ARTICLE

FAT MIGHT BE FABULOUS: CHALLENGING CONVENTIONAL WISDOM ON AMERICAN HEALTH LAW & POLICY

*Gail Brennan, Steve Calandrillo & Eli Cooper-West**

Would you change your diet if you found out it were based in a lie? Unfortunately, United States law and health policy makers have consistently answered this question in the negative. Americans have been told by our governmental agencies for 50+ years that dietary fat is bad. Our laws, policies, and public health regulations reflect that fact, vilifying saturated fat, and animal foods in particular, while vehemently promoting grain consumption. Witness the USDA food pyramid (which pushes grains at ten times higher quantities than fats) that generations of children have learned about and been served in school cafeterias. What if the scientific basis for our governmental nutrition policy is based on one big fat lie? As it turns out, not only does dietary saturated fat lack the killer quality that we have been led to believe it does, but it may be actively healthy for most humans, while ultra-processed grains pose a much larger threat. We all know that correlation does not equal causation. Sadly, a handful of scientists more interested in preserving their hypothesis than in pursuing the scientific method, coupled with the outsized influence of corporate lobbyists, have manipulated our health and public policy decisions so significantly that negative attitudes toward saturated fat are today received as conventional wisdom. It is past time to revisit the science behind our understanding that fat is evil, and adapt our laws and public health regulations to what the true science says – that fat can be fabulous.

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* Steve Calandrillo, Jeffrey & Susan Brotman Professor of Law, University of Washington School of Law. B.A. in Economics, UC Berkeley; J.D., Harvard. stevecal@uw.edu.

Gail Brennan, Director of Marketing, Top 10 Global Bank. B.A. in Economics, UC Berkeley; MBA, Fuqua School of Business, Duke University. Gail.brennan1@gmail.com.

Eli Cooper-West, B.A. University of Washington; J.D. Candidate, University of Washington School of Law. ecw22@uw.edu.

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INTRODUCTION

If you are someone who pays any attention to diet and health, you have certainly heard about the importance of avoiding saturated fat.[1] You have been told that saturated fat, particularly in animal foods, will likely give you a heart attack someday, and have been pressed to choose "heart healthy" options instead, such as vegetable oil over butter, tofu over steak,

[1] NINA TEICHOLZ, THE BIG FAT SURPRISE: WHY BUTTER, MEAT AND CHEESE BELONG IN A HEALTHY DIET 1 (2014).

or cheerios and oatmeal over bacon and eggs.[2] You most likely learned about the USDA Food Pyramid in school and believed that a healthy diet is based on eating plentiful grains, while limiting meat, dairy, and fat as much as possible.[3] You have constantly been told that eating fat will make you fat, and that saturated fat is the enemy of a healthy heart, reaffirmed by official recommendations, laws, and government nutrition policy.[4]

What if the conventional wisdom surrounding nutrition and regulating against saturated fat was the product of ego-driven confirmation bias and corporate lobbyists, and that bias had infiltrated our law and regulatory policy to effectively gaslight an entire population into believing they are making "heart healthy" choices?

As it turns out, the vilification of saturated fat, and particularly its connection to heart disease, has never been confirmed in a careful, scientific way.[5] At best, scientists have been able to show correlation between saturated fat consumption and an increased rate of heart disease, without ever proving measurable causation sufficient to influence generations of dietary restrictions and regulatory recommendations.[6] Regardless, proponents of the "diet-heart hypothesis" pushed the theory so aggressively that it has become conventional wisdom among both the scientific community and the public, so much so that even mentioning saturated fat as a potential health food or discussing the objective lack of confirmation that it causes heart disease will be ammunition for discreditation.[7] Unfortunately, U.S. law and regulatory policy have embraced this diet, regardless of the flawed science, both encouraging decreased saturated fat consumption and perversely incentivizing overproduction and consumption of ultra-processed grains that are actively harmful to human health.[8] Americans are being led to believe that U.S. law and regulatory policy is helping them make healthy choices for themselves and their families, when in fact these choices are largely not backed by reliable scientific data and could even be directly contributing to poor health.[9]

It is past time for U.S. law and regulatory policy to adopt a science-backed understanding of human nutrition, disregard the debunked diet-heart hypothesis, and embrace the role of certain types of saturated fat in a healthy diet for a healthy heart.

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2 *See id.* at 4.

3 *Id.* at 1.

4 *See id.*; *see also* U.S. DEP'T OF AGRIC. & U.S. DEP'T OF HEALTH & HUM. SERVS., DIETARY GUIDELINES FOR AMERICANS 2020–2025 102 (9th ed. 2020), https://www.dietaryguidelines.gov.

5 *See* TEICHOLZ, *supra* note 1, at 4.

6 *See id.* at 38.

7 *See id.* at 3.

8 *See id.* at 3.

9 *Id.* at 4–5.

Part I of this Article discusses the flawed science behind the vilification of saturated fat and how this misconception has been harmful to human health in practice. Part II explains how the science has been implemented into the law and regulatory policy of the United States through direct nutrition recommendations, farm subsidy policy, and school breakfast and lunch programs. Moreover, American public health decision makers have fostered a trigger-happy attitude toward pharmaceutical drugs to treat heart disease, rather than facing the scientific issues behind our diets and lifestyles. Part III argues that our resulting law and regulatory policy perversely encourages Americans to make dietary choices that are harmful to their health, and proposes four concrete policy changes that will improve the health and education knowledge of the American public.

First, we must abandon the flawed science behind the vilification of saturated fat in our dietary recommendations and recognize the role that saturated fat plays in a healthy diet. Second, American agriculture laws and regulatory policies must be adapted to encourage the production of healthy foods for increased availability and lower prices in our grocery stores and schools. Third, it is essential to shift national school meal policy to prioritize student health over the interests of agribusiness. Lastly, public health regulatory policy must prioritize diet and lifestyle in the treatment and prevention of heart disease, and recognize that saturated fat can actually have a positive impact on overall human health.

I. THE LOW-FAT MISTAKE[10]

A. Origin of the Low-Fat Diet

In the mid-1900s, increasing incidences of heart disease contributed to a sharp rise in death rates.[11] This was particularly apparent in the U.S., causing pressure on doctors and other healthcare practitioners to locate the cause and find a solution.[12] Saturated fat and cholesterol were hypothesized to be the main culprits and were relatively easy targets.[13] Evidence had recently been shown that children with abnormally high serum cholesterol had an increased risk of heart problems.[14] Additional evidence came

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[10] The background for this article is substantially based on the research and findings in NINA TEICHOLZ, THE BIG FAT SURPRISE: WHY BUTTER, MEAT AND CHEESE BELONG IN A HEALTHY DIET (2014).

[11] James E. Dalen et al., *The Epidemic of the 20th Century: Coronary Heart Disease*, 127 AM. J. MED. 807, 807 (2014), https://www.sciencedirect.com/science/article/pii/S0002934314003544?via%3Dihub.

[12] *See id.*; TEICHOLZ, *supra* note 1, at 3.

[13] *Id.*

[14] Laura Cassiday, *Big Fat Controversy: Changing Opinions About Saturated Fats*, AMERICAN OIL CHEMISTS' SOCIETY (Oct. 4, 2024), https://www.aocs.org/resource/big-fat-controversy-changing-opinions-about-saturated-fats/?SSO=True#:~:text=The%20

from studies in animals.[15] For example, an early study in which rabbits were fed diets high in dietary cholesterol showed a higher propensity for cardiovascular complications.[16] The eagerness of scientists to find a scapegoat for the rising rates of heart disease caused them to overlook basic biological reality, such as the fact that rabbits are herbivores not designed to metabolize saturated fat and animal foods.[17] Regardless of this scientific flaw, the early evidence was extrapolated to humans and treated as a causation between saturated fat, dietary cholesterol, and an increased risk for heart disease.[18]

Ancel Keys was the pioneer of the "diet-heart hypothesis"—the hypothesis that saturated fat consumption directly increased risk of heart disease—whose research would ultimately lead to the wide recommendation, and later public health regulations, of the low-fat diet.[19] Keys hypothesized that saturated fat in the diet must make people fat and therefore must be the main contributor to heart disease.[20] This was initially accepted as common sense among the scientific community, due to fat's higher calories per gram.[21] However, Keys consistently made broad conclusions about the harms of saturated fat based on a small number of studies outnumbered by bias-driven, logical leaps and exclusions of contrary data.[22] He was consistently met with evidence that directly contradicted his hypothesis, but rather than questioning his hypothesis and looking for ways to disprove it (as the scientific method demands), he buried and threw out data that seemed to call his theory into question.[23]

Keys' foundational study in the diet-heart hypothesis was the "Seven Countries Study," heralded for its broad reach and scientific thoroughness.[24] The study, funded by the United States Public Health Service, followed roughly 12,700 middle-aged men from Italy, Greece, Yugoslavia, Finland, the Netherlands, Japan, and the U.S. in order to collect data that would be

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reason%20dietary%20fats%20garnered,risk%20factor%20for%20heart%20disease [https://perma.cc/PHX8-S46W].

15 *Id.*

16 TEICHOLZ, *supra* note 10, at 22.

17 *Id.*

18 *Id.*

19 *See* Phillip B. Sparling, Letter to the Editor, *Legacy of Nutritionist Ancel Keys*, 95 MAYO CLIN. PROC. 611, 615 (2020), https://www.mayoclinicproceedings.org/action/showPdf?pii=S0025-6196%2819%2931088-2.

20 TEICHOLZ, *supra* note 10, at 29.

21 *Id.*

22 *See* James J DiNicolantonio, *The Cardiometabolic Consequences of Replacing Saturated Fats with Carbohydrates or Ω-6 Polyunsaturated Fats: Do the Dietary Guidelines Have It Wrong?*, OPEN HEART 1:e000032 (2014), https://doi.org/10.1136/openhrt-2013-000032.

23 *See id.*

24 For more information regarding the Seven Countries Study, *see What is the Seven Countries Study?*, THE ONLINE SCIENTIST, https://www.sevencountriesstudy.com (last visited Jan. 8, 2025).

more standardized and reliable than national statistics.[25] The study tracked what each man ate and their cardiovascular health from 1958–1964.[26] Keys found that countries with higher quantities of saturated fat in their diet had more heart disease than those who ate more carbohydrates and unsaturated fats.[27] This prompted Keys to recommend a sharp reduction in dietary fats, especially animal foods, and an increase in vegetable oil consumption.[28]

Unfortunately for Keys, and for our public health system, the study was significantly flawed from the outset and strongly influenced by confirmation bias.[29] Keys selected the seven countries based on those that were likely to reinforce his hypothesis rather than challenge it.[30] Rather than selecting the countries at random, Keys chose places that showed a contrast in rates of diet and death, best facilitated the study,[31] and he even outright excluded data from 16 countries that were not suitable to his hypothesis and existing negative attitude towards saturated fat.[32] In addition, the historical period in which Keys took data from the Seven Countries was not conducive to accurate nutritional data because the data was collected from 1958–1964, when countries were recovering from World War II starvation and economic strife.[33]

The data that Keys did collect was significantly flawed in numerous ways, as he ignored crucial details that impacted the scientific legitimacy of the study's findings. For instance, one of the three surveys taken on the island of Crete (which would ultimately be one of the most prominent populations for recommending the low-fat diet) occurred during the pre-Easter fasting period of Lent, when those practicing Greek Orthodox Christianity strictly abstain from animal products.[34] This would lead to an inaccurately low report of saturated fat consumption in a population with a relatively low occurrence of heart disease, exactly what Keys set out to demonstrate. Even the cherry-picked data failed to show any association between dietary fat consumption and all-cause mortality.[35]

In the face of these fundamental flaws that should reasonably call the Seven Countries Study into question, it was marketed by Keys and others as illustrative of a direct causation between eating high amounts of

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25 TEICHOLZ, *supra* note 10, at 37; Cassiday, *supra* note 14.
26 *See* TEICHOLZ, *supra* note 10, at 37–38.
27 Cassiday, *supra* note 14.
28 *See id.*
29 TEICHOLZ, *supra* note 10, at 36.
30 *Id.* at 37.
31 *Id.*
32 DiNicolantonio, *supra* note 22.
33 TEICHOLZ, *supra* note 10, at 37–38.
34 *Id.* at 40.
35 DiNicolantonio, *supra* note 22.

saturated fat and an increased risk in heart disease.[36] No clinical trial has ever been done to prove this causation, yet decision makers have relied on findings such as the Seven Countries Study that show a slight correlation at best.[37] Not only has this flawed science been promoted and "tested" by those who have pre-drawn conclusions, but scientists with dissenting views have been dismissed as going against conventional wisdom.[38]

One example of these dissenting voices was Doctor Robert Krauss, a physician and professor at the University of California, Berkeley.[39] Krauss was skeptical that saturated fat and high levels of LDL cholesterol should be uniformly considered harmful after seeing patients who had healthy numbers of LDL cholesterol that developed heart problems after lowering it further.[40] Through his work, Krauss discusses that LDL cholesterol could be further broken down into smaller subfractions, one that was associated with heart disease and one that appeared to have very little impact on otherwise healthy individuals.[41] Therefore, Krauss concluded, total LDL cholesterol is not a fair indicator of heart disease, and diets high in saturated fat and low in carbohydrates primarily raise the "good" LDL cholesterol, contrary to what had been recommended by Keys.[42] This will be discussed in more detail in Part II of this Article.

Krauss published two papers on the topic. The first analyzed all epidemiological studies linking diet and heart disease, and concluded that "there is no significant evidence for concluding that dietary saturated fat is associated with an increased risk of [heart disease]."[43] The second considered all other evidence including clinical trials, and concluded that eating saturated fat is healthier than eating carbohydrates, and that refined carbohydrates in particular had a far worse effect on all measurable markers for heart health (note: carbs form the basic building block of our food pyramid today).[44] Despite this research and challenge to the conventional wisdom, Krauss was unable to get his work accepted into the greater scientific community, as proponents of the diet-heart

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36 Jason Andrade et al., *Ancel Keys and the lipid hypothesis: From early breakthroughs to current management of dyslipidemia*, 51 BRIT. COLUMBIA MED. J. 66, 67 (2009).

37 *See Hearing to Review the Development of the 2015 Dietary Guidelines for* Americans: Hearing Before the H. Comm. on Agriculture, 114th Cong., 1st Sess. 97-182 (2015).

38 TEICHOLZ, *supra* note 10, at 45.

39 RONALD M. KRAUSS, https://nst.berkeley.edu/users/ronald-m-krauss [https://perma.cc/9RLN-E7UK] (last visited Jan. 8, 2025).

40 TEICHOLZ, *supra* note 10, at 317.

41 *Dr. Ronald Krauss—A Proactive Approach to Heart Health*, LONGEVITY BY DESIGN PODCAST (July 19, 2023), https://blog.insidetracker.com/longevity-by-design-ronald-krauss [https://perma.cc/BWB5-ZSRM].

42 *See id.*

43 Patty W. Siri-Tarino et al., *Meta-Analysis of Prospective Cohort Studies Evaluating the Association of Saturated Fat with Cardiovascular Disease*, 91 AM. J. CLIN. NUTR. 535 (Mar. 2010); https://pubmed.ncbi.nlm.nih.gov/20071648/; doi: 10.3945/ajcn.2009.27725.

44 *See id.* at 545.

hypothesis appeared to be unwilling to adhere to the scientific method and welcome helpful criticism of their hypothesis.[45]

Scientists and doctors, such as Robert Krauss, who have provided sound research questioning the diet-heart hypothesis have been consistently pushed down, as those at the top prefer confirmation bias to the unsettling truth behind a rise in heart disease.[46]

B. Low-Fat Diet in Practice: USDA Recommendations and The Mediterranean Diet

The diet-heart hypothesis quickly reached beyond the scientific realm to influence the plates of Americans and people across the world through United States Department of Agriculture (USDA) recommendations and promotion of diets with shocking origins.

1. USDA Recommendations

The USDA jumped at the opportunity to recommend the low-fat diet.[47] The USDA Food Pyramid is the most significant example of the low-fat diet infiltrating recommendations and dietary education. The precursor to this was the Basic Seven food guide that was introduced by the USDA during WWII.[48] The purpose of this guide was to help Americans deal with rationing during the war,[49] a push to conserve food due to a high demand and a shortage of agricultural workers to meet the demand due to the draft and overall industrial shift during the war effort.[50] The guide recommended seven food groups that should be consumed every day on some level: green and yellow vegetables, citrus, potatoes and other fruits and vegetables, dairy products, meat, poultry, fish or eggs, grains, and butter or fortified margarine.[51] This guidance was obviously flawed for a number of reasons, including the fact that it did not provide significant advice on fat or sugar consumption, and did not specify serving sizes for

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45 *See* TEICHOLZ, *supra* note 10, at 319.

46 *See id.*

47 Carole Davis & Etta Saltos, *Dietary Recommendations and How They Have Changed Over Time in* ELIZABETH FRAZÃO, AMERICA'S EATING HABITS: CHANGES AND CONSEQUENCES 33, 36-37 (U.S. Dep't of Agric., 1999).

48 Sanat Pai Raikar, *Food Pyramid*, BRITANNICA, https://www.britannica.com/science/food-pyramid [https://perma.cc/6AJF-R8WL] (last visited Jan. 8, 2025).

49 *Id.*

50 *Food Rationing on the World War II Home Front*, NAT'L PARK SERV., https://www.nps.gov/articles/000/food-rationing-on-the-world-war-ii-home-front.htm [https://perma.cc/3DXE-3WY5] (last visited Jan. 8, 2025).

51 *Eat the Basic 7—Every Day!: Eat a Lunch That Packs a Punch!*, UNT DIG. LIBR., https://digital.library.unt.edu/ark:/67531/metadc619/m1/1/ [https://perma.cc/7B7M-6KJR] (last visited Jan. 8, 2025).

any of the seven groups.[52] While this was all helpful to ration food during the war effort, these flawed recommendations stood for over forty years until the development of the Food Pyramid.[53]

Despite the flaws, the USDA Food Pyramid was partly based on the Basic Seven guide.[54] The USDA officially unveiled the Food Pyramid to the American public in 1992.[55] The Pyramid was meant to inform the public about what to include in a "healthy" diet so they could make proper choices about their nutrition.[56] The Pyramid quickly became ubiquitous, appearing in schools and on food labels across the country, influencing what children learned to be a healthy diet and what adults would elect to feed their families.[57]

The originally proposed Pyramid was protested for its stigmatization of certain foods, particularly beef, but the eventual version that was released recommended even higher amounts of grains than the original version, and shockingly high portions when compared to meat and even fruit and vegetables.[58] The Pyramid recommended six to eleven servings of grains such as bread, pasta, and rice per day, compared to two to three servings of meat, cheese, and milk.[59] Fats and sugars formed the top of the Pyramid, with recommended consumption to be only "sparingly."[60] The Pyramid also failed to differentiate between types of fat, and portrayed all fats and sweets as equivalent and the most restricted types of food.[61]

The Food Pyramid was eventually substituted for MyPlate, another visual representation of food groups making up a healthy diet,[62] in 2011 after criticism over the Pyramid's recommendations.[63] MyPlate recommends sections of an average plate that one should fill with grains and vegetables occupying over half of the plate, and protein and fruit

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52 *Food and Nutrition through the 21st Century: Government Guidelines*, UNC UNIVERSITY LIBRARIES (Feb. 12, 2025), https://guides.lib.unc.edu/nutrition-history/government.

53 *A Visual History of Food Guides*, HARVARD T. H. CHAN SCHOOL OF PUBLIC HEALTH (Oct. 24, 2013), https://hsph.harvard.edu/news/centennial-food-guides-history/.

54 The USDA will be discussed in more detail in Part II of this Article.

55 Jaime Lee & Robert Lustig, *Why the USDA Food Pyramid Diet Recommendations Changed*, LEVELS.COM (Aug. 8, 2023; updated June 9, 2024), https://www.levels.com/blog/how-and-why-the-food-pyramid-diet-recommendations-changed.

56 Raikar, *supra* note 48.

57 *See* Michael P. Rowland, *The Food Pyramid Of The Future*, FORBES (Nov. 2, 2016, 7:30 AM), https://www.forbes.com/sites/michaelpellmanrowland/2016/11/02/the-food-pyramid-of-the-future/.

58 *See* Lee & Lustig, *supra* note 55.

59 *Id.*

60 *Id.*

61 *See id.*

62 Andrea Freeman, *Unconstitutional Food Inequality*, 55 HARV. C.R.-C.L. L. REV. 840, 885 (2020).

63 *See* Lee & Lustig, *supra* note 55.

filling out the remainder.[64] Even though MyPlate does a better job than the original Food Pyramid at simplifying dietary choices, it is still a mix of "science with the influence of powerful agricultural interests, which is not the recipe for healthy eating[.]"[65] MyPlate fails to recognize the difference between whole grains and processed grains, and generally does not aptly represent the need to avoid processed foods.[66] It also does not recommend an exercise component, which is critical to creating a balanced diet.[67] Lastly, not only does MyPlate not recommend saturated fat as part of the healthy diet, there is no fat component anywhere on the plate.[68] In fact, the companion website to MyPlate specifically classifies regular ground beef and whole milk as foods containing "empty calories" and recommends replacing them with lean ground beef and fat-free milk.[69]

2. Mediterranean Diet

One specific effect of the push for low-fat diets was the popularization of what eventually became known as the Mediterranean Diet, which is still among the most popular diets today, especially for those prone to heart disease.[70] The Mediterranean Diet was initially based on the data that Keys collected from Crete in the Seven Countries Study, which artificially found scarce consumption of animal foods and saturated fat.[71] The Mediterranean Diet recommendations primarily echoed the USDA food pyramid, with the model diet primarily consisting of breads and grains, followed by fruits and vegetables.[72] At the very top of the pyramid, even above sugar, is lean red meat.[73]

A natural question is why was Crete, or the Mediterranean more broadly, selected as the model diet? In fact, there is a stark contradiction to the diet-heart hypothesis in certain areas where saturated fat consumption

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64 *See What Is MyPlate?*, USDA, https://www.myplate.gov/eat-healthy/what-is-myplate [https://perma.cc/5EBX-YDA5] (last visited Jan. 8, 2025).

65 *See* Todd Datz, *Harvard Serves Up Its Own 'Plate': Healthy Eating Plate shows shortcomings in government's MyPlate*, THE HARV. GAZ. (Sept. 14, 2011) https://news.harvard.edu/gazette/story/2011/09/harvard-serves-up-its-own-plate/ [https://perma.cc/MTB3-6JE8].

66 *See id.*

67 *See* Raikar, *supra* note 48.

68 *See id.*

69 A. Bryan Endres & Nicholas R. Johnson, *United States Food Law Update: Moving Toward a More Balanced Food Regulatory Regime*, 7 J. FOOD L. & POL'Y 383, 384–85 (2021).

70 Ray Day, *What the Data Say: Mediterranean Diet Favored by 8 in 10 Americans for 2024*, STAGWELL, https://www.stagwellglobal.com/what-the-data-say-mediterranean-diet-favored-by-8-in-10-americans-for-2024/ (last visited Jan. 8, 2025) (85.1% of Americans view the Mediterranean Diet as the top option).

71 *See* Roberta Altomare et al., *The Mediterranean Diet: A History of Health*, 42 IRANIAN J. PUB. HEALTH 449, 451-52 (2013).

72 *See Mediterranean Pyramid,* NCBI, https://www.ncbi.nlm.nih.gov/core/lw/2.0/html/tileshop_pmc/tileshop_pmc_inline.html?title=Click%20on%20image%20to%20zoom&p=PMC3&id=3684452_ijph-42-449f1.jpg (last visited Jan. 8, 2025).

73 *See id.*

is off the charts and heart disease is scarce. For example, data collected from Masai tribes in rural Africa reveal that their diets consist of primarily meat, blood, and whole milk with very limited carbohydrate intake, and yet heart disease (and obesity) is almost nonexistent.[74] Similarly, the Inuit Tribe in the Canadian Arctic who consume 70–80% of their total calories from fat also rarely exhibited any signs of heart disease when analyzed.[75] Surely this data would place the Mediterranean Diet, and the diet-heart hypothesis, firmly on the hot seat as the pinnacle of a healthy heart diet. And yet the Mediterranean Diet remains the top choice for those looking to decrease their risk of heart disease.[76] Why did it spread like wildfire?

The answer is far less scientific than you would imagine. The diet was promoted among the scientific community at a series of conferences in Greece and Italy.[77] These conferences contained some of the most influential people in the world of nutrition science, including Ancel Keys.[78] The diet became easy to promote at these conferences primarily because of the geographic location in which they were held. Understandably, the Mediterranean was a desirable travel destination for scientists around the world (who wouldn't want a University-subsidized trip to Greece or Italy?), and as silly as it may sound, this is one of the driving forces for the diet gaining traction among the scientific community.[79] The Mediterranean was chosen as the model diet despite other places with similarly low rates of heart disease and wildly different diets because it was easier to convince people to go to a conference in Greece than in the Arctic Circle or rural Africa.[80]

The Mediterranean Diet also enjoyed the benefits of coasting on the confirmation bias of those who had already decided to vilify saturated fat and were not interested in pursuing the scientific method if it could disprove their theory. Those who promoted the diet ignored many other possible factors that may have contributed to the low incidence of heart disease in the Mediterranean, including a wide variety of diets in the region, and they especially turned a blind eye to the problems with the data upon which the diet was built.[81] Despite these strong convictions and the lasting significance of the Mediterranean Diet in cookbooks and doctor's offices, no controlled studies on the efficacy of the diet itself regarding

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74 *See* J. A. Mbalilaki et al., *Daily Energy Expenditure and Cardiovascular Risk in Masai, Rural and Urban Bantu Tanzanians*, 44 BR. J. SPORTS MED. 121, 124 (2010).

75 TEICHOLZ, *supra* note 10, at 9-10.

76 Altomare et al., *supra* note 71.

77 TEICHOLZ, *supra* note 10, at 178.

78 *Id.* at 191.

79 *See id.*

80 *See id.* at 191-92.

81 *See id.* at 179-80.

saturated fat intake have ever been done.[82] That should be shocking to the reader to learn.

The advice of the Mediterranean Diet is also contradicted by the surrounding areas of the Mediterranean that were not heavily considered in the construction of the diet.[83] In Spain, deaths from heart disease have *decreased* by nearly 50% while saturated fat in the diet has *increased* by more than 50% in the past three decades.[84] France and Switzerland have always been substantial consumers of saturated fat and yet have never suffered heart disease deaths that would be expected from a Mediterranean Diet perspective.[85] From 1951 to 1976, Swiss consumption of animal fats increased by 20% while heart disease mortality fell by 13% in men and 40% in women.[86] Rather than reconsidering what a "Mediterranean Diet" actually looked like in light of this data, and the true cause of increased heart disease rates, proponents of the diet-heart hypothesis simply ignored it to keep their theory alive. While the Masai Tribe strongly refutes his hypothesis[87], Keys did not have to travel as far as rural Africa to paint a more accurate picture.

The diet is even contradicted in the areas that Keys most heavily relied on and which ultimately formed the foundation for the Mediterranean Diet.[88] Once again returning to Crete, data collected two decades after the Seven Countries Study was conducted revealed that farmers on the island were consuming 54% more saturated fat than they were at the time of original data collection, but heart attack rates remained very low.[89] Why doesn't that receive the same publicity that the initial findings did?

Despite these unsettling contradictions, Keys and his progeny pressed on, and the Mediterranean Diet remains a staple in the minds of heart-conscious dieticians today.[90]

C. Who Cares? Law & Consequences of the Low-Fat Diet

Despite the flaws in the science behind it, there is a widely held belief (more accurately, a myth) that dietary fat causes obesity. In other words, "fat makes you fat." This assumption is initially based on nothing more than the fact that fat contains more calories per gram than other macronutrients

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82 *Id.* at 188.
83 *Id.* at 179-80.
84 *Id.* at 221-22.
85 *Id.* at 222.
86 *Id.*
87 *See id.* at 12.
88 *See id.* at 222-23.
89 *Id.* at 222.
90 *Id.* at 18.

such as protein or carbohydrates.[91] Evidence contradicts the idea that dietary fat causes obesity or increases body fat at any higher rate than the same number of calories from any other type of macronutrients.[92]

A rational question is: who cares? Maybe fat is not as bad for our hearts as we thought, but where is the harm in avoiding it, nonetheless? Not only has recent data analysis shown that there is virtually no conclusive evidence for drawing the conclusion that dietary saturated fat is associated with an increased risk of heart disease,[93] but dietary fat, and saturated fat specifically, is actually an *essential* food source and *needs* to be part of a healthy, balanced diet.[94] For example, whole dairy products have been found to be associated with a decreased risk of heart disease.[95] Although some saturated fat intake can raise the "bad" LDL cholesterol, there is a direct positive effect for other heart disease markers such as "good" LDL cholesterol, HDL cholesterol, and triglycerides, all of which may be a stronger predictor for heart disease and mortality overall.[96] Thus, some fats like dairy should be encouraged, not eschewed.

In addition, there are two additional consequences to the "fat should be avoided" strategy. First, there is a large increase in vegetable oil consumption, both because there is an inevitable need for cooking oils and they are strongly promoted in place of saturated fat.[97] These vegetable oils are derived and chemically extracted from plants such as corn and soybeans and are readily available to the American public at cheap prices.[98] But these oils may have a detrimental effect on human health.[99] High consumption of vegetable oil has been linked to various health issues including obesity, diabetes, and an unhealthy gut.[100] When heated, especially repeatedly,

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91 *Food and Nutrition Information Center (FNIC)*, NAT'L AGRIC. LIBR., https://www.nal.usda.gov/programs/fnic#:~:text=How%20many%20calories%20are%20in,Facts%20label%20on%20food%20packages (last visited Jan. 8, 2025) (includes FAQ on "How Many Calories Are in 1 Gram of fat, carbohydrate or protein?").

92 *See* Jacob C. Seidell, *Dietary Fat and Obesity: an Epidemiologic Perspective*, 67 AM. J. CLINICALNUTRITION 546S, 546S 1998), https://www.sciencedirect.com/science/article/pii/S0002916523182384?ref=pdf_download&fr=RR-2&rr=8df0b1abc93275d0.

93 Siri-Tarino et al., *supra* note 43, at 544.

94 Fima Lifshitz & Omer Tarim, *Considerations about Dietary Fat Restrictions for Children*, 126 J. NUTRITION 1031S, 1031S (1996), https://jn.nutrition.org/article/S0022-3166(22)01725-4/pdf.

95 *Id.* at 1037S.

96 Richard D. Feinman, *Saturated Fat and Health: Recent Advances in Research*, 45 LIPIDS 891, 891 (Sept. 9, 2010), doi: 10.1007/s11745-010-3446-8.

97 *See Saturated Fat*, AM. HEART ASS'N (Aug. 23, 2024), https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/fats/saturated-fats [https://perma.cc/TC7H-NVVG].

98 Don Rauf, *Are Seed Oils Bad for You?*, EVERYDAYHEALTH.COM (Feb. 25, 2025), https://www.everydayhealth.com/diet-nutrition/are-vegetable-oils-and-industrial-seed-oils-unhealthy/ [https://perma.cc/8AY6-9FRB].

99 *Id.*

100 Iqbal Pittalwala, *Widely Consumed Vegetable Oil Leads to an Unhealthy Gut*, U. CAL. (July 6, 2023), https://www.universityofcalifornia.edu/news/widely-consumed-vegetable-oil-leads-unhealthy-gut [https://perma.cc/29CG-GRLQ].

vegetable oils can have harmful effects on the cardiovascular system as well.[101]

Second, saturated fats tend to be replaced by carbohydrates in our effort to avoid fatty foods.[102] Although this would be viewed as an overwhelming positive for those who adhere to the Mediterranean Diet or the USDA food pyramid (which recommends six to eleven servings of grains per day), an increase in carbohydrate consumption, especially ultra-processed carbohydrates that are all too prevalent in the typical American diet, have been linked to heart disease, diabetes, and cancer.[103] Take the Inuit tribe again as an example. There is almost a complete absence of fruit and vegetables in their diet—which are considered the most healthy forms of carbohydrates—and yet there is no evidence of vitamin or mineral deficiencies in their population, and heart disease appears to be nonexistent under sixty years of age.[104] Conversely, incidence of cancer went from rare among Inuit populations to a common cause of death when they began consuming refined carbohydrates like sugar and white flour.[105] This is a consistent pattern across different populations.

These refined carbohydrates are not simply lacking in nutrients, but it appears that they are actively harmful to human health in a variety of ways.[106] Recent clinical trials suggest that any carbohydrate in large amounts can be unhealthy.[107] Specifically, refined carbohydrates are linked to increased levels of triglycerides and LDL cholesterol and a reduction in HDL cholesterol levels, all of which contribute to increased risk of obesity and heart disease.[108]

Not only do the unintended consequences of limiting saturated fat tend to be harmful to humans, but saturated fat itself appears more likely to be a beneficial part of the diet on its own. In the late 1980s, Dr. Robert Atkins spoke out against the diet-heart hypothesis and the science that backed it up, and recommended that a diet high in saturated fat was healthier than

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101 *See* Chun-Yi Ng et al., *Reprint of Heated Vegetable Oils and Cardiovascular Disease Risk Factors*, 62 VASCULAR PHARMACOLOGY 38, 39–44 (May 16, 2014), https://www.sciencedirect.com/science/article/abs/pii/S1537189114000536.

102 TEICHOLZ, *supra* note 1, at 286.

103 *See id.* at 286–87, 298.

104 *Id.* at 299.

105 *Id.* at 301.

106 *See id.* at 301; *see also* Arne Astrup et al., *The Role of Reducing Intakes of Saturated Fat in the Prevention of Cardiovascular Disease: Where Does the Evidence Stand in 2010?*, 93 AM. J. CLINICAL NUTRITION 684, 684-684 (Apr. 2011), doi: 10.3945/ajcn.110.004622 (finding no demonstrable benefit for eating carbohydrates over saturated fats).

107 *See* Amber Charles Alexis, *How bad are carbs, really?*, MEDICALNEWSTODAY (Sept. 19, 2021), https://www.medicalnewstoday.com/articles/how-bad-are-carbs-really.

108 Patty W. Siri-Tarino et al., *Saturated Fatty Acids and Risk of Coronary Heart Disease: Modulation by Replacement Nutrients*, 12 CURR. ATHEROSCLER REP. 384 (Aug. 14, 2010), doi: 10.1007/s11883-010-0131-6, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2943062/.

the Mediterranean Diet.[109] Naturally, Atkins's critiques were dismissed, and his views were quashed among the scientific community, primarily because Atkins himself never did research to support his claims and his calls for experts to perform research were ignored, arguably because he was not a charismatic messenger like Ancel Keys.[110]

What became known as the Atkins Diet was ultimately tested in the late 1990s. Researchers found that a low-carbohydrate, high-fat diet led to more weight loss from fat as opposed to muscle.[111] In addition, every understood metric for heart health was shown to improve and decrease the risk for heart disease and diabetes when compared to the standard Mediterranean-like diet recommended by the AHA.[112]

The low-fat diet is even pushed for young children. The American Heart Association recommends limiting total fat to 35% of total calories for children as young as two to three years old, and then reducing even further to 25% for children from four to eighteen years old.[113] For one to three-year-old children, whole milk consumption is discouraged and only lean meat is recommended, while still encouraging grain consumption at twice the rate of meat and dairy.[114] This evens out a bit for children between four to eighteen years old, but overall carbohydrate consumption is still recommended to exceed overall meat and dairy consumption.[115]

These recommendations are especially ill-advised for children, as saturated fat is more calorically dense than other macronutrients.[116] It carries more energy in a smaller volume and therefore, is beneficial for children and their growth.[117] Children on a low-fat diet may be consuming as much as 25% fewer calories than those eating higher amounts of fat, which may lead to inadequate nutrition or even stunted growth.[118] Fat and cholesterol also are important for the structure of cell membranes in the central nervous system, impacting visual development and intelligence.[119] Finally, fat serves as a carrier for fat-soluble vitamins, and eating fat is

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109 TEICHOLZ, *supra* note 10, at 287.

110 *Id.* at 287–90.

111 Jeff S. Volek et al., *Comparison of Energy-Restricted Very Low-Carbohydrate and Low-Fat Diets on Weight Loss and Body Composition in Overweight Men and Women*, NUTRITION & METABOLISM (LOND.) (Nov. 8, 2004), doi:10.1186/1743-7075-1-13.

112 TEICHOLZ, *supra* note 10, at 306.

113 *Dietary Recommendations for Healthy Children*, AM. HEART ASS'N (last rev'd Sept. 24, 2024), https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics/dietary-recommendations-for-healthy-children [https://perma.cc/ERH6-S5NJ].

114 *Id.*

115 *Id.*

116 *See* Institute of Medicine (US) Committee on Examination of Front-of-Package Nutrition Rating Systems and Symbols, *Front-of-Package Nutrition Rating Systems and Symbols: Phase I Report* (2010), https://www.ncbi.nlm.nih.gov/books/NBK209844/.

117 Lifshitz & Tarim, *supra* note 94.

118 *Id.*

119 *Id.* at 1032S.

therefore essential to avoid vitamin deficiencies due to insufficient intake or restricted absorption.[120]

Shockingly, recommendations for children are based on the same flawed science conducted almost exclusively in adult men on Crete during Lent, despite the fact that the nutritional needs of a young growing child are significantly different than the needs of a relatively sedentary adult.[121] Meat, dairy, and eggs were once considered the most beneficial foods for young children to promote growth, and they have slowly been phased out of their diets without solid scientific evidence of any tangible benefits in either the short or long-term.[122] There is no data showing conclusively that children served low-fat diets have *any lasting benefits* in terms of Coronary Artery Disease (CAD) in adulthood, and they are even largely ineffective at reducing serum cholesterol levels over time.[123]

Even attempts to support these recommendations for children have fallen flat. The National Heart, Lung, and Blood Institute (NHLBI) embarked on the Dietary Intervention Study in Children, in which 300 children between the ages of eight and ten were put on extremely low-fat diets.[124] Unfortunately for the NHLBI, even children on the diet with unusually high levels of LDL cholesterol saw "virtually no improvement in total cholesterol, LDL-cholesterol, or triglycerides compared to the control group."[125]

The initial push for the low-fat diet in children was even strongly resisted by pediatricians. The American Academy of Pediatrics (AAP) was reluctant to recommend the low-fat diet, as they considered meat, dairy products, and eggs to be the best source of high-quality proteins for children, which would inevitably be restricted on the low-fat diet.[126] The AAP prudently stated that they were reluctant to recommend extensive dietary changes without actual solid scientific evidence in support of the diet.[127] Rightfully so, as unprocessed saturated fats are essential for child development, while encouraging low-fat at all costs may lead to unhealthy weight gain and other issues.[128] However, the pediatricians were no match for the immense pressure from a scientific

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120 *Id.*

121 *See* TEICHOLZ, *supra* note 10, at 146–47.

122 *Id.* at 147–48.

123 Lifshitz & Tarim, *supra* note 94.

124 Linda V. Van Horn et al., *The Dietary Intervention Study in Children (DISC): Dietary Assessment Methods for 8- to 10-Year-Olds*, 93 J. AM. DIETETIC ASS'N 1396 (Dec. 1993), doi: 10.1016/0002-8223(93)92241-o, https://pubmed.ncbi.nlm.nih.gov/8245373/.

125 TEICHOLZ, *supra* note 10, at 153.

126 *Id.* at 148.

127 *See id.* at 147–48.

128 *Preschoolers' Diets Shouldn't Be Fat-Free: Here's Why*, HEALTHYCHILDREN.ORG (Sept. 22, 2016), https://www.healthychildren.org/English/ages-stages/preschool/nutrition-fitness/Pages/Reducing-Dietary-Fat-for-Preschoolers.aspx [https://perma.cc/EP8P-685C].

community hellbent on establishing the low-fat diet as gospel, including for children, and public opinion had been overrun by those experts promoting the diet-heart hypothesis.[129] By 1995, roughly 88% of mothers believed the low-fat diet to be important for their young children, and the vast majority indicated that they avoided giving fatty foods to their children.[130] By the late 1990s, this overwhelming majority influenced the AAP, who began recommending limiting saturated fat to 10% of calories.[131] Today, it is recommended that saturated fat be limited to less than 7% of total calories for children as young as two, a shocking reduction.[132]

Despite the contrary evidence to the diet-heart hypothesis, the myth lives on that saturated fat makes you fat, and ultimately limiting saturated fat in favor of carbohydrates is the healthiest change one can make for their heart. Sadly, the myth has dramatically and perversely impacted American law and public health policy.

II. LAWS AND REGULATIONS PERVERSELY DISCOURAGE SATURATED FAT CONSUMPTION

The bias against saturated fat and the string of bad science infiltrated law and health policy in the United States in several ways. First, the low-fat recommendations have been directly adopted by Congress and U.S. health regulatory agencies, influencing the diets of all Americans.[133] Second, outdated U.S. farm policy encourages the overproduction of grains, and has led to an influx in grain consumption via cheap processed foods and a decrease in the availability of organic meat and produce—all at the expense of human health.[134] Third, American school lunch policy is directly affected by these recommendations and subsidies, and our children grow up eating diets that are not ideal for their development.[135] Lastly, our treatment of heart disease has centered around pharmaceutical products that are readily prescribed, rather than reconsidering our non-science-based dietary recommendations.[136]

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129 *See* TEICHOLZ, *supra* note 10, at 150.

130 *Id.* at 150.

131 *Id.* at 155.

132 *See Dietary Recommendations for Healthy Children*, *supra* note 113.

133 For a general discussion on the regulatory mechanisms available for dietary recommendation, *see* Peter Barton Hutt, *Regulatory Implementation of Dietary Recommendations*, 36 FOOD DRUG COSM. L.J. 66, 66–67 (1981).

134 Heather Schoonover & Mark Muller, *Food without Thought How U.S. Farm Policy Contributes to Obesity*, INST. FOR AGRIC. AND TRADE POL'Y (2006), https://www.iatp.org/sites/default/files/258_2_89968.pdf.

135 *See* discussion *infra* C.

136 *See* discussion *infra* D.

A. Direct Promotion of the Low-Fat Diet by Government Health Agencies

As a result of the continued pressure and influence of Ancel Keys and other low-fat diet supporters, the American Heart Association (AHA) and the National Institution of Health (NIH) adopted the diet and institutionalized the bias against saturated fat.[137] One of the AHA's first orders of business upon its establishment was to create a "heart lobby," and their efforts convinced President Eisenhower to establish the National Heart Institute in 1948, which later became the National Heart, Lung, and Blood Institute (NHLBI).[138] Importantly, those selected to run these departments came from the same small group of scientific elite who backed the diet-heart hypothesis, including Ancel Keys; the dissenting voices were continually excluded from the decision-making process.[139] This inner circle controlled nearly all of the official recommendations and conducted or funded almost every major study into cardiovascular health,[140] "influenc[ing] scientific opinion as it was being formed."[141]

Regardless, the AHA initially advised against reducing fat consumption, as they recognized it would inevitably lead to an increase in carbohydrate consumption, which can be problematic for human health.[142] Only two years after this initial recommendation, however, the AHA promoted the idea that decreasing fat consumption can decrease obesity overall, without any explanation for this shift.[143] Risk versus risk analysis was abandoned to the detriment of us all.[144]

In 1977, the Senate Select Committee on Nutrition and Human Needs set forth official dietary recommendations.[145] The Committee established guidelines for a "healthy diet" that capped saturated fat consumption at 10% of total calories and shockingly increased the recommended carbohydrate consumption to almost 50% of total energy intake.[146]

These recommendations spread to other governmental organizations as well, as the USDA published its first *Dietary Guidelines for Americans* in the early 1980s, recommending the low-fat diet via familiar marketing

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137 TEICHOLZ, *supra* note 10, at 68.

138 *Id.*

139 *Id.* at 69–71.

140 *Id.* at 70.

141 *Id.* at 106.

142 *Id.* at 136.

143 *Id.*

144 For a general discussion of the need to consider substitution risks, *see* Steve P. Calandrillo, *Responsible Regulation: A Sensible Cost-Benefit, Risk Versus Risk Approach to Federal Health and Safety Regulation*, 81 B.U. L. REV. 957 (2001).

145 Hutt, *supra* note 133, at 67.

146 *History of the Dietary Guidelines*, DIETARY GUIDELINES FOR AMERICANS, https://www.dietaryguidelines.gov/about-dietary-guidelines/history-dietary-guidelines [https://perma.cc/5DV6-LAAB] (last visited Jan. 9, 2025).

ploys like the food pyramid and the Mediterranean Diet.[147] However, somewhat predictably, the USDA has always suffered from a conflict of interest in terms of dietary recommendations. The mission of the USDA, being the Department of *Agriculture*, has been to promote American grown, farmed-food commodities such as wheat, corn, soybeans, etc.[148] The Department has always been heavily influenced (some might even say, captured) by those industries as a result, including significant lobbying efforts by large food producers and manufacturers.[149] Some of the most notable contributors to USDA lobbying efforts are General Foods, Quaker Oats, Heinz, the National Biscuit Company (NABISCO), and the Corn Products Refining Corporation.[150] Attentive observers might notice those companies don't sell fatty proteins.

These recommendations were not without their share of push back, however. There was strong opposition from the Food and Nutrition Board of the National Academy of Sciences, who argued against recommending the low-fat diet for everyone without stronger scientific support.[151] Nevertheless, the pattern of discouraging opposing views continued—media bias favored the low-fat diet and embraced the bad science that backed it up, and the Academy report was widely discarded.[152]

The bias continued to influence reports regarding saturated fat consumption. In 2010, the USDA reported record-high total meat consumption, implying that this was the cause of rising disease rates when in fact saturated fats of every kind were consumed at much higher rates in the nineteenth century, and the increased total meat consumption is due to poultry that is low in saturated fat.[153] Despite this fact and the widely held belief that saturated fat is unhealthy for the heart, heart disease is a relatively new problem, or at least was not nearly as rampant at the height of saturated fat consumption.[154]

These recommendations have nonetheless carried over into advice for children. The AHA recommendations caused changes to nearly all food offerings in school cafeterias.[155] The NHLBI recommended putting young children on diets meant to lower cholesterol, regardless of the common-sense fact that nutritional needs of young growing children are entirely different from those of inactive adult men who were the primary subjects

147 *See id.*; Davis & Saltos, *supra* note 47, at 37, 43–44.

148 TEICHOLZ, *supra* note 10, at 135.

149 *See About USDA*, U.S. DEP'T OF AGRIC., https://www.usda.gov/about-usda/general-information/our-agency (last visited Sept. 12, 2025).

150 TEICHOLZ, *supra* note 10, at 105.

151 *See* National Research Council, *Toward Healthful Diets*, WASHINGTON DC: THE NAT'L ACADEMIES PRESS (1980), https://doi.org/10.17226/28184.

152 TEICHOLZ, *supra* note 10, at 125–26.

153 *Id.* at 116.

154 *Id.* at 119.

155 *Id.* at 136.

of research into saturated fat and dietary cholesterol.[156] Only years prior, animal-based foods like meat, dairy products, and eggs were considered to be the best foods for child growth.[157] Now they were black sheep of the food pyramid.

One of the most extreme points in these recommendations came from the 2013 AHA joint task force with the American College of Cardiology, that recommended reducing saturated fat consumption to a shockingly low 5-6% of total calories.[158] This recommendation was primarily based on only two clinical trials that showed that this diet lowered "bad" LDL cholesterol.[159] Additionally, what the task force ignored was that "good" HDL cholesterol also dropped significantly and subjects saw no overall improvement of accepted diabetes markers and lost no substantial weight.[160] Because the science was not on the side of the task force, this recommendation was generally more political than it was scientific.[161] There was a long history of promoting diets that lowered LDL cholesterol; the government was already committed to lowering it through the National Cholesterol Education Program; academics had invested their entire careers into it; and perhaps most importantly, pharmaceutical companies had developed wildly profitable drugs that target LDL cholesterol.[162] Money talks in politics. And then it infected our diets.

The consistency of these factors perversely influencing both nutrition science and dietary recommendations across the board is shocking, even if unsurprising. The entire nutrition industry and the conventional wisdom of our diets have been built on a record case of confirmation bias and researchers willing to sacrifice scientific integrity, and perhaps human health, before their own ego. Unfortunately, these influences have not stopped America from running a long-term experiment in the low-fat diet, as Americans have loyally followed these recommendations to reduce fat consumption and lower cholesterol levels on a wide scale.[163] Despite these recommendations and America's relative adherence to them, heart disease has not complied. Heart disease remains the leading cause of death in the U.S., as it has been for over 100 years, with nearly one million deaths every year.[164] In addition, obesity levels continue to skyrocket, rising by

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156 *See id.* at 147.
157 *Id.* at 148.
158 *Id.* at 321.
159 *Id.*
160 *Id.*
161 *Id.* at 323.
162 *Id.*
163 *Id.* at 326–27.
164 *More than Half of U.S. Adults Don't Know Heart Disease Is Leading Cause of Death, Despite 100-Year Reign*, AM. HEART ASS'N (Jan. 24, 2024), https://newsroom.heart.org/news/more-than-half-of-u-s-adults-dont-know-heart-disease-is-leading-cause-of-death-despite-100-year-reign.

over 12% from 2000 to 2018.[165] Perhaps even more frightening are the numbers among American children, where rates of obesity among those aged two to nineteen have risen from 5% to nearly 20% over the last fifty years, roughly doubling from 1988 to 2018 alone.[166]

Clearly, there is a contradiction between what we are being told is healthy, versus what actually might be in our best interests. Surely, our laws and regulatory policies have been working to correct this paradox rather than add fuel to the fire, right?

B. Outdated and Harmful Farm Subsidies Passed by Congress

Unfortunately, U.S. farm law and policy have consistently and systematically benefitted industrial farming, the production of foods that are unhealthy for humans, and led to an overconsumption of both processed carbohydrates and sugars instead of healthy saturated fat and organic food.

1. History of Farm Subsidies by Congress: The 1973 Farm Bill

Farm subsidies in the U.S. developed as a response to fears over food shortages and variable prices following the Great Depression.[167] In the 1920s, the U.S. government became concerned about low commodity prices.[168] The response was the Agricultural Adjustment Act of 1933, a New Deal program that established a system of loans to farmers for storable farm products (e.g., corn, wheat, rice, and cotton) in an effort to avoid shortages and ensure a surplus of these commodities to keep prices stable along with farmers' incomes.[169] In fact, stabilization of commodity prices was a central campaign promise of Franklin D. Roosevelt in 1932.[170] The Agricultural Adjustment Act of 1933 was struck down by the Supreme Court in 1936, and was replaced by the Agricultural Adjustment Act of 1938, which provided similar price supports for commodity crops, including mandatory supports for corn, cotton, and wheat.[171]

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165 *Overweight & Obesity Statistics*, NAT'L INST. DIABETES & DIGESTIVE & KIDNEY DISEASES (last rev'd Sept. 2021), https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity [https://perma.cc/6HQM-CX3W].

166 *Id.*

167 Jodi Soyars Windham, *Putting Your Money Where Your Mouth Is: Perverse Food Subsidies, Social Responsibility & America's 2007 Farm Bill*, 31 ENVIRONS: ENV'T. L. & POL'Y J. 1, 6–7 (2007); Scott Fields, *The Fat of the Land: Do Agricultural Subsidies Foster Poor Health?*, 112 ENV'T HEALTH PERSP. A820, A821 (Oct. 1, 2004), https://ehp.niehs.nih.gov/doi/epdf/10.1289/ehp.112-a820.

168 Windham, *supra* note 167, at 6.

169 *Id.*; *see also* Nathan R. R. Watson, *Federal Farm Subsidies: A History of Governmental Control, Recent Attempts at a Free Market Approach, the Current Backlash, and Suggestions for Future Action*, 9 DRAKE J. AGRIC. L. 279, 285 (2004) (explaining the origins of the Agricultural Adjustment Act of 1933).

170 Watson, *supra* note 169.

171 *Id.* (citing *United States v. Butler*, 297 U.S. 1, 57-68 (1936)).

These subsidies continued until the Nixon administration when the U.S. again faced food shortages and spikes in grain prices due to both a disappointing crop yield and an ill-timed agreement to sell mass quantities of grain to the Soviet Union.[172] Farm policy then shifted to focus on production (encouraging overproduction) to drive the cost down, rather than concentrate on propping up prices to stabilize income for farmers.[173] The 1973 Farm Bill created a system to directly pay farmers to encourage them to sell their grain at any price.[174] This began as a temporary stimulus measure to wean farmers off of the traditional subsidies while allowing them to continue to grow commodity crops.[175]

Under the new system, farmers could continue to sell their grain at the same low price, and the government would make up the difference.[176] The amount received from the government was directly dependent on the farmer's yield based on historical records of what their land could produce, such that those who produced more would receive greater subsidies.[177] The rationale for this system was that the bigger farms were both more productive and efficient than small farms, so these subsidy programs pushed farmers to consolidate and centralize the growing process.[178] Unfortunately, these subsidies also inadvertently encouraged more farms to transition from biologically diverse organic operations to factory farms using pesticides and synthetic fertilizers to ensure maximum yields of single crops and, as a result, maximize subsidies.[179] Efforts to disrupt this system of subsidies were ultimately unsuccessful, and direct payments continued.[180]

2. Subsidies Today

This system of farm subsidies endures to this day, with the subsidies allocations largely reflecting the initial policy put forth in 1933.[181] Large industrial farms that receive the most subsidies focus their operations on commodity crops that are the most heavily subsidized (wheat, corn, soybeans, cotton, etc.). This is partly because subsidies are based on historical production on base acres, rather than on current production of

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172 Fields, *supra* note 167, at A822.

173 Windham, *supra* note 167, at 9.

174 *Id.*

175 Amelia Urry, *Our Crazy Farm Subsidies, Explained*, GRIST (Apr. 20, 2015), https://grist.org/food/our-crazy-farm-subsidies-explained/ [https://perma.cc/87XG-KFXW].

176 Windham, *supra* note 167, at 10.

177 *Id.*; Urry, *supra* note 175.

178 Windham, *supra* note 167, at 10–11.

179 *See id.*

180 *See generally* Watson, *supra* note 169, at 289–90 (noting that President Ronald Reagan unsuccessfully tried to weaken this system of agricultural subsidies).

181 Andrea Freeman, *The 2014 Farm Bill: Farm Subsidies and Food Oppression*, 38 SEATTLE UNIV. L. REV. 1271, 1272 (2015).

farms and the needs of society (corn, wheat, and soybeans alone account for 82% of base acres in the U.S.).[182] As a result, over half of all U.S. farm and agriculture subsidies from 1995–2023 were paid towards commodity crops,[183] including almost all of the direct payments.[184]

In addition, the wealth is very unevenly distributed. From 1995 to 2023, the largest 1% of farms received 27% of all subsidy payments, which amounted to $75.7 billion, or $2.1 million per recipient.[185] Moreover, the largest 20% of recipients received 91% of all payments.[186] Since 1995, 75% of federal subsidies have gone to only 10% of farms, almost all of which focus on commodity crops.[187] This ensures that the largest farms receive the most subsidies by directly incentivizing the crops and methods of farming that are best implemented on large industrial farms, while small family farms that produce more organic fatty foods are left to fend for themselves.[188]

This system of farm subsidy endures to this day, with the subsidy allocation largely reflecting the initial policy put forth in 1933.[189] Large industrial farms that receive the most subsidies focus their operations on commodity crops that are most subsidized (wheat, corn, soybeans, cotton, etc.). This is partly because subsidies are based on historical production on base acres, rather than current production of farms and the needs of society (corn, wheat, and soybeans alone account for 82% of base acres in the U.S.).[190] As a result, over half of all U.S. farm and agriculture subsidies from 1995–2023 were paid towards commodity crops,[191] including almost all of the direct payments.[192]

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182 *See* Tara O'Neill Hayes & Katerina Kerska, *PRIMER: Agriculture Subsidies and Their Influence on the Composition of U.S. Food Supply and Consumption*, AM. ACTION F. (Nov. 3, 2021), https://www.americanactionforum.org/research/primer-agriculture-subsidies-and-their-influence-on-the-composition-of-u-s-food-supply-and-consumption/ [https://perma.cc/AS2U-3C6L].

183 *The United States Farm Subsidy Breakdown, 1995-2024*, EWG, https://farm.ewg.org/region.php?fips=00000&progcode=total [https://perma.cc/644Y-GEJF] (last visited Jan. 10, 2025).

184 *Direct Payment Program Payments in the United States Totaled $53.8 Billion from 1995–2023*, EWG, [https://perma.cc/8GJX-Q9Z5] (last visited Jan. 10, 2025).

185 *Commodity Subsidies in the United States Totaled $279.4 Billion From 1995 2024*, EWG, https://farm.ewg.org/progdetail.php?fips=00000&progcode=totalfarm&page=conc&regionname=theUnitedStates [https://perma.cc/594P-S6EZ] (last visited Jan. 10, 2025).

186 *Id.*

187 *Id.*

188 *See* Thomas Richard Poole, *Silly Rabbit, Farm Subsidies Don't Help America*, 31 WM. & MARY ENV'T. L. & POL'Y REV. 183, 195 (2006).

189 Andrea Freeman, *The 2014 Farm Bill: Farm Subsidies and Food Oppression*, 38 SEATTLE U. L. REV. 1271, 1272 (2015).

190 Hayes & Kerska, *supra* note 182.

191 *Farm Subsidy Primer*, EWG.org, https://farm.ewg.org/subsidyprimer.php [https://perma.cc/D7FS-9BL6] (last visited Jan. 10, 2025).

192 *Direct Payment Program Payments in the United States Totaled $53.8 Billion from 1995–2023*, EWG.ORG, [https://perma.cc/8GJX-Q9Z5] (last visited Jan. 10, 2025).

In addition, the wealth is very unevenly distributed. From 1995 to 2023, the largest 1% of all farms receive 27% of subsidy payments, which amounted to $75.7 billion, or $2.1 million per recipient.[193] The largest 20% of recipients receive 91% of all payments.[194] Since 1995, 75% of federal subsidies have gone to 10% of farms, almost all of which focus on commodity crops.[195] This ensures that the largest farms receive the most subsidies by directly incentivizing the crops and methods of farming that are best implemented on large industrial farms, while small family farms that produce more organic fatty foods are left to fend for themselves.[196] So much so that some states may take action to mitigate the harm of federal subsidies on local farmers.[197] In addition, the 2014 Farm Bill further allowed for these disparities to persist by removing specific subsidy recipients from public information.[198] One can see pretty quickly that fatty proteins did not stand a chance in this environment.

Sugar is also very highly subsidized, albeit indirectly through various policies that artificially inflate its price, such as through "domestic production limits and import quotas, marketing assistance loans, and sugar-to-ethanol program[s]".[199] The sugar subsidy program dates back to the 1981 Farm Bill, and the relatively small number of sugar cane producers in the U.S. receive nearly $4 billion a year in federal subsidies, more than enough to fund extreme lobbying efforts.[200] Like grain subsidies, this creates massive profits for these sugar producers and has a detrimental effect on the health of the American people as sugar consumption is encouraged.

Not only does the overproduction of commodity crops directly harm the environment, but the level of production requires harmful methods of farming. [201] These commodity crop subsidies artificially create greater profits and incentives to produce as much grain as possible, and decrease the incentive to farm organically and ensure diversity in

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193 Farm Subsidy Primer, *supra* note 191.

194 *Id.*

195 *Id.*

196 *See* Thomas Richard Poole, *Silly Rabbit, Farm Subsidies Don't Help America*, 31 WM. & MARY ENV'T. L. & POL'Y REV. 183,195 (Fall 2006).

197 *See* Angela Juneau, *The Impact of the Federal Farm Bill on the State of New Jersey: How New Jersey Can Insulate Itself from the Harmful Effects of Federal Farm Subsidies and Protect Its Small Farmers*, 44 RUTGERS L. J. 303, 327 (2014).

198 *See* Freeman, *supra* note 181, at 1271-1272.

199 Hayes & Kerska, *supra* note 182.

200 Vincent H. Smith, *The US Spends $4 Billion a Year Subsidizing 'Stalinist-style' Domestic Sugar Production*, MARKETWATCH (June 25, 2018), https://www.aei.org/articles/the-u-s-spends-4-billion-a-year-subsidizing-stalinist-style-domestic-sugar-production.

201 *See* Trevor J. Smith, *Corn, Cows, and Climate Change: How Federal Agriculture Subsidies Enable Factory Farming and Exacerbate U.S. Greenhouse Gas Emissions*, 9 WASH. J. ENVTL. L. & POL'Y 26 (March 2019) (discussing the environmental concerns associated with commodity crops and factory farming).

crop production.[202] After WWII, much of the chemical and explosives manufacturing plants turned to producing fertilizers and pesticides for farming.[203] These synthetic fertilizers and pesticides made it feasible to maximize yields of commodity crops every year without requiring organic biodiversity.[204]

Therefore, it is not only possible but rational for large farmers to focus their efforts solely on the commodity crops that are most heavily subsidized—because they are the most profitable.[205] Chemical fertilizers and pesticides are the only way to consistently maximize these yields without biodiversity, and this is exactly how farming is conducted on the largest scale today.[206] Nearly all of the top 10% of subsidy recipients (receiving 75% of federal subsidies) implement industrial agricultural practices that utilize these synthetic fertilizers and pesticides, all made up of chemicals that are harmful to us when ingested and are harmful to the environment.[207] Corporate producers of these fertilizers and pesticides are thrilled with this dynamic, and do all they can to ensure our farm policy does not change. Companies such as Monsanto focus their efforts and funds on hiring former government officials to influence policy toward continued reliance on their chemical products.[208] In 2016, Monsanto and their PAC's spent over $4.5 million on lobbying efforts around the agricultural industry.[209]

It is worth noting that organic farms can produce equal or even greater yields than industrial farms in any given year, or even over time.[210] The problem for those profit-maximizing corporate farms is that organic farming is unable to produce the same yield of the same crop every year.[211] Essential to organic farming is balance, biodiversity, and a rotation of crops to ensure rich soil and fertile growing conditions.[212] Industrial farms offer a level of hyper-specialization that cannot be matched through organic farming, and our current Congressional subsidy system essentially forces the hand of corporate farms who must maximize profits to serve their

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202 *See* Dana Hecht, *Effects of Farm Bill Commodity Subsidies on US Corn Production, Farm Income, and Market Price*, 20 POL'Y PERSP. 14, 22 (2013).

203 Windham, *supra* note 167, at 7-8.

204 *Id.* at 8.

205 *Id.* at 16.

206 *Id.*

207 Windham, *supra* note 167, at 13.

208 *Monsanto Lobbying: An Attack on Us, Our Planet, and Democracy*, CORP. EUROPE OBSERVATORY (Oct. 2016), https://corporateeurope.org/sites/default/files/attachments/monsanto_v09_web.pdf.

209 *Monsanto Co.*, OPEN SECRETS, https://www.opensecrets.org/orgs/monsanto-co/summary?id=d000000055 (last visited Jan. 10, 2025) (breaking down the group's monetary contributions to members of Congress and lobbying during the 2016 cycle).

210 Windham, *supra* note 167, at 16.

211 *Id.* at 17.

212 *Id.* at 22.

shareholders' interests.[213] Organic farming simply is not an economically feasible, largescale option in America.

Even though it is now easier to store and ship perishable foods such as meat, fruit, and vegetables, the 1970s farm subsidy shift from price stabilization to export maximization gave commodity crops the largest windfall, and led to an unfortunate, deleterious change in Americans' diets.[214]

3. Dietary Impact

Of course, these millions of dollars in subsidies have a tremendous impact on the daily eating habits of Americans. Unfortunately, U.S. farm subsidies are "not designed to make healthy fruits, vegetables, and proteins accessible and affordable for citizens"[215]—but they do align with the Food Pyramid. As discussed above, these subsidies skew agriculture towards the overproduction of commodity crops.[216] These commodity crops have been so overproduced that the only viable use for them is processed food.[217] As a result, the USDA, who administers this policy, is left with the tension between ensuring consumption of the products they subsidize and their duty to promote healthy nutrition practices.[218]

The increased production of processed foods makes them more readily available and prevalent in the typical American diet. Because commodity crops have little use in the amount that they are produced outside of processed foods, these processed foods become far cheaper than healthier options.[219] This is worsened by the fact that organic food subsidies are not comparable to commodity crop subsidies.[220] These practices make them artificially cheaper than organic produce and meat that is essential to human health. Sadly, many Americans are left with no choice, and there are strong trends between poverty and overall health outcomes due to poor nutrition.[221]

The starkest example of this trend is corn. Corn is by far the most abundant crop in the U.S.[222] In 2010, U.S. farmers devoted eighty-four

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213 *Id.* at 17.

214 *Id.*

215 Dee Laninga, *Putting Our Money Where Our Mouths Should Be: The Great Contradiction between U.S. Food Subsidies and Dietary Guidelines*, FARM ACTION (Aug. 4, 2022), https://farmaction.us/2022/08/04/putting-our-money-where-our-mouths-should-be-the-great-contradiction-between-u-s-food-subsidies-and-dietary-guidelines.

216 *See* Hecht, *supra* note 202, at 17.

217 Caroline Franck et al., *Agricultural Subsidies and the American Obesity Epidemic*, 45 AM. J. PREV. MED. 327 (2013), DOI: 10.1016/j.amepre.2013.04.010.

218 Freeman, *supra* note 181, at 1273.

219 Fields, *supra* note 167, at A-821.

220 *See Farm Subsidy Primer*, *supra* note 191.

221 Fields, *supra* note 167, at A-822.

222 *Corn and Other Feed Grains*, U.S. DEP'T OF AGRIC. ECON. RSCH. SERV. (Aug. 14, 2025), https://www.ers.usda.gov/topics/crops/corn-and-other-feed-grains.

million acres of farmland—nearly 10% of all farmland[223]—to corn production and produced 32% of the world's corn supply, worth more than $60 billion in total.[224] However, less than 1% of all corn grown in the U.S. is sweet corn that humans can eat in its raw, unprocessed form.[225] As a result, the vast majority of this corn is consumed in processed foods, "used as livestock feed, converted to ethanol, or made into food additives for processed foods."[226] This trend is extremely harmful to human health. High fructose corn syrup, for example, is extremely cheap to produce, and not surprisingly, the increased consumption of high fructose corn syrup is directly correlated with increased rates of obesity.[227]

In addition, these grains are converted into livestock feed that "ultimately benefits enormous meatpacking monopoly corporations, which have wielded political power" for decades to develop a system that serves their own interests.[228] While our subsidy programs largely discourage saturated fat consumption in favor of processed foods, even the meat farmers are incentivized to grain-feed their animal stocks.[229] Most meat today is produced by large, profit-driven corporations who are just as willing to sacrifice quality and health to serve their bottom line.[230] This primary form of production is harmful to our environment and our health. Cattle farms that focus on regenerative practices prioritize environmental health, humane treatment of cattle, and human health.[231] Unfortunately, livestock subsidies are in step with crop subsidies, with the vast majority serving the corporate lobbyists who do not implement regenerative practices at the behest of profit margin, driving up the cost of regeneratively raised beef and artificially depressing the cost of factory farmed beef.[232]

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223 Mahsa Shahbandeh, *Total Area of Land in United States Farms from 2000 to 2023 (in 1,000 acres)* (May 24, 2024), https://www.statista.com/statistics/196104/total-area-of-land-in-farms-in-the-us-since-2000.

224 Urry, *supra* note 175.

225 Hayes & Kerska, *supra* note 182.

226 *Id.*

227 Fields, *supra* note 167, at A-821.

228 Laninga, *supra* note 215.

229 Anna Straus, *The Feed-Meat Complex: Unpacking the Truth About How Big Meat Pockets Billions in Farm Subsidies*, FARM ACTION (Nov. 16, 2020), https://farmaction.us/2020/11/16/thefeedmeatcomplex/#:~:text=Join%20Local%20Leaders-,The%20Feed%2DMeat%20Complex:%20Unpacking%20the%20Truth%20About%20How%20Big,prices%20at%20below%20production%20cost.[https://perma.cc/ZL3P-AJA3]; Laninga, *supra* note 215.

230 Straus, *supra* note 229; Grass Roots Farmers Co-op, *infra* note 233.

231 *What Is Regeneratively-Raised Beef? 6 Characteristics*, GRASS ROOTS FARMERS CO-OP, https://grassrootscoop.com/blogs/impact/what-is-regeneratively-raised-beef-6-characteristics#:~:text=in%20B%20vitamins-,What%20is%20the%20cost%20difference%20between%20regenerative%20vs-%20conventional%20meat,with%20far%2Dreaching%20ethical%20considerations (last visited Jan. 10, 2025).

232 *Census of Agriculture,* [2022] 1 U.S. DEP'T OF AGRIC., pt. 51, at 7 tbl. 3, 142–44 tbl. 73 (2022), https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_US/usv1.pdf.

Naturally, these subsidies have an enormous and unavoidable impact on the average American diet, as our eating patterns strongly mirror the most subsidized industries.[233] The most subsidized crops, such as corn, wheat, and soy, are highly prevalent in the U.S. food supply and consumed at dangerously high rates, despite counting toward the Food Pyramid's grain allotment.[234] The average American consumes 5.4 ounces of refined and processed grains per day, a shocking 85% of total grain consumption.[235] On the other hand, 90% of the U.S. population falls below the recommended daily allowance for vegetables and 80% below that for fruit.[236] A staggering half of Americans' caloric intake comes from ultra-processed foods, the majority of which are made with starches and sugars derived from corn and soybeans.[237] Not only do these subsidies encourage consumption of processed foods due to the artificially deflated price, but farms do not even produce the necessary nutrients for our population. For example, industrial farms only produce 25% of the dietary fiber that our population needs.[238]

Consumption of processed foods at this rate has a detrimental impact on human health. For starters, processed food generally leads to overeating, with processed food consumers taking in roughly 500 more calories per day.[239] This is not only due to the extremely high caloric density, but also to the purposeful addictive quality of these foods, causing a similar dopamine spike as nicotine or alcohol.[240] It is important to note that this category includes not only typical unhealthy items like candy and potato chips, but also some foods that have been recently promoted as healthy, such as vegan meats.[241] In addition, processed food lacks nutritional value due to the processing itself.[242] For example, processing corn products into cereals strips the corn of a nutrient that has been linked to lower incidence

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233 *See* Grass Roots Farmers Co-op, *supra* note 231; Koman et al., *Restoration Through Regeneration: A Scientific and Political Lens into Regenerative Agriculture in the United States,* 19 J. SCI. POL'Y & GOVERNANCE 1 (2021).

234 Hayes & Kerska, *supra* note 182.

235 *Id.*

236 Laninga, *supra* note 215.

237 *Id.*

238 *Id.*

239 Jancee Dunn, *Eating Healthy: The Science behind Well's Ultraprocessed Foods Challenge*, N.Y. TIMES (Jan. 5, 2025), https://www.nytimes.com/2025/01/05/briefing/healthy-eating-ultraprocessed-food.html.

240 Sally Robinson, *Processed Food Addiction*, U. TEX. MED. BRANCH HEALTH (Nov. 13, 2023), https://www.utmb.edu/pedi/news/news-article-page/2023/11/13/toxic-stress-and-the-long-term-effects#:~:text=It%20has%20been%20found%20that,nutritious%20and%20more%20%E2%80%9Caddictive%E2%80%9D.

241 Dunn, *supra* note 239.

242 Nick Fox, *The Many Health Risks of Processed Foods*, LABORERS' HEALTH AND SAFETY FUND OF NORTH AMERICA (Apr. 1, 2019), https://lhsfna.org/the-many-health-risks-of-processed-foods.

of cancer.[243] Not surprisingly, just a slight increase in processed food consumption has been linked to a significant rise in cancer risk.[244] As it relates to the heart, processed foods typically have higher levels of sodium and sugar, along with a litany of artificial ingredients, which can lead to high blood pressure and diabetes.[245] Due in part to our subsidy program, ultraprocessed food accounts for a staggering three-quarters of the entire food supply in the U.S., leaving many people with little control over their own health.[246]

These dietary trends are especially impactful on our children. An increase in processed food consumption means that children are consuming too many calories and not enough minerals and vitamins that are essential for their health and growth.[247] Nutritionists have coined the term "misnourishment" for obesity due to a lack of appropriate nutrients, rather than simply too many calories.[248] Processed foods such as soft drinks have replaced organic products like whole milk in the diets of children, which is not only taking away one of the most beneficial foods for child growth, but also substituting a high-sugar beverage that is actively detrimental to their health in both the short and long term.[249]

Sadly, this has already taken a significant toll on the health and wallets of the American people. As much as 10% of Americans, over thirty million people, have been diagnosed with diabetes, and 40% are classified as obese.[250] The estimated medical cost of obesity as a whole in the U.S. was nearly $173 billion in 2019 alone, and medical costs for obese adults were on average $1,861 higher per year than medical costs for people in a healthy weight range.[251] The 2018 total national health expenditures were $3.6 trillion, and that figure is projected to double by 2028.[252] Our public policies are making the problem worse, not better. All of this points to processed food as a much more likely culprit for an uptick in heart disease, obesity, and obesity-related illnesses, rather than the saturated fat that has been so vilified for decades.

Farm policy in the U.S. is directly encouraging the production of crops that have little use outside of processed foods, and those foods

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243 Niamh Michail, *'Not Particularly Good News': Processing Strips Maize of Healthy Nutrients*, FOOD NAVIGATOR EUROPE (Jul. 12, 2018), https://www.foodnavigator.com/Article/2018/07/12/not-particularly-good-news-processing-strips-maize-of-healthy-nutrients.

244 *Eating Highly Processed Foods May Raise Cancer Risk*, HARV. HEALTH PUBL. (May 1, 2018), https://www.health.harvard.edu/cancer/eating-highly-processed-foods-may-raise-cancer-risk.

245 *Health Risks of Processed Foods*, *supra* note 242.

246 Dunn, *supra* note 239.

247 Fields, *supra* note 167.

248 *Id.*

249 *Id.*

250 Laninga, *supra* note 215.

251 *Id.*

252 *Id.*

inevitably end up in our diets. This has had a dramatically deleterious effect on the health of Americans, including children, and on health care expenditures overall.[253] Shifting our law and public policy on farm subsidies to a model that encourages a healthy American diet, rather than lining the pockets of large corporate farmers at the expense of our hearts and wallets, is not only a great place to start but is essential to turning a corner in American health.

C. National School Lunch Program: Children Have No Choice

1. History of School Lunches

> *"The focus was on using available foods, not on a balanced diet."*[254]

As this Article has established, the expansive and outdated subsidy of commodity crops led to an ongoing surplus of those crops by design. Shortly after their implementation, President Roosevelt attempted to curb these surpluses, but his efforts were met with a very negative reaction.[255] As an alternative, the Secretary of Agriculture was directed to establish a program in which farm surpluses would be purchased by the government and distributed to those who were unemployed and hungry.[256] Of course, this program primarily recycled commodity crops.[257] The program ended in 1935, but the remaining resources for the program were shifted to the USDA—which donated much of the surplus to American schools.[258]

In 1946, President Truman signed the National School Lunch Act and created the National School Lunch Program (NSLP).[259] This program allowed the federal government to provide aid directly to states to assist school districts in providing free and reduced-price lunches to those who could not otherwise afford school lunch.[260] The original nutritional requirements were designed to provide children with one-half to one-third of the minimum daily requirements of a 10 to 12 year old child.[261] However, the Act was amended over the years as issues arose around the

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253 *See* M. Neil et al., *The Unfortunate Role of Farm Subsidies as a Stimulus for Inequality and Obesity,* 10 ASIA PACIFIC J. HEALTH L. & ETHICS 105 (2016).

254 Lizabeth DiSiena, *Practice What You Preach: Does the National School Lunch Program Meet Nutritional Recommendations Set by Other USDA Programs*, 28 J.L. & HEALTH 164, 171 (2015) (quoting JANET POPPENDIECK, FREE FOR ALL: FIXING SCHOOL FOOD IN AMERICA 47) (emphasis in original).

255 *Id.* at 171.

256 *Id.*

257 *Id.*

258 *Id.*

259 Caroline Scanlon Beleson, *The National School Lunch Program: Lunch Is for the Kids, Not Political Propaganda*, 24 J. HEALTH CARE L. & POL'Y 249, 250 (2021).

260 *Id.*

261 DiSiena, *supra* note 254, at 174.

quality of the food served and the lack of uniform eligibility requirements for free and reduced lunch.[262]

In the late 1960s, the Senate Select Committee on Nutrition and Human Needs formed and developed the Dietary Guidelines for Americans.[263] With this development came growing concern over the quality of food provided to children in schools as part of the NSLP.[264] However, it was not until 1994 that the Healthy Meals for Healthy Children Act required schools participating in the NSLP to update nutritional requirements to serve meals to children in compliance with the Dietary Guidelines for Americans, which were heavily based on the Food Pyramid.[265] These guidelines recommended reducing overall fat consumption from 40% to 30% of total caloric intake, specifically reducing saturated fat to 10% of total calories, and increase carbohydrate consumption from 28% to 48%.[266] School cafeterias have continued to discourage saturated fat consumption at all costs.

2. School Lunches Today

School lunch and school breakfast programs continue to illustrate the conflict between grand agribusiness interests and student health.[267] The primary goal of the NSLP is to encourage domestic consumption of agricultural commodities rather than to promote the optimal diet for healthy students.[268] The processing of these commodities allows the USDA to maintain current subsidy programs and constant overproduction—to the satisfaction of the agribusiness industry—while also turning commodity crops into foods that can be easily distributed to schools, and the health of these foods is an afterthought.[269] Even Congress has gone so far as to categorize the purpose of the NSLP as "a measure of national security, to safeguard the health and well-being of the Nation's children and to *encourage the domestic consumption of nutritious agricultural commodities*."[270]

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262 *National School Lunch Program, 1970: The Mandate to Feed the Children*, 60 GEO. L. J. 711, 716 (1972).

263 DiSiena, *supra* note 254, at 175.

264 *Id.*

265 *Id.*

266 *History of Dietary Guidelines*, *supra* note 146.

267 J. Amy Dillard, *Sloppy Joe, Slop, Sloppy Joe: How USDA Commodities Dumping Ruined the National School Lunch Program*, 87 OR. L. REV. 221, 222-223 (2008).

268 Cemeen Khodavandi, *A Need for Improved School Lunches*, 39 CHILD. LEGAL RTS. J. 319 (2019).

269 Dillard, *supra* note 267, at 224, 245-248.

270 42 U.S.C. § 1751; *School Meals and Other Child Nutrition Programs: Background and Funding*, CONGRESS.GOV (Jul. 16, 2025), https://www.congress.gov/crs-product/R46234 (emphasis added).

The NSLP is administered by the USDA at the federal level, and state agencies operate the program within the terms of the state's contract with the USDA.[271] Participating school districts and independent schools receive subsidies and certain food commodities from the USDA for each meal that is served in compliance with federal dietary requirements.[272] Therefore, while state and local governments have most of the decision-making power,[273] it would be almost impossible to provide free or reduced-price lunches that do not comply with the dietary requirements—because it would simply be too expensive. These USDA requirements dictate that the average school meal contain no more than 30% of calories from fat, and less than 10% of calories from saturated fat, and that the meal must provide one-third of the Recommended Daily Allowances (RDA) for protein, vitamin A, vitamin C, iron, calcium, and calories.[274] Participation in the program has increased from roughly 7 million in its first year to over thirty million in 2016.[275] In 2018, nearly five billion lunches were served in schools, 75% of which were free of charge or at reduced price under the NSLP.[276]

Similarly, the School Breakfast Program (SBP) is administered by the USDA and reimburses states and school districts to distribute breakfast programs in schools.[277] SBP reimbursement is also contingent upon meals served in accordance with the same federal guidelines as the NSLP.[278]

The Healthy, Hunger-Free Kids Act of 2010 prompted the USDA to further strengthen the federal nutritional standards for school meals, such that the meals must align with the 2005 Dietary Guidelines for Americans.[279] While the purpose of this Act was to provide healthy and sustainable meals for children and emphasize the importance of nutrition education,[280] the nutrition advice was predictably misguided, focusing largely on elimination of fatty foods from school lunchrooms.[281] The Act stated that schools must "increase the availability of fruits, vegetables, whole grains and fat-free and low-fat fluid milk in school menus; reduce

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271 DiSiena, *supra* note 254, at 176.

272 Beleson, *supra* note 259, at 251.

273 Ilana L. Linder, *Hangry for School Lunch Guidance*, 48 J.L. & EDUC. 215, 215 (2019).

274 Sally Thomas, *School Lunch, How Healthy Is It?*, YALE NAT'L INITIATIVE (2008), https://teachers.yale.edu/curriculum/viewer/initiative_08.06.09_u.

275 Linder, *supra* note 273, at 215.

276 Beleson, *supra* note 259, at 250.

277 U.S.D.A., *School Breakfast Program*, https://www.fns.usda.gov/sbp/school-breakfast-program (last visited Sept. 6, 2025).

278 U.S.D.A. FOOD & NUTRITION SERV., *Updates to the School Nutrition Standards*, https://www.fns.usda.gov/cn/school-nutrition-standards-updates (last visited Sept. 6, 2025).

279 DiSiena, *supra* note 254, at 178.

280 Khodavandi, *supra* note 268, at 319-320.

281 Christina M. Cardenas, *Genetically Modified Organisms and School Lunches: Genetically Modified Foods Should Not Be Allowed in Our Nation's Schools*, 26 SAN JOAQUIN AGRIC. L. REV. 109, 127 (2016–2017).

the levels of sodium, saturated fat and trans-fat in meals; and meet the nutritional needs of school children within their calorie requirements."[282] These guidelines also include a caloric limit, and many question whether this limit is sufficient to meet the needs of the wide range of children in the program.[283]

The current requirements for school lunches and breakfasts must comply with the 2020–2025 Dietary Guidelines for Americans. Notably, as a part of these guidelines, schools are only able to offer fat-free and low-fat (1%) milk, while chocolate milk is consistently permitted and French fries are considered a vegetable.[284] Moreover, some schools have voluntarily instructed parents that their children are not permitted to bring in high fat foods from home, even on their own.[285]

3. Impact on Diets of Children

All told, while the NSLP and SBP do provide children with much needed meals and assist those that would be unable to afford three meals per day, the current subsidies and design of the program is detrimental to the health of our most vulnerable population. The limiting of saturated fat and pressure to accept surplus commodity products causes an inevitable increase in processed food consumption in schools.[286] In addition, schools lack the cooking equipment to make meals from scratch without processed ingredients.[287] Most schools only have a refrigerator, freezer, sink, and "hot boxes" and therefore are only equipped to warm foods that have been pre-made elsewhere.[288] Trans fats are also prevalent in school meals with the top reprocessed USDA commodities showing up in cooked beef and pork patties, chicken nuggets, bologna, and pizza, all of which are extremely commonplace meals in a typical school lunch program.[289]

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282 DiSiena, *supra* note 254, at 178.

283 *Id.* at 179.

284 U.S.D.A. FOOD & NUTRITION SERV., *Final Rule—Child Nutrition Programs: Meal Patterns Consistent With the 2020-2025 DGAs,* 7 C.F.R. §§ 210, 215, 220, 225, and 226 (Apr. 25, 2024), https://www.govinfo.gov/content/pkg/FR-2024-04-25/pdf/2024-08098.pdf.

285 *Are School Lunches Really Important For Your Kid's Health?*, UC DAVIS HEALTH (July 10, 2025), https://health.ucdavis.edu/blog/good-food/are-school-lunches-really-important-for-your-kids-health/2019/08; One of the authors of this Article was recently told that ice cream treats were forbidden to be provided to the classroom on the occasion of his 5th grader's tenth birthday, for they were too high in fat. Instead, the teacher recommended a whole grain substitute, such as crackers or Cheerios.

286 Dillard, *supra* note 267, at 224-225, 240-241, 244, and 248.

287 https://health.ucdavis.edu/blog/good-food/are-school-lunches-really-important-for-your-kids-health/2019/08#:~:text=Are%20there%20regulations%20on%20food,effects%20as%20children%20grow%20up.

288 Dillard, *supra* note 267, at 240.

289 *Id.* at 241.

Increased grain consumption causes poor nutrition in school meals.[290] Surveys show that school breakfast only accounts for 21% of daily energy intake.[291] The school lunch program provides students with 27% of daily energy intake and vegetable and protein consumption is consistently low, partially due to the emphasis on grain consumption in schools.[292] These numbers fall well short of the stated goal of the SBP and the NSLP to provide roughly 58% of daily energy intake between the two meals.[293] Saturated fat content in school lunches remains significantly limited as well. Saturated fat accounts for roughly 12% of calories in school lunches.[294] Despite this fact, childhood obesity rates have climbed by nearly 15% from 1971–2018.[295] Why has no one noticed that our laws and regulatory policies are not solving the problem they were designed to combat?

Proposed interventions and bills are typically aimed at increasing the scientific study into childhood obesity and attempt to promote an appreciation for healthy nutrition and exercise patterns in children, but generally fail to address the perverse policies that leave many schools with no choice but to serve unhealthy processed commodity products.[296]

D. Treating Heart Conditions—Pushing Drugs over Diets

When heart issues inevitably do arise in life, they are regularly met with prescription medications rather than a serious reconsideration of our dietary conventional wisdom.[297] Doctors are quick to prescribe medications that lower LDL cholesterol to fight heart disease[298] based on

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290 Joanne Guthrie et al., *Schoolchildren Consumed More Whole Grains Following Change in School Meal Standard*s, U.S. DEP'T OF AGRIC. ECON. RSCH. SERV. (Feb. 3, 2020), https://www.ers.usda.gov/amber-waves/2020/february/schoolchildren-consumed-more-whole-grains-following-change-in-school-meal-standards.

291 Karen Weber Cullen & Tzu-An Chen, *The Contribution of the USDA School Breakfast and Lunch Program Meals to Student Daily Dietary Intake*, 5 PREVENTIVE. MED. REP. 82, 83 (2016), https://pmc.ncbi.nlm.nih.gov/articles/PMC5149064/pdf/main.pdf.

292 *Id.*

293 *Id.* at 82-83.

294 Robert C. Whitaker et al., *School Lunch: A Comparison of the Fat and Cholesterol Content with Dietary Guidelines*, 123 J. OF PEDIATRICS 857 (1993), https://www.sciencedirect.com/science/article/abs/pii/S0022347605803804.

295 Cheryl D. Fryar et al., *Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2017–2018*, *Figure. Trends in Obesity Among Children and Adolescents Aged 2–19 Years, by Age: United States, 1963–1965 through 2017–2018*, NCHS HEALTH E-STATS (2020), https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm#table1.

296 *See generally* Dillard, *supra* note 267.

297 Debra Sherman, *Too Many Heart Pills, Doctors Say,* NBC NEWS (Mar. 13, 2013), https://www.nbcnews.com/health/health-news/too-many-heart-pills-doctors-say-flna1c8845071.

298 Chris Centeno, *Statins Are More Business than Medicine*, (Mar. 15, 2022), https://regenexx.com/blog/statins-are-more-business-than-medicine/#:~:text=How%20about%20medications?,Let's%20dive%20in.

evidence that high LDL cholesterol levels are associated with increased risk of heart disease. The U.S. Department of Health and Human Services recommends statins to curb heart disease risk by lowering the amount of blood cholesterol in anyone between the ages of forty and seventy-five with high cholesterol, diabetes, or high blood pressure.[299] Statins have become the most prescribed class of medications, with more than forty million prescription holders in the U.S., or roughly 12% of the American population, and over 200 million prescription holders worldwide.[300] This usage yields a profit of nearly fifteen *billion* dollars every year, a number that is only expected to increase.[301] They are so popular and profitable that drug companies have devoted substantial resources to developing and marketing multiple iterations despite little difference in their effectiveness.[302]

Statins were initially introduced as a treatment as part of the consensus recommendation to target LDL cholesterol as the primary measure of heart disease risk. They were traditionally considered a cholesterol-lowering drug, and many still turn to statins due to high LDL cholesterol levels.[303] However, "statins are not magic bullets."[304] In fact, it is not even entirely clear that the reason statins are effective is their ability to lower levels of LDL cholesterol. Statins do indeed help to lower LDL cholesterol levels in the blood to control the amount of plaque buildup in the arteries.[305] They also slow the production of cholesterol in the liver by blocking an enzyme that is involved in making cholesterol particles.[306] This causes existing cholesterol to be reabsorbed back into the liver, ultimately reducing the amount in the blood.[307]

While this is an important function of statins, there are other potential factors that might make them effective at treating heart disease that have nothing to do with LDL cholesterol. Statins have some additional functions

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299 *Medicines to Prevent Heart Attack and Stroke: Questions for the Doctor*, U.S. DEP'T HEALTH & HUM. SERVS. (Mar. 21, 2024), https://odphp.health.gov/myhealthfinder/doctor-visits/talking-doctor/medicines-prevent-heart-attack-and-stroke-questions-doctor#:~:text=Statins%20are%20medicines%20that%20lower,age%2040%20to%2075%20years (last visited Jan. 13, 2025).

300 Nina Bai, *Researchers Solve Mystery of How Statins Improve Blood Vessel Health*, STAN. MED. HEALTH NEWS (May 8, 2023), https://med.stanford.edu/news/all-news/2023/05/statins-cardiovascular-vessels.html; *How Statin Drugs Protect the Heart*, JOHN HOPKINS MED., https://www.hopkinsmedicine.org/health/wellness-and-prevention/how-statin-drugs-protect-the-heart (last visited Jan. 13, 2025).

301 Centeno, *supra* note 298.

302 *See* W. Nicholson Price II, *The Cost of Novelty*, 120 COLUM. L. REV. 769, 800 (2020).

303 *How Statin Drugs Protect the Heart*, *supra* note 300.

304 Gabriel Andrade & Maria Campo Redondo, *The Need for "Gentle Medicine" in a Post COVID-19 World*, 24 MED., HEALTH CARE & PHIL. 475, 477 (2021).

305 *How Statin Drugs Protect the Heart*, *supra* note 300.

306 Kimberly Holland, *How Statins Lower Cholesterol Levels*, (May 22, 2024), https://www.healthline.com/health/high-cholesterol/how-do-statins-work#how-they-work.

307 *Id.*

that are referred to as pleiotropic, or cholesterol-independent, such as improving endothelial function, enhancing stability of atherosclerotic plaques, anti-inflammation, and inhibiting thrombogenic response.[308] Finally, statins raise HDL cholesterol levels, which is a very important factor in determining one's risk of heart disease.[309] These other factors have caused statins to be referred to as "risk-reducing drugs" in recent years.[310] Because of these factors, statins are promoted for patients who are not considered at risk due to high LDL cholesterol numbers, and more prescriptions are given as a result.[311] There are also benefits of statins for those with normal LDL levels and a relatively low risk of heart disease, such as the protection of brain function.[312]

While statins do serve their purpose of lowering LDL cholesterol levels and ultimately reducing the risk of heart disease mortality rates, they may be unnecessary in many cases and even potentially harmful.[313] First, lowering LDL cholesterol too much may be actively harmful to overall health and mortality rates outside of heart disease.[314] Meta-analyses have linked low LDL cholesterol levels due to statins with a "significant increase" in newly diagnosed cancers as compared with patients with a higher concentration of LDL cholesterol.[315]

Second, lowering LDL cholesterol may not be the strongest and most predictable way to reduce risk of heart disease. With the advent of the low-fat diet, LDL cholesterol quickly became, and remains, the cited villain for heart health. However, studies indicate that almost 75% of hospital patients who suffered a heart attack had cholesterol levels that were not considered in the "at risk" range.[316] LDL cholesterol does appear to be associated with higher rates of heart disease, but HDL cholesterol is inversely associated, meaning higher HDL levels decrease the risk of heart disease.[317] In fact, HDL cholesterol might even be a stronger

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308 James K Liao & Ulrich Laufs, *Pleiotropic Effects of Statins*, 45 ANN. REV. PHARMACOL. TOXICOL. 89 (Jun. 9, 2005), DOI: 10.1146/annurev.pharmtox.45.120403.095748.

309 Fergus McTaggart & Peter Jones, *Effects of Statins on High-Density Lipoproteins: A Potential Contribution to Cardiovascular Benefit*, 22 CARDIOVASC. DRUGS THER. 321 (Jun. 14, 2008), DOJ: 10.1007/s10557-008-6113-z.

310 *How Statin Drugs Protect the Heart*, *supra* note 300.

311 *Id.*

312 John C. LaRosa et al., *Intensive Lipid Lowering with Atorvastatin in Patients with Stable Coronary Disease*, 352 NEW ENG. J. MED. 1425, 1434 (Apr. 7, 2005), DOI: 10.1056/NEJMoa050461.

313 Janice Tanne, *Meta-analysis says low LDL cholesterol may be associated with greater risk of cancer*, BRITISH MEDICAL JOURNAL, Jul. 28, 2007, at 177.

314 *Id.*

315 *Id.*

316 *Most Heart Attack Patients' Cholesterol Levels Did Not Indicate Cardiac Risk*, UCLA HEALTH, Jan. 12, 2009, https://www.uclahealth.org/news/release/most-heart-attack-patients-cholesterol-levels-did-not-indicate-cardiac-risk.

317 Eujene Jung et al., *Serum Cholesterol Levels and Risk of Cardiovascular Death: A Systematic Review and a Dose-Response Meta-Analysis of Prospective Cohort Studies*, 19 INT'L J.

predictor of overall heart health than LDL levels.[318] Research has revealed that people with low HDL levels suffered from heart attacks at an eight times higher rate than people with high HDL levels.[319] Specifically, it appears to be the *ratio* of HDL cholesterol to total cholesterol that is a better predictor than total or LDL cholesterol on its own.[320] Maintaining a high ratio of HDL cholesterol to total cholesterol is the best way to reduce risk of heart disease.[321]

While statins do generally raise HDL levels in addition to lowering LDL levels, this can also be done through simple dietary changes without resorting to pharmaceuticals that have potentially negative effects on our long-term health. Saturated fat consumption is one of the best ways to naturally raise HDL cholesterol levels without changing the overall ratio of total cholesterol to HDL cholesterol.[322] While saturated fats do raise LDL cholesterol levels overall, this is primarily the larger and more buoyant LDL particles that are less likely to contribute to the buildup of arterial plaque and increase the risk of heart disease.[323] The smaller LDL particles that are more directly associated with heart disease remain relatively unchanged with higher rates of saturated fat consumption.[324]

Given that saturated fat consumption appears to have little negative impact on heart disease[325] and may also be actively fighting against it due to the rise in HDL cholesterol,[326] why has the focus of the scientific community been on lowering LDL cholesterol through the use of pharmaceuticals, which may be harmful in some ways, rather than on raising HDL cholesterol naturally through simple dietary changes? Unfortunately, the answer lies with the bottom lines of major pharmaceutical companies. Statins are promoted over dietary changes largely because pharmaceutical companies have yet to discover a way to effectively raise HDL cholesterol levels similar to saturated fat consumption through the use of drugs, but they can very effectively lower LDL cholesterol levels.[327] Statins are a nearly fifteen *billion* dollar per year industry worldwide, and are only growing as a result of widespread recommendations of their use.[328]

ENV'T RSCH. & PUB. HEALTH. 8272 (2022), DOI: 10.3390/ijerph19148272.

318 Philip Barter et al., *HDL Cholesterol, Very Low Levels of LDL Cholesterol, and Cardiovascular Events*, 357 N. ENGL. J. MED. 1301 (2007), DOI: 10.1056/NEJMoa064278.

319 TEICHOLZ, *supra* note 10, at 162.

320 Bruce Kinosian et al., *Cholesterol and Coronary Heart Disease: Predicting Risks by Levels and Ratios*, 121 ANN. INTERN. MED. 641 (1994), DOI: 10.7326/0003-4819-121-9-199411010-00002.

321 *Id.*

322 Siri-Tarino et al., *supra* note 43, at 385.

323 *Id.*

324 *Id.*

325 *Id.*

326 *Id.*

327 TEICHOLZ, *supra* note 1, at 163.

328 Centeno, *supra* note 298.

These recommendations come from a variety of health organizations with large corporate backing. For example, the American Diabetic Association supports the low-fat diet and numerous medications, including statins, for fighting diabetes and other risks of heart disease.[329] However, the American Diabetic Association is funded by corporate pharmaceutical companies such as Eli Lilly, Merck, Sanofi, and Pfizer.[330] Similarly, the National Institute of Health recommends similar dietary limitations on saturated fat and recommends statins and other medications when heart disease does arise.[331]

Early evidence of the positive effect of HDL cholesterol was pushed down by researchers because it was contrary to the low-fat diet.[332] As we have argued throughout this Article, many would rather compromise scientific integrity than revise their hypothesis regarding saturated fat.[333] Researchers would even omit discussions about HDL cholesterol from their papers in an effort to rationalize the low-fat diet and a recommendation of low saturated fat.[334] Regardless of the benefits of high HDL cholesterol levels, and consuming saturated fat as a method of raising them, the scientific community saved the low-fat diet by focusing almost all their attention on lowering LDL cholesterol, and the lobbying of pharmaceutical corporations ensured that statins are the preferred choice of treatment, not fundamental dietary changes.[335]

III. PROPOSED SOLUTIONS: EMBRACE THE FAT

It is not too late to shift our laws and policy to focus on optimal human nutrition rather than confirmation bias and shoddy science. A wide-spread embrace of benefits of saturated fat is long overdue, and our recommendations, laws, and policy regulations must reflect the proper scientific evidence and end the wrongful vilification of saturated fat.

A. Science-Backed Dietary Recommendations

Our dietary recommendations must be updated to reflect the growing body of evidence against the vilification of saturated fat, on top of the

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329 *Tips for Eating Well*, AM. DIABETES ASS'N, https://diabetes.org/food-nutrition/eating-healthy [https://perma.cc/M4FJ-NJAE] (last visited Jan. 13, 2025).

330 *Corporate Sponsors*, AM. DIABETES ASS'N, https://diabetes.org/research/corporate-sponsors (last visited Jan. 13, 2025).

331 *Coronary Heart Disease: Treatment*, NIH: NAT'L HEART, LUNG, & BLOOD INST. (Dec. 27, 2024), https://www.nhlbi.nih.gov/health/coronary-heart-disease/treatment.

332 Laura Cassidy, *Big Fat Controversy: Changing Opinions About Saturated Fats*, AOCS: LIPID LIBR. (2015), https://www.aocs.org/resource/big-fat-controversy-changing-opinions-about-saturated-fats.

333 TEICHOLZ, *supra* note 1, at 164.

334 *Id.*

335 *Id.* at 162.

lack of evidence in support of the diet-heart hypothesis. The current USDA recommendations have been extremely influential, causing Americans to significantly limit their saturated fat consumption since their implementation.[336] Since the diet-heart hypothesis infiltrated our official nutrition policy and the first guidelines were released in 1980, saturated fat intake has decreased substantially.[337]

However, proponents of the diet-heart hypothesis and supporters of the current dietary recommendations argue that we have not done enough and continue to blame saturated fat and dietary cholesterol for heart disease.[338] While the majority of Americans, roughly two-thirds, fail to limit their saturated fat intake enough to meet the stringent 10% cap recommended across the board for prevention of heart disease, the average consumption is still extremely low at 11.8%.[339] The deviation from the guideline is not even severe for those who do not meet the target, with the average consumption for those who consume above recommendation remaining low at 13.9% of daily caloric intake.[340] Even though the 10% maximum is very difficult to meet, these recommendations have had a significant effect on the diets of Americans. Followers of the diet-heart hypothesis use the failure of Americans to meet the saturated fat target to argue that we must further lower this standard and work to restrict saturated fat in the diet even more severely,[341] but the relatively limited consumption demonstrates the pervasiveness of our low-fat recommendations, and the impressive effort of the American public to adhere to them.

Despite the aggressive vilification of saturated fat and its relative success at influencing the American diet, heart disease prevalence has remained relatively stable in recent years.[342] From 1997 to 2019, there was only a 0.7% reduction in occurrence of heart disease for adults over the age of eighteen,[343] despite significant adherence to the recommendations and

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336 *See* Ann G. Liu et al., *A Healthy Approach to Dietary Fats: Understanding the Science and Taking Action to Reduce Consumer Confusion*, 16 NUTR. J. 53 at 4 (2017).

337 *Id.*

338 *See Facts About Saturated Fats*, MEDLINEPLUS MEDICAL ENCYCLOPEDIA (May 14, 2024), https://medlineplus.gov/ency/patientinstructions/000838.html.

339 *Fat Consumption*, NIH: NAT'L CANCER INST. (Mar. 2024), https://progressreport.cancer.gov/prevention/diet_alcohol/fat_consumption.

340 Shanthy A. Bowman & John C. Clemens, *Dietary Data Brief No. 43 Saturated Fat and Food Intakes of Adults: What We Eat in America*, NIH: NAT'L LIBR. OF MEDICINE (May 2022), https://www.ncbi.nlm.nih.gov/books/NBK588575/#:~:text=Highlights,daily%20calories%20from%20saturated%20fat.

341 *Facts About Saturated Fats*, *supra* note 338.

342 *Heart Disease Prevalence*, CDC NAT'L CTR. HEALTH STAT. (June 2023), https://www.cdc.gov/nchs/hus/topics/heart-disease-prevalence.htm.

343 *Table HDPrv. Respondent-Reported Prevalence of Heart Disease in Adults Aged 18 and over, by Selected Characteristics: United States, Selected Years 1997–2019*, CDC NAT'L CTR. HEALTH STAT. 1 (2020-2021), https://www.cdc.gov/nchs/data/hus/2020-2021/HDPrv.pdf.

a noticeable decrease in saturated fat consumption.[344] Clearly, despite the best efforts of the low-fat diet community and their success in influencing American diets toward restricting saturated fat, heart disease prevalence refuses to budge.

Nutrition policy must be updated to reflect the most accurate science regarding saturated fat consumption. Our nutrition policy should focus on promoting saturated fat over harmful vegetable oils and processed carbohydrates that are an inevitable substitute. This promotion should be coupled with embracing the link between saturated fat and positive HDL cholesterol numbers that are likely to prevent heart disease. Lastly, our nutrition education must be updated to reflect these recommendations, as resources such as the Food Pyramid and MyPlate are regularly consulted for education regarding nutrition in schools and to adults, and the saturated fat myth must be disregarded in favor of science-backed nutrition recommendations that truly improve the health of the American public.

B. Farm Subsidies to Increase Availability of Healthy Foods

Perhaps most importantly, U.S. farm policy cannot continue to sacrifice human health in favor of the revenue of corporations. U.S. farm policy has consistently capitulated to the interests of big agribusiness over the health of the American people,[345] and it is time to reject the interest of these lobbyists and implement farm policy that benefits Americans.

The primary change should be to shift funds away from commodity crops and toward programs that incentivize organic farming, a reduction in the use of pesticides, and pasture raised meat and dairy. Organic farming has become more viable to meet food consumption needs, and we could produce close to the same amount through organic means as traditional industrial farming if we incentivized organic practices and biodiversity.[346] The gap between the two methods is lessening as organic agriculture becomes more productive and the synthetic fertilizers used in industrial farming become less effective in terms of crop yields.[347]

Our farm policy should adjust by offering subsidies that are contingent upon organic methods and eliminating traditional industrial methods. Practices such as multi-cropping and crop rotation would help

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344 *Trends in Intake of Energy and Macronutrients—United States, 1971–2000*, CDC: MORBIDITY & MORTALITY WEEKLY REPORT (Feb. 6, 2004), https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5304a3.htm.

345 Richard J. Jackson et al., *Agriculture Policy is Health Policy*, NIH: NAT'L LIBR. OF MEDICINE: PUBMED CENTRAL (Dec. 11, 2009), https://pmc.ncbi.nlm.nih.gov/articles/PMC3489137.

346 Sarah Yang, *Can Organic Crops Compete with Industrial Agriculture?*, UC BERKELEY NEWS (Dec. 9, 2014), https://news.berkeley.edu/2014/12/09/organic-conventional-farming-yield-gap.

347 *Id.*

to make organic farming even more productive,[348] and it is long overdue that farm policy in the U.S. reflect these methods to incentivize maximum output of healthy and sustainable agriculture. Devoting further funds to researching these practices would also aid in increasing the efficiency of organic farming.

This shift in incentives would reduce the overproduction of commodity crops and help to eliminate the surpluses that result in the inevitable production and consumption of ultra-processed foods. Increasing organic farming also causes an increase in meat and produce that can be consumed by humans with minimal processing,[349] driving down prices of healthy organic food and decreasing the number of Americans who are left with no choice but to purchase cheap processed food for their family. Curbing overproduction of commodities would also create more available and healthier meat by limiting the supply of corn used for feed, which forces healthier raising of cows, pigs, and chickens.

The USDA has begun to fund some programs for sustainable farming practices, but it is far from enough. Just over 10% of all farm subsidies from 1995–2023 were devoted to "conservation programs" while over 75% went to commodity programs and crop insurance for large corporations.[350] These conservation programs, while important, are primarily devoted toward environmental sustainability as opposed to health.[351]

Farm policy must also shift away from rewarding the largest farms and encourage smaller farms to serve more areas of the country and avoid food deserts. As established, 75% of all crop insurance and similar payments are given to the top 10% of all farms in the U.S.[352] Small family farms, by contrast, receive a measly average of $50 per year from federal crop insurance programs.[353] To put this imbalance in perspective, small family farms make up almost 90% of all farms.[354] In other words, 90% of the farms in the U.S., farming through sustainable means and in many cases in need of financial assistance, receive pennies in crop insurance while large agribusiness corporations receive millions.

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348 *Id.*

349 Azizur Rahman et al., *A Comprehensive Analysis of Organic Food: Evaluating Nutritional Value and Impact on Human Health*, PUBMED CENTRAL (Jan. 9, 2024), https://pmc.ncbi.nlm.nih.gov/articles/PMC10814746.

350 Farm Subsidy Primer, *supra* note 191.

351 *See USDA Programs and Initiatives,* USDA CONSERVATION PROGRAMS, https://www.nrcs.usda.gov/programs-initiatives.

352 Vincent H. Smith & Ryan Nabil, *Agricultural Subsidies Aid the Wealthy, Not Those in Rural Poverty*, AEI (Nov. 11, 2017), https://www.aei.org/articles/agricultural-subsidies-aid-the-wealthy-not-those-in-rural-poverty/.

353 *Id.*

354 *The Difference Between Small & Large Farms*, RECONNECTING ROOTS (Apr. 26, 2019), https://www.reconnectingroots.com/post/the-difference-between-small-large-farms.

Encouraging smaller farms by spreading subsidies will serve multiple goals. First, smaller farms are more sustainable and tend to grow healthier foods than large industrial farms, with the help of fewer chemicals and synthetic fertilizers and more of a focus on crop rotation and biodiversity.[355] Second, improving the efficacy of small farming operations will increase the availability of healthy food across the country and help to curb food deserts.[356] Third, there is a substantial economic impact as subsidized small farming helps to lower the cost of organic food. Small farmers that are shunned from federal subsidies cannot currently keep up with large corporations offering below-market subsidized pricing.[357] Increasing the efficacy of small farming operations and subsidizing what they produce will decrease the prices of the healthiest food and create more small farms because they will become more profitable. These small farms also contribute to valuable job production because large industrial farms can cheaply operate in a highly mechanized manner, spreading fertilizers and pesticides and processing single crops with machines, while smaller farming operations that require more human labor are less subsidized.[358]

In total, there is no tangible benefit of the U.S. farm subsidy policy to the American people, from a health, food security, and economic standpoint. It is time for a new policy that focuses on improving human health by incentivizing farming methods and production of foods that are beneficial to us all, rather than capitulating to the deep pockets of corporate lobbyists again and again.

C. School Lunch Programs Focus on Healthy Students

Our school lunch policy is also lagging when it comes to student health and the best nutrition for children. School meals have too long been used to dispose of excess commodity crops at the expense of children's health. The above recommendations for change in farm subsidy policy will be the primary driver, as it will address the concerns over excess commodity products consumed in school. In addition, funding the production of local farms to be served in schools, including meat and full-fat dairy, will be extremely beneficial to the health and growth of children.

The USDA should strengthen the existing National Farm to School Network, which connects school districts with local food producers to

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355 *See id.*

356 Martita Mestey, *Food Deserts: Owen Lynch of Restorative Farms On How They Are Helping To Address the Problem of People Having Limited Access to Healthy & Affordable Food Options*, AUTHORITY MAG. (Feb. 29, 2024), https://medium.com/authority-magazine/food-deserts-owen-lynch-of-restorative-farms-on-how-they-are-helping-to-address-the-problem-of-ceba81c93ef3.

357 Brian Wakamo, *We Subsidize the Wrong Kind of Agriculture*, (Jun. 24, 2018), https://inequality.org/article/subsidize-wrong-kind-agriculture.

358 Smith & Nabil, *supra* note 352.

improve access to healthy foods in school.[359] This program facilitates the purchasing and serving of locally sourced food in schools, as well as nutrition education through school activities such as establishing school gardens.[360] While programs like this do exist and are a no-brainer for improving the health of our children and the economic viability of local farming, they are egregiously underfunded. Currently, only $5 million is available for grants through the USDA Farm to School Grant Program.[361] If $5 million seems like a large sum of money, total USDA expenditures in 2023 *exceeded $200 billion*,[362] and the budget is set to increase to an astonishing total of *$460 billion* in 2024.[363] For reference, USDA commodity crop program payments in 2023 totaled over $9 billion, the vast majority of which went to large industrial farms.[364] In other words, our current federal farm policy provides healthy, locally sourced school meals 0.05% of what they give to the pockets of industrial farm corporations that are not only failing to provide healthy meals to our children, but are actively harming them and the American public as a whole.

The USDA must increase funding for these programs that support healthy local foods in our schools rather than aiding in the overproduction of commodity crops that inevitably end up in our school lunches as processed foods. Additionally, the USDA must increase the availability of healthy saturated fat through properly raised meat and dairy products.

Another important way that our policies should adapt to improve the health of children is to promote the consumption of healthy saturated fat through recommendations and education. These foods are necessary and optimal for child growth[365] and must be promoted above the low-fat, high carbohydrate recommendations, the benefits of which, especially for children, are without any scientific backing.[366]

Proper education on a healthy diet throughout America is essential to this shift. This must be done directly to children and through their parents, both of which have significant effects on what children view to be healthy

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359 *About Farm to School: How Does Farm to School Contribute to Vibrant Communities?*, NAT'L FARM TO SCHOOL NET., https://www.farmtoschool.org/about/what-is-farm-to-school (last visited Jan. 13, 2025).

360 *Id.*

361 *Funding Farm to School*, NAT'L FARM TO SCHOOL NET., https://cdn.prod.website-files.com/5c469df2395cd53c3d913b2d/611044a8d6e4ba773b052594_Funding%20Farm%20to%20School%20Factsheet.pdf (last visited Jan. 13, 2025).

362 2023 BUDGET SUMMARY, U.S. DEP'T AGRIC. (2023) https://www.usda.gov/sites/default/files/documents/2023-usda-budget-summary.pdf.

363 Joshua Baethge, *USDA 2024 Budget Finally Approved*, (Mar. 11, 2024), https://www.feedstuffs.com/agribusiness-news/usda-2024-budget-finally-approved.

364 USDA 2023 BUDGET SUMMARY, *supra* note 362, at 6.

365 Sally Robinson, *Kids Need GOOD Fat Rather Than LOW Fat*, UTMB DEPT. OF PEDIATRICS, (Mar 21, 2023), https://www.utmb.edu/pedi/categories-tags/2023/03/21/kids-need-good-fat-rather-than-low-fat.

366 *Id.*

and nutritious, and what they end up eating for the majority of their upbringing.[367] These influential recommendations must include proper education regarding saturated fat, including both the positive impacts on child development and long-term heart health, rather than perpetuate the biased diet-heart hypothesis and harmfully restricting saturated fat consumption from an early age.

D. Dietary Changes Before Drugs

Our policy surrounding the treatment and prevention of heart disease must move away from a quick trigger on prescription drugs and instead focus on science-backed dietary changes that decrease the risk of heart disease. We must face the science and recognize the lack of evidence for the vilification of saturated fat and embrace how these foods can be beneficial to human health.

In recent years, doctors have expanded the cholesterol range for which statins can be prescribed, allowing an increase in prescriptions, which roughly quadrupled from 2000 to 2022[368]; however, it is likely that many of these prescriptions are unnecessary. It is much safer to revisit our diets and focus on the more predictive HDL cholesterol numbers to combat heart disease rather than jump to extreme measures through pharmaceuticals. While taking statins is not inherently very risky, the side effects can outweigh the benefits when taken specifically to target against heart disease.[369] It is time to recognize that we may be fighting heart disease from the wrong direction, and we may be able to mitigate heart disease from the outset by adjusting our recommendations and policy to avoid overprescription of statins and their various potential side effects.[370]

Ignoring the flawed science behind the vilification of saturated fat has done little to curb the risk of heart disease, and has led to an increase in statin prescriptions, much to the benefit of pharmaceutical companies.

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367 *See* Ewa Czarniecka-Skubina et al., *How Can We Increase the Nutrition-Related Knowledge in Children Aged 7–12 Years: Results of Focus Groups Interviews with Parents—Junior-Edu-Żywienie (JEŻ) Project*, 16 NUTRIENTS 129 (2023), DOI: 10.3390/nu16010129; *see also* Gidyenne Christine Bandeira Silva de Medeiros et al., *Effect of School-Based Food and Nutrition Education Interventions on the Food Consumption of Adolescents: A Systematic Review and Meta-Analysis*, 19 INT'L J. ENV'T RSCH. PUB. HEALTH. 10522 (2022), DOI: 10.3390/ijerph191710522.

368 Yiyu Chen et al., *A Retrospective Trend Analysis of Utilization, Spending, and Prices for Generic Statins in the US Medicaid Population, 1991–2022*, 17 AM. HEALTH & DRUG BENEFITS (Feb. 2024), https://www.ahdbonline.com/web-exclusives/a-retrospective-trend-analysis-of-utilization-spending-and-prices-for-generic-statins-in-the-us-medicaid-population-1991-2022#:~:text=After%202008%2C%20however%2C%20generic%20statin,0.03%20million%20prescriptions%20in%202022.

369 Jacqueline Howard, *Are Statins Overprescribed?*, CNN HEALTH (Dec. 3, 2018, 5:39 PM EST), https://www.cnn.com/2018/12/03/health/statin-side-effects-benefits-study/index.html.

370 See *Side Effects: Statins*, NHS.UK, https://www.nhs.uk/conditions/statins/side-effects/ (last visited Jan. 13, 2025) (for a general discussion of statin side effects).

Rethinking the policy and recommendations for statins and the effects that saturated fat can have on our heart health may decrease our reliance on pharmaceuticals and lead to naturally healthier hearts with fewer side effects.

CONCLUSION

Heart disease has been the leading cause of death in the United States since 1921.[371] Every thirty-three seconds, one person in the U.S. dies from heart disease, and it is responsible for roughly 20% of all deaths in the U.S.[372]

As we have fought against this disease, we have consistently turned to our scientific leaders to show us the path and provide recommendations to literally ease our hearts and minds. Unfortunately, the early scientific leaders pitted the scientific method that we rely on so heavily against their own egos, and their egos won outright. Saturated fat was locked in the crosshairs from researchers before any evidence was shown of a causal impact, and there was little that even the data they personally collected could do to show them otherwise.[373] By adopting this flawed science into our laws, policies, and public health recommendations, we have condoned the confirmation bias of a few scientists and made it dietary dogma for all Americans, even young children.

Our laws, recommendations, and health policies have consistently claimed a basis in science that simply does not exist. The positive signs that saturated fat can be considered a health food, even for the heart, are systematically disregarded in favor of recommendations for vegetable oils and carbohydrates that may be actively harmful for our bodies. Farm policy in the U.S. has actively capitulated to the interests of huge agri-business and lobbyists over the health of the American people, by handing out billions of taxpayer dollars to massive farming operations for their production of grains that can only be consumed by humans in processed form. School lunches are impacted directly, and school districts are coerced into buying into the low-fat diet by our governmental agencies. They require meals to strictly be in line with official dietary recommendations and are used as a means to dispose of excess commodity crops, artificially created by a

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371 *Decline in Deaths from Heart Disease and Stroke—United States, 1900–1999*, CDC, 48 MORB. MORTAL WKLY REP. 649 (1999), https://pubmed.ncbi.nlm.nih.gov/10488780/#:~:text=Heart%20disease%20has%20been%20the,approximately%2040%25%20of%20all%20deaths.

372 *Heart Disease Facts*, CDC (2024), https://www.cdc.gov/heart-disease/data-research/facts-stats/index.html#:~:text=Heart%20disease%20in%20the%20United%20States&text=Heart%20disease%20is%20the%20leading,every%205%20deaths.12.

373 Nina Teicholz, *A Short History of Saturated Fat: The Making and Unmaking of a Scientific Consensus*, 30 CURR OPIN ENDOCRINOL DIABETES OBES. 65 (2023), DOI: 10.1097/MED.0000000000000791.

perverse subsidy program. Unfortunately, when heart disease inevitably does occur, our system is so staunchly entrenched in its low-fat nutrition theory that health care providers are more prone to prescribe medication than to seriously reconsider our approach to diets and lifestyle. In the end, our mega pharmaceutical companies have enjoyed the billion-dollar industry that results.

Fortunately, governmental public health agencies can make a significant difference in the diets and health of the American people through relatively simple changes in our regulatory policies. It is past time for new recommendations, farm policy, school lunch programs, and treatment plans that embrace the science behind dietary saturated fat and promote the best possible diets for all Americans. Until we shine a light on the dubious science that facilitated the low-fat diet and turn our law and regulatory policies in the other direction, we will continue losing the battle over our own hearts.