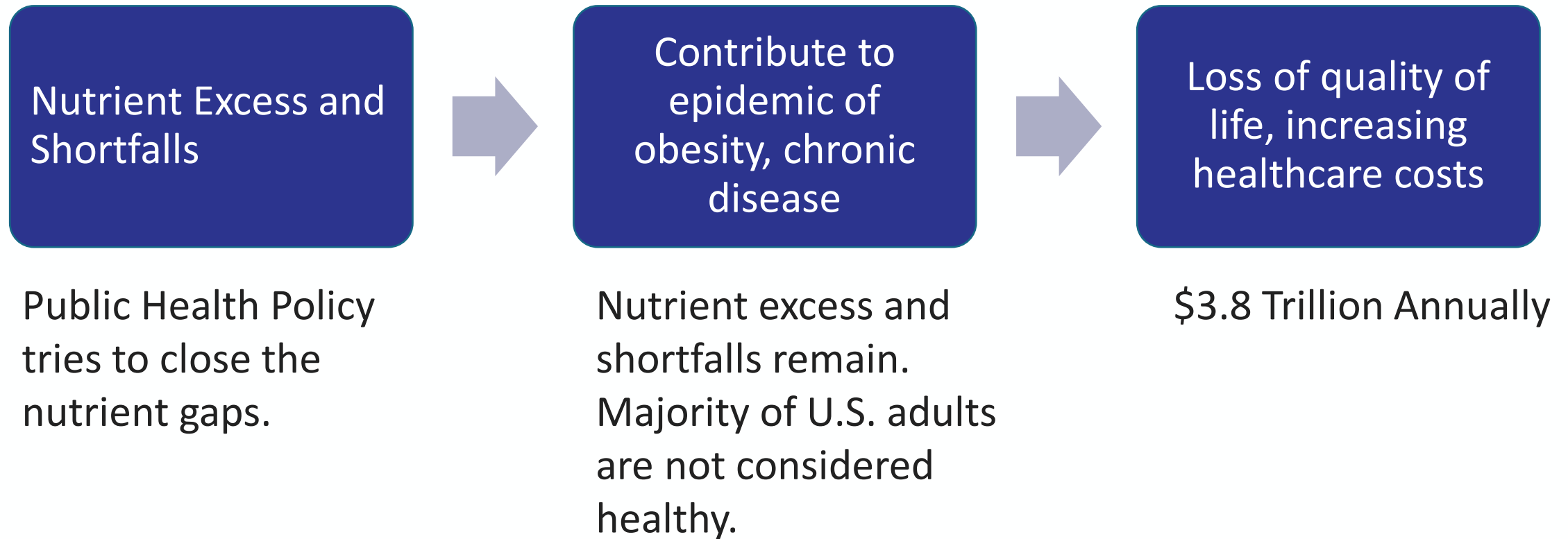




# The “P” Word Conundrum: Overcoming the Perception of Frozen’s Processing



# Today's Food and Health Connection



CDC, 2020; McKinsey 2020

# The NOVA System Defined “Ultra Processed Foods”

More than a 15 years ago, the obesity and chronic disease epidemic caught the attention of a professor in Brazil, Carlos Monteiro. Inspired by the observation that Brazil was becoming less healthy as the food supply changed from traditional local fare to include more packaged foods from global food manufacturers, he and his colleagues at Sao Paulo University created, published and popularized a new framework to describe healthy and unhealthy food that focused on ingredients and how the food was processed, not on its nutrient profile.

They named their new system NOVA. NOVA divides foods into 4 categories.

## Ultra-processed foods: what they are and how to identify them

Published online by Cambridge University Press: 12 February 2019

Carlos A Monteiro, Geoffrey Cannon, Renata B Levy, Jean-Claude Moubarac,

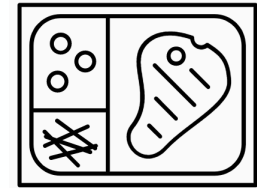
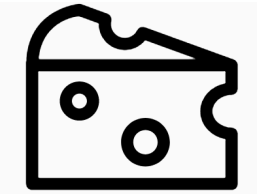
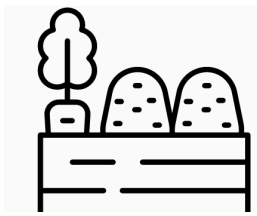


**NOVA Group 1:** Unprocessed and Minimally Processed Foods

**NOVA Group 2:** Processed Culinary Ingredients

**NOVA Group 3:** Processed Foods

**NOVA Group 4:** Ultra-Processed Foods



#### The NOVA View of How Food Impacts Health

Consume excess **ultra processed foods**



Contributes to epidemic of obesity, chronic disease



Loss of quality of life.  
Increasing healthcare costs.

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## Support the Inclusion of Frozen Food in Federal Nutrition Programs

Frozen food can help families overcome the barriers to healthy eating.

The Supporting All Healthy Options When Purchasing Produce (SHOPP) Act will make produce more accessible by promoting the increased inclusion of frozen fruits and vegetables for participants in the Supplemental Nutrition Assistance Program (SNAP).



Show your support  
now:



Learn more about  
the SHOPP Act:



**If we need to reference**

# UPF Further Described

- “Formulations of ingredients used almost exclusively by industry that result from a series of processes”
- The 3 main characteristics of these foods are
  - 1) the ingredients are fractured from whole food,
  - 2) industrial processes are used, like hydrolysis, hydrogenation, extrusion and pre-frying, and/or
  - 3) additives are used to make the foods highly palatable and to reduce cost.
- UPF foods are hyperpalatable, highly profitable (low-cost ingredients, long shelf life, branded), convenient and aggressively marketed. Packaging, health claims, placement on shelf, and advertising have caused UPF to replace unprocessed, minimally processed or freshly prepared dishes around the world.

# More Than Half of What Americans Eat Is 'Ultra-Processed'

And those foods account for 90 percent of U.S. added sugar intake, new research says.

JULIE BECK MARCH 10, 2016



Coast Mountain News

## 46% of Canadians' daily calories come from 'ultra-processed' food: Stats Can

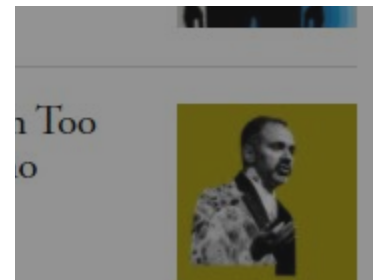
46% of Canadians' daily calories come from 'ultra-processed' food: Stats Can. Ultra-processed refers to foods that are 'mainly formulations of ...



Civil Eats

## Op-ed: The Rise of Ultra-Processed Foods Is Bad News for Our Health

And we're eating more of them than ever before, partially because of aggressive marketing and lobbying by "Big Food." Ultra-Processed Foods ...



FROZEN IQ

# UPF Appears in Dietary Guidelines

## Brazil Dietary Guidelines Adopt UPF Concept

1. Make natural or minimally processed foods the basis of your diet
2. Use oils, fats, salts, and sugars in small amounts when cooking
3. Limit consumption of processed foods
4. Avoid consumption of ultra-processed foods

## Canada Dietary Guidelines advises limiting processed foods based on nutrient content

Processed or prepared foods and beverages that contribute to excess sodium, free sugars, or saturated fat undermine healthy eating and should not be consumed regularly.

*2025-2030 United States Dietary Guidelines Advisory Committee is Studying Relationship of UPF to Obesity*

**COVID19  
brings  
awareness  
to food  
system,  
poor diets,  
and illness**

## **Food System Headlines**

*Has Pandemic Snacking Lured Us  
Back to Big Food and Bad Habits?*

The US Food System is Killing  
Americans

*The Sickness in Our  
Food Supply*

Covid Puts a Spotlight on the  
Food Industry's Role in Obesity

*Obesity and COVID-19:  
Americas Diet Takes Its Toll*

*What does junk food have to do with  
COVID-19 deaths?*

The Coronavirus Reveals The 'Invisible  
Inequalities' in Our Food System

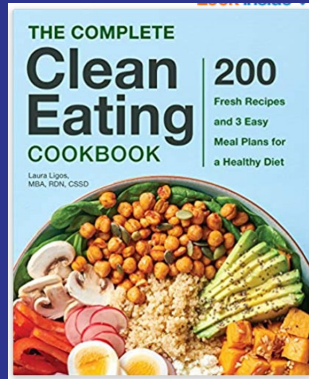
A call for a National Agenda for  
a Healthy, Equitable and  
Sustainable Food System

The rise of ultra-processed  
foods and why they're really  
bad for your health

Sylvia Rowe, Oct 2020

# Popular diet plans all restrict processed food

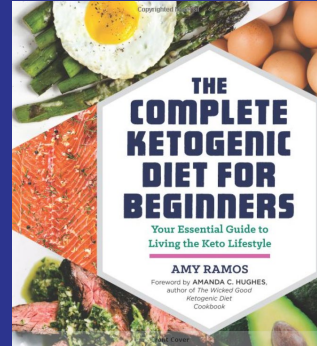
## Clean Eating



### TAKE FIVE

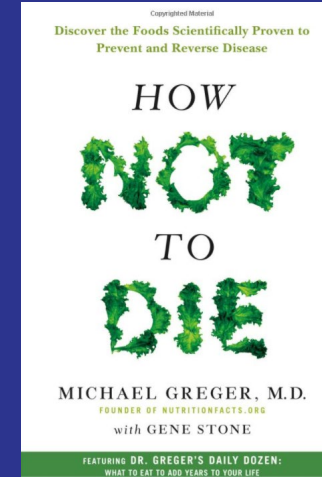
Master the 5 Core Clean Eating Principles: choose whole foods, limit sugar, mind your portions, drink plenty of water, and move your body.

## Paleo/Whole30/Keto



Eliminates refined grains, added sugars, and vegetable oils

## Plant Based



Whole-food, plant based diet limits all processed food

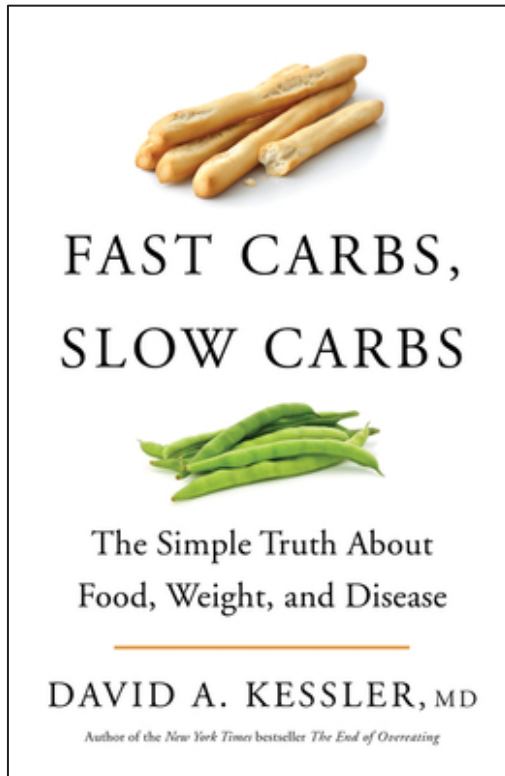
## WW (Weight Watchers)



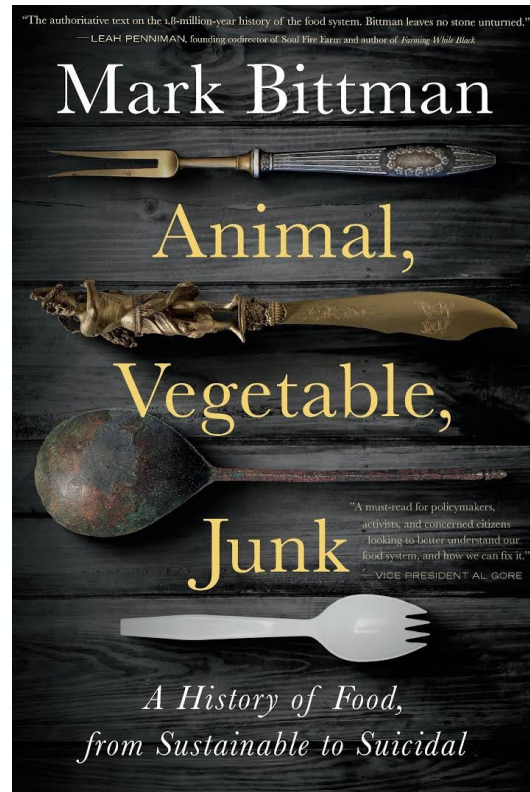
Zero points foods include whole grains, vegetables, fruits, and lean proteins

# Influencers decry UPF: David Kessler, Mark Bittman, Michael Moss, Robert Lustig

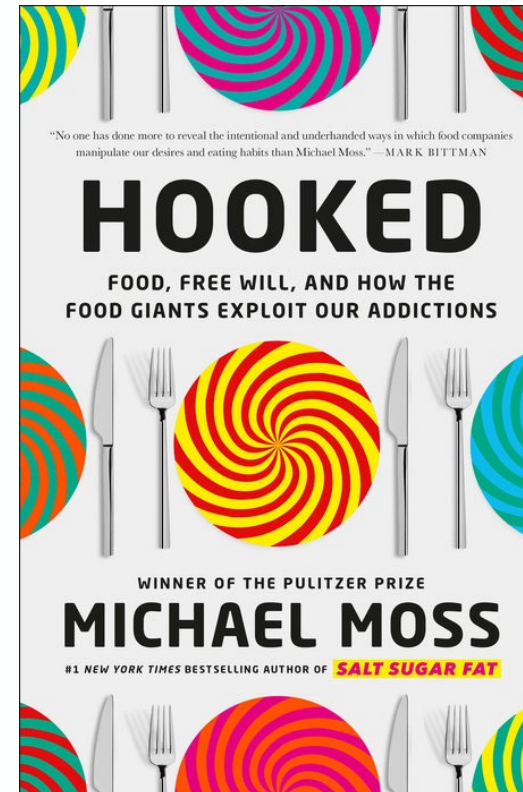
March 2020



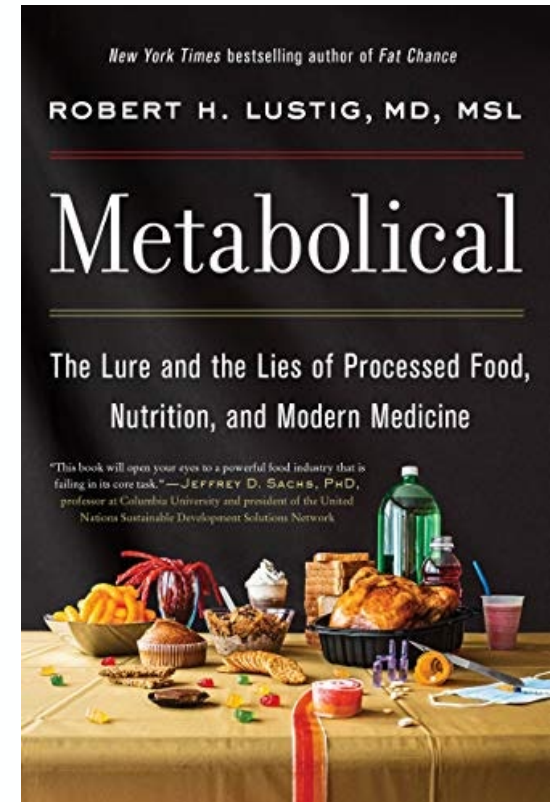
February 2021



March 2021



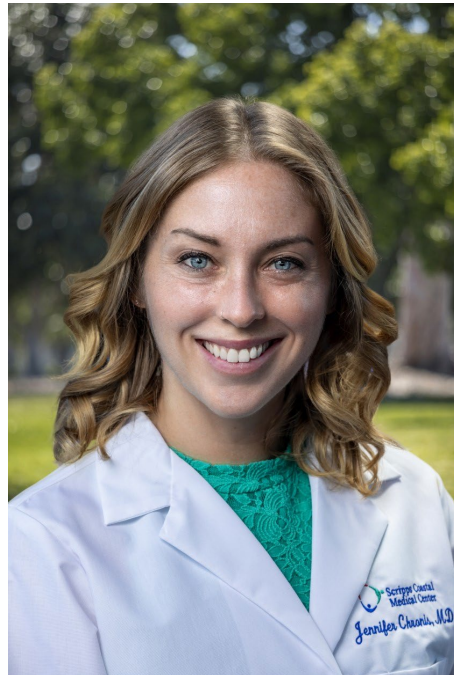
May 2021



# Will processed food avoidance become the new shorthand for healthier eating?

**The San Diego Union-Tribune**

Updated dietary guidelines fall short, some health experts say



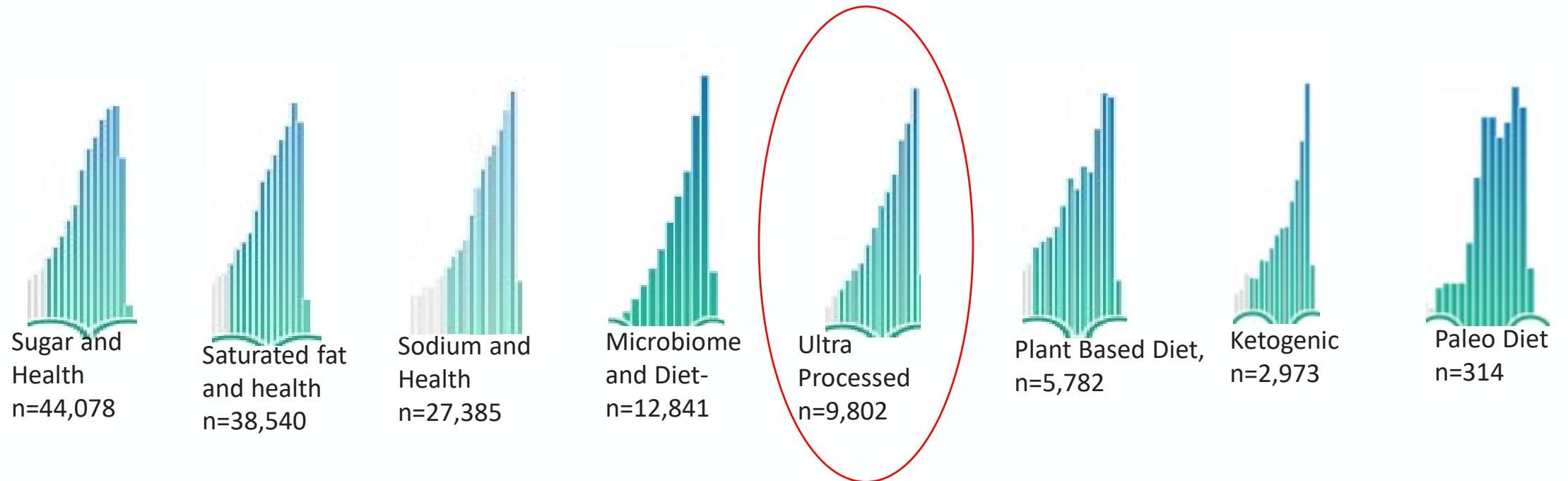
- Processed foods of all kinds are considered less healthy than unprocessed food.
- “My general rule of thumb is if nature made it — or all the ingredients in it — then go for it,” Chronis commented. “But if a factory or machine made it, use sparingly or — even better — not at all!”

# What's Different Now?

The Scientific Community is Studying NOVA Extensively

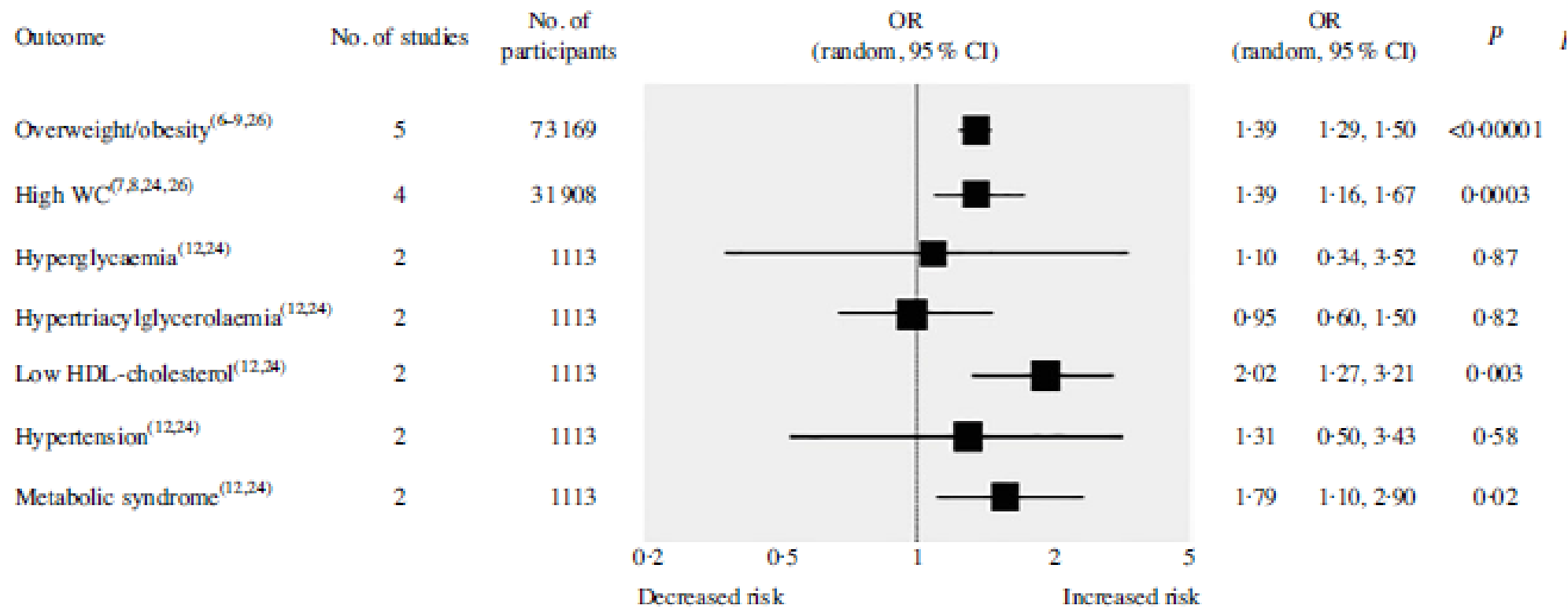
# Number of scientific publications on UPF is relatively low, but growing rapidly

Number of Published Studies 2009 - 2021



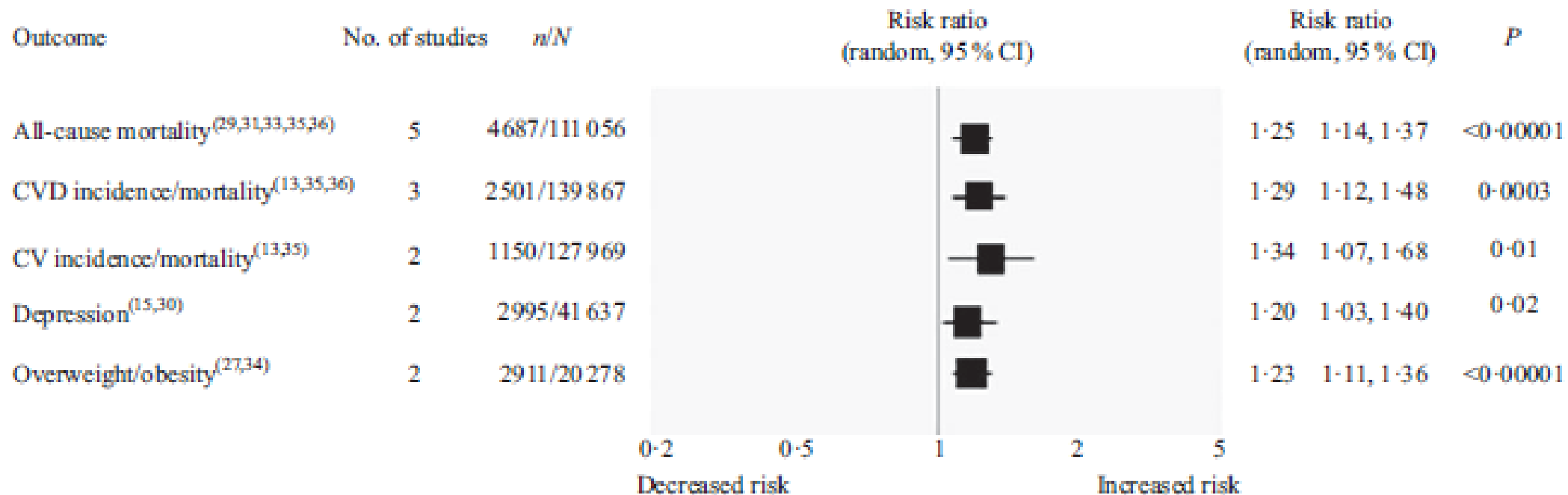
# Observational studies show relationship between UPF and poor health outcomes

Meta analysis of 10 cross-sectional studies from France, Brazil, Lebanon, Canada and US showed 39% greater risk of overweight/obesity & high waist circumference, 200% greater risk of low HDL, 79% greater risk of metabolic syndrome (high bp, high chol, high blood sugar) in those with highest intake compared to lowest intake of UPF. Results show a relationship, not cause-effect.



# Longitudinal studies show relationship between UPF and poor health outcomes

13 Prospective Cohort Studies from Spain, France, Brazil, Italy, & US followed 183,491 participants between 3-19 years and showed 20-34% increased risk of all cause mortality, heart disease, stroke, depression and overweight/obesity in those with highest UPF intake compared to lowest UPF intake. Results do not show cause-effect.

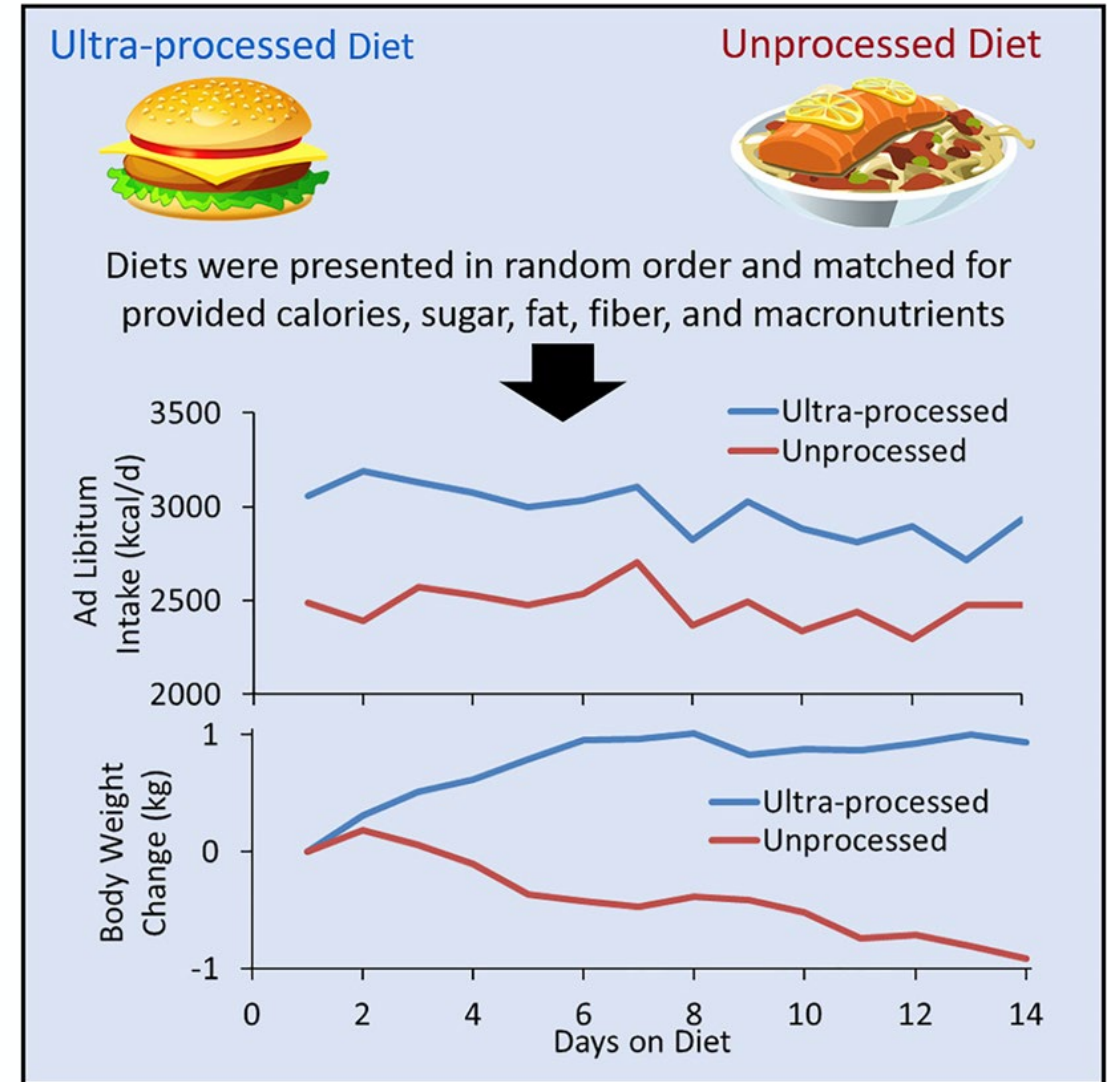


# One Controlled Clinic Trial, funded by NIH

*Title: Ultra-Processed Diets Cause Excess Calorie Intake and Weight Gain: An Inpatient Randomized Controlled Trial of Ad Libitum Food Intake*

## Highlights

- 20 inpatient adults ate UPF and unprocessed diets for 14 days each.
- Diets were matched for presented calories, sugar, fat, fiber, carbs and pro.
- Ad libitum intake was ~500 kcal/d more on the UPF vs unprocessed diet.
- Body weight increased accordingly



# Summary

- Over the past decade UPF has gained a foothold among advocates and mainstream scientists. It suggests that foods made with highly processed ingredients and industrial methods contribute to poor diets.
- The balance of research, while early, supports increased health risk when diets are higher compared to lower in UPF.
- COVID19 has created a heightened awareness of disparity in diet quality and its association with disease outcomes.
- Policy may proceed without solid science. Important to watch how policies progress internationally.
- Engagement –
  - Monitor consumer/customer interest, scientific research, and regulatory environment
  - Engage with pragmatic scientific community to learn