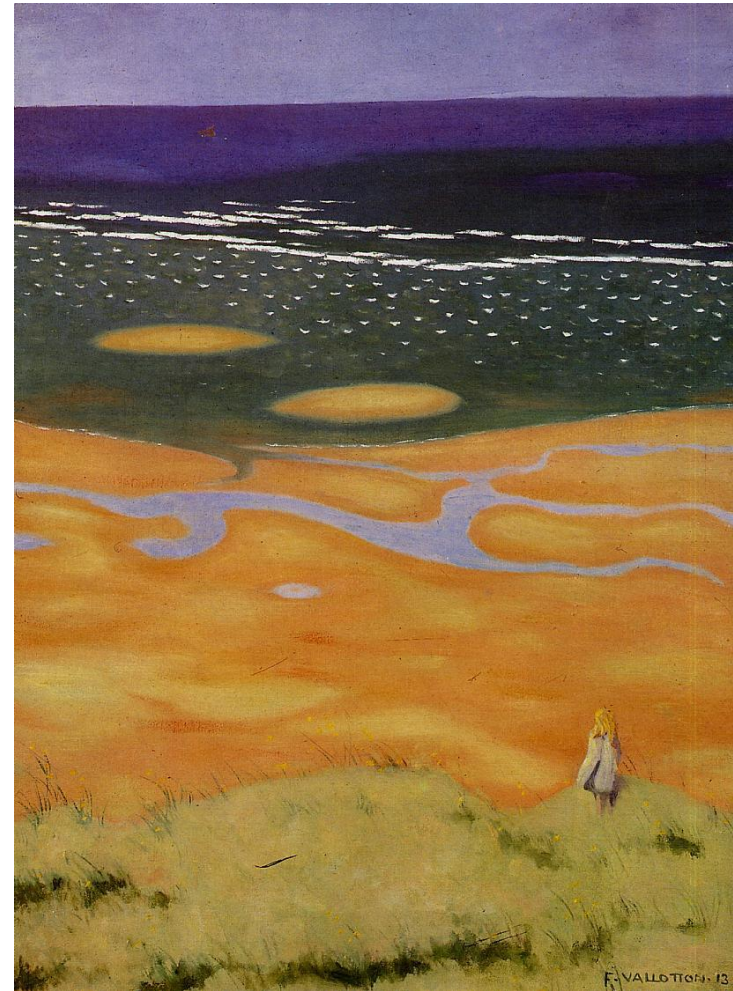
- **Autonomy**
 - Tell the truth and let people decide for themselves
- **Nonmaleficence**
 - Do no harm
- **Beneficence**
 - Do good
- **Justice**
 - Be fair and equitable



Awaiting Justice, photograph © Howard Ignatius / flickr

Key Problems with Policies for Obesity

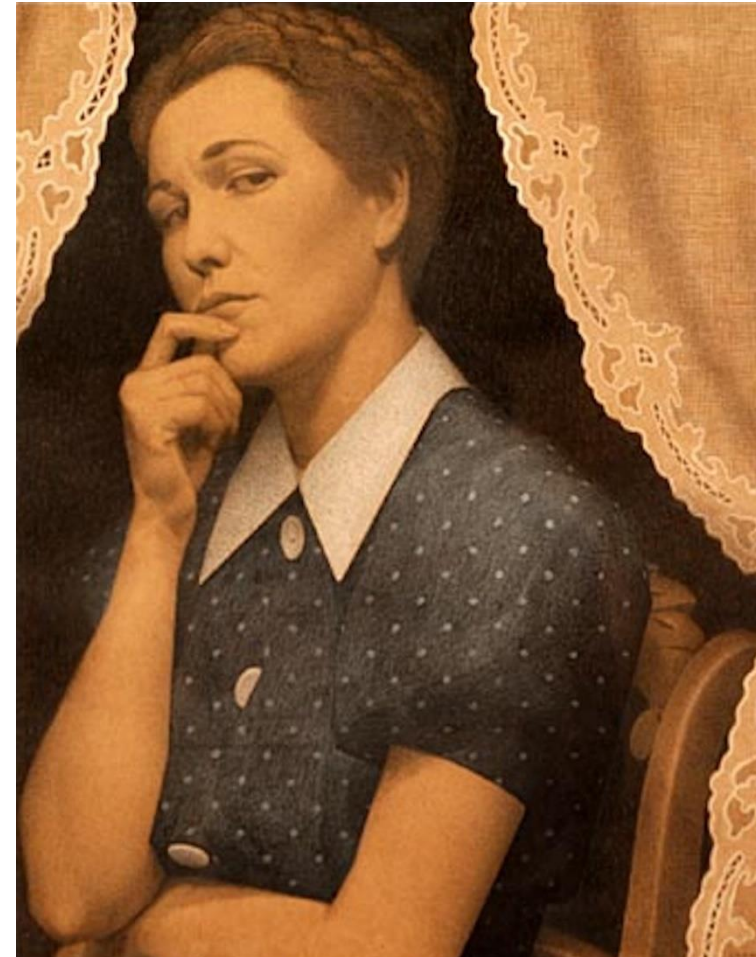
- Relying on HEAL to prevent obesity
- Limiting treatment to diet & exercise



The Rising Tide, painting by Felix Vallotton / WikiArt

Making the Perfect an Enemy of the Good?

- Healthy eating and active living are important coping skills
- The DPP clearly helps people avoid progressing to T2D



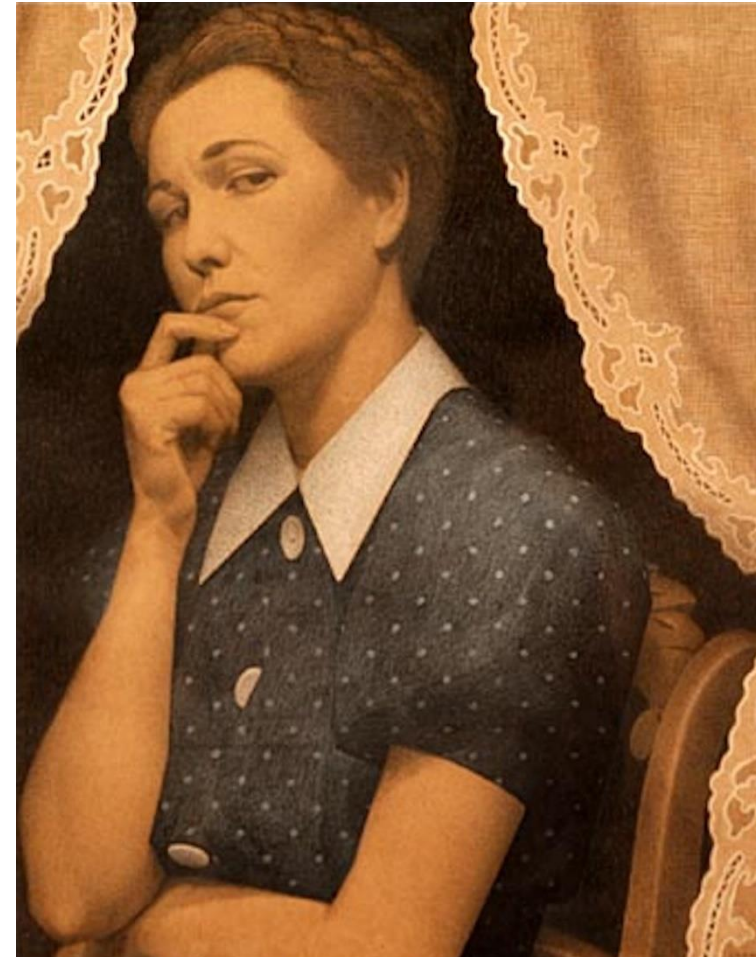
The Perfectionist, painting by Grant Wood / WikiArt

Making the Perfect an Enemy of the Good?

- Healthy eating and active living are important coping skills
- The DPP clearly helps people avoid progressing to T2D

...But

- DPP reach is a small fraction of people living with OW and obesity, ~425,000 through 2019
- Hard to expect an impact on population health



The Perfectionist, painting by Grant Wood / WikiArt

Thus, the Need for Advocacy Is Great

- Ineffective policies
- Too few options
- Blame and shame
- Gross discrimination
- All compounded by self-stigma



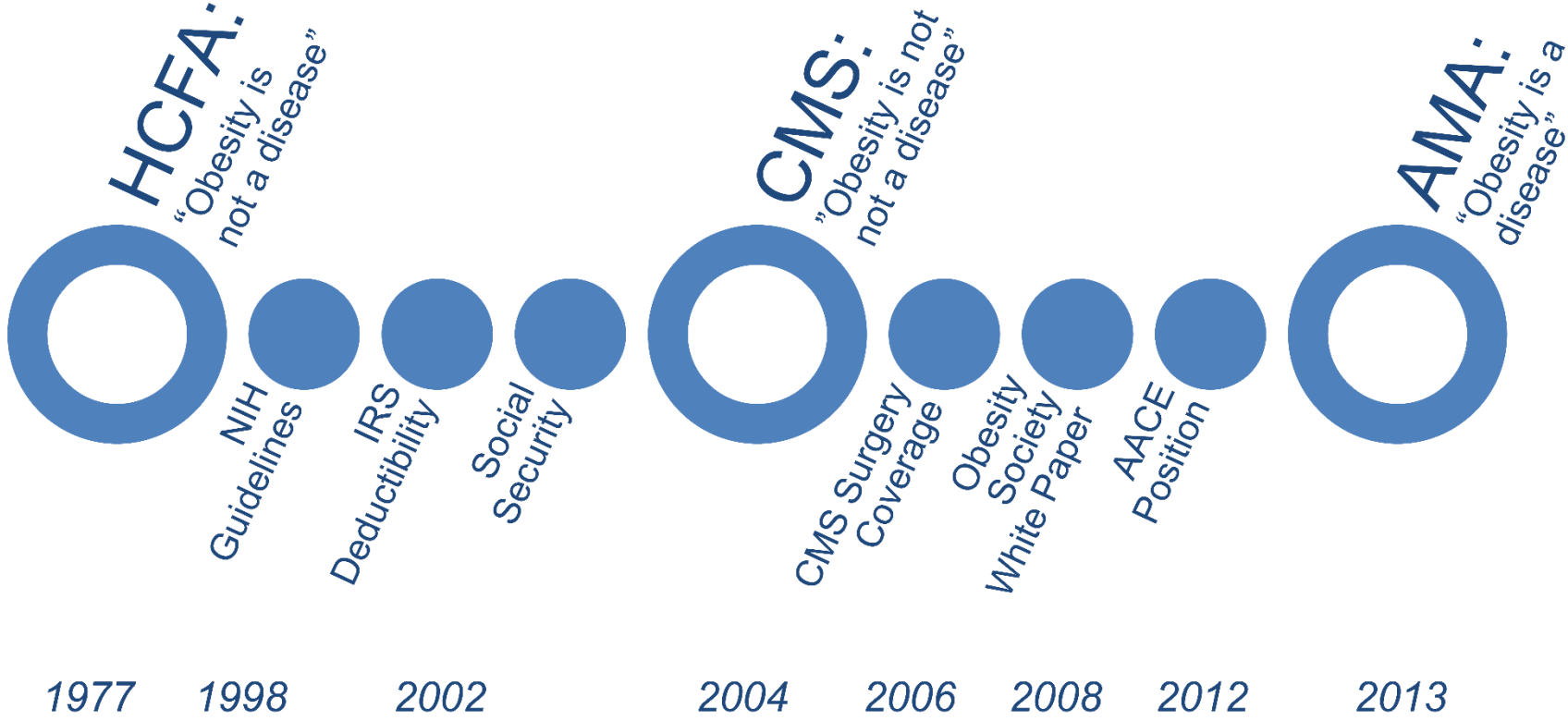
False Shame, lithograph by Hans Erik Krause / WPA Federal Art Project

So Where Do We Go from Here

The Pathway to Progress In Reducing the Harm of Obesity

In 1977, Obesity Was Officially Not a Disease

Milestones in Regarding Obesity as a Disease



Progress Since AMA Recognized Obesity As a Complex, Chronic Disease

- >5,000 board certified obesity medicine physicians
- AAPeds recognizes the value of bariatric surgery
- Growing regard for the lived experience
- Growing R&D investment by pharma



Progress Coffee, photograph © dingatx / flickr

Explicit Bias Is Down, But Implicit Bias Is Growing

Dimension	Explicit Bias Trend 2007-2016	Implicit Bias Trend 2007-2016
Sexuality	↓	↓
Race	↓	↓
Skin Tone	↓	↓
Age	↓	↔
Disability	↓	↔
Weight	↓	↑

Source: Charlesworth & Banaji, 2019, *Psychological Science*

Diverse Perspectives About Obesity

- Fat acceptance

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Why I'm Trading Body Positivity for Fat Acceptance



Photograph © Obesity Action Coalition / OAC Image Gallery

Diverse Perspectives About Obesity

- Fat acceptance
- Health at Every Size®



Fencing at FNCE: HAES and Weight Management

Yesterday [at FNCE](#), dietitians witnessed an event with a split personality. Was it a debate? Or was it a conversation? The title said it was both – a debate and a conversation on weight management and Health at Every Size®. (People in the HAES movement want you to know, that's their trademark.)

Diverse Perspectives About Obesity

- Fat acceptance
- Health at Every Size®
- Self stigma

"I've struggled my entire life trying to manage my weight, and I suck at it."



Photograph Andy Thornley / Wikimedia Commons

Diverse Perspectives About Obesity

- Fat acceptance
- Health at Every Size®
- Self stigma
- **Disordered eating**



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How Fatphobia Prevented Me from Getting Help for My Eating Disorder

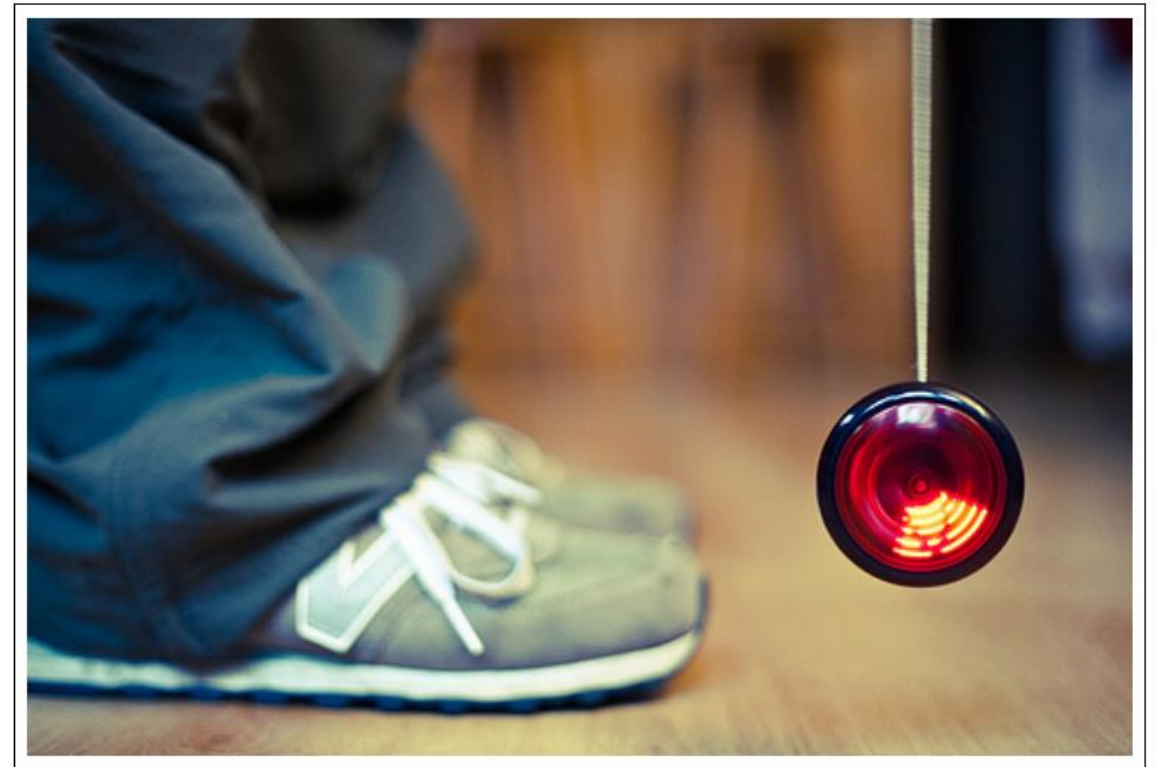


Medically reviewed by [Timothy J. Legg, Ph.D., CRNP](#)

Weight discrimination within the medical community can mean those who have an eating disorder but who aren't underweight can find it difficult to...

Diverse Perspectives About Obesity

- Fat acceptance
- Health at Every Size®
- Self stigma
- Disordered eating
- **Cycles of weight loss and gain**



Yo-Yo Dieting: A Seductive Mix of Myth and Reality

Diverse Perspectives About Obesity

- Fat acceptance
- Health at Every Size®
- Self stigma
- Disordered eating
- Cycles of weight loss and gain
- **Informed and engaged**



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Opportunities

- **Objectivity**
 - Acknowledge evidence gaps
 - Use robust research to inform policy
- **Curiosity**
 - To better understand obesity
 - To build a stronger evidence base
- **Care for people with obesity**
 - Improve awareness of bias and eliminate it
 - Respect diverse perspectives
 - Translate robust evidence into practice



Targets of Opportunity, photograph by Randy Robertson / flickr

Advocacy Is Essential

- To demand respect for diverse lived experiences
- To bring accountability for policy outcomes
- To deliver better care, better health, and better lives



Respect, photograph © Nathan Siemers / flickr

More Information



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