

Food as Medicine – The Answer to Mounting Health Crises

Analysis by [Dr. Joseph Mercola](#)

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STORY AT-A-GLANCE

- › While modern medicine successfully treats acute problems, it has nothing to offer for chronic conditions, as the solution for chronic health problems requires real food
- › Real food is medicine. Processed food is poison, and there's no medicine that can undo the damage of processed food
- › Two bulwarks against truth about health are the medical establishment, which doesn't want to admit drugs cannot treat foundational causes of disease, and the food industry, which doesn't want you to know that processed foods are inherently unhealthy
- › To improve public health, we need education about the core problem – the overabundance of processed food in our diet – plus implementation of healthier eating, both on a personal level and a societal level, which will require societal intervention in the form of legislation or litigation
- › Food companies can make money selling real food. The primary hindrance is the subsidizing of junk food ingredients (sugar, corn, wheat and soy)

Dr. Robert Lustig, a pediatric endocrinologist and Professor Emeritus at the University of California, San Francisco, has written a number of excellent books about health. His latest, "[Metabolic: The Lure and the Lies of Processed Food, Nutrition, and Modern Medicine](#)" goes deep into the details of how changes in our food supply have damaged our metabolic health. (The created term "metabolical" is actually a portmanteau of the words "metabolic" and "diabolical.")

"I wrote it because nothing else has worked," Lustig says. "Part of the problem is this is such a complicated issue. There are too many stakeholders and you have to find a method for making everyone happy. Until you do, you can't solve it.

There is a way to actually solve this, [but] every stakeholder, whether it be the patient, the doctor, the food company, the insurance industry, the medical profession, Wall Street and Congress ... has to understand the same thing. They all have to be working off the same set of facts. You see what happens when you don't work off the same set of facts.

So, my job was to put all of this in one volume so that everyone had access to the same information, and then we can go from there. I lay out in the book what the argument for fixing the entire food system is, and how everyone can benefit from it, even the food industry."

The Two Primary Keys

In summary, it boils down to two primary key issues or problems. The first is that the medical establishment doesn't want you to know that drugs were never intended or designed to treat the foundational cause of chronic disease. They merely treat the symptoms.

"In the book, I make it very clear that modern medicine has two factions, two paradigms," Lustig says. "One is treatment of acute disease, and for the most part, they've gotten it reasonably right. I was part of that system for 40 years and was comfortable within it.

But for chronic disease, Type 2 diabetes, hypertension, lipid problems, cardiovascular disease, cancer, dementia, nonalcoholic fatty liver disease, polycystic ovarian disease – all of which are chronic metabolic diseases, all of which are mitochondrial diseases – we don't have anything. We have symptomatic relief only.

So, we have LDL lowering agents – and if LDL were the problem, that would be fine – except LDL is NOT the problem. LDL is a symptom of the problem. It is a manifestation of the metabolic dysfunction. Same thing with hyperglycemia.

Same thing with hypertension. Same thing with osteoporosis. Same thing with autoimmune disease. All of these, we have symptomatic treatments. We don't cure or reverse the disease; we just treat the symptoms. And so the disease gets worse.

The way I describe it in the book is, it's like giving an aspirin to a patient with a brain tumor because they have a headache. It might work today, but it's not going to solve the problem. And that's what modern medicine is throwing at people with chronic disease, and it is, of course, breaking the bank."

The other problem is that the food industry doesn't want you to know that virtually all foods are intrinsically good for you until they're processed, and processed foods make up a majority of the foods people eat.

“ Food is medicine, but processed food is poison, and there's no medicine that can undo the damage of processed food. ~ Dr. Robert Lustig”

As noted by Lustig:

“The point I make in the book is that just because they call it processed food, doesn't make it food. Calling it a processed food suggests that it is a subset of food. Michael Pollan [calls it] palatable food-like substances. The fact of the matter is, processed food is poison. Food is medicine, but processed food is poison, and there's no medicine that can undo the damage of processed food.”

Indeed, once you understand the molecular pathways, when you understand the transcription factors and the actual mechanisms of action of various diseases, and the

various drugs used to treat them, you can easily see that they do not treat the underlying problem. And that's why people don't get well.

"What I'm trying to do in this book is to separate food from processed food and explaining that processed food is the problem, and we will not solve the health care crisis or the environmental crisis until we solve processed food," Lustig says.

The History of Medicine

In his book, Lustig does an excellent job of presenting the history of our food and medical systems, and the various pressures that led us down the path to where we are today. For example, a significant part of why medical doctors are so clueless about health today is because Big Pharma was placed in charge of their education. The drug industry, in turn, was a distinct profit-making scheme from its inception.

In 1910, Abraham Flexner, an educator, wrote the Flexner Report, which turned out to be a turning point in terms of creating evidence-based modern medicine, while simultaneously eliminating many health-related factors, including nutrition and preventive medicine. His brother, Simon Flexner, a pathologist and pharmacist, was the first president of Rockefeller University.

One of the reasons the Flexner Report eliminated certain aspects of medicine was because John D. Rockefeller, president of Standard Oil, was also in the pharmaceutical business. He was trying to sell coal tar, a byproduct of oil refining, as a treatment for a range of ailments.

So, Rockefeller was seeking new profit avenues. "He basically said we have to get drugs and especially coal tar into the hands of physicians who can prescribe it," Lustig says. The only way to do that was by overhauling the medical system and shifting the focus to pharmaceuticals.

"So that was the start of Big Pharma. That's not the story they want to tell, but that is in fact the case," Lustig says. *"Same thing with dentistry. Weston Price,*

perhaps the most famous of all dentists, knew this back in the 1920s and '30s and actually said that sugar was the primary driver of chronic oral disease, whether it be periodontitis or dental caries.

Everything was going in that direction until 1945 with the advent of fluoride, and then promptly everything Weston Price had developed up to that point got deep-sixed. In fact, the dentists even said that if we got rid of dental caries, how are we going to make money? So, his work was basically forgotten.

The same thing in dietetics. It turns out that Lenna Cooper, co-founder of the American Dietetic Association, back in 1917, was the apprentice of John Harvey Kellogg. She didn't even have a dietary degree ... Kellogg was very much against meat. He was a Seventh-Day Adventist, and it turned out that the American Dietetic Association adopted the entire Seventh-Day Adventist religious paradigm.

To this day, we still see it in terms of vegan diets. So, people talk about vegan diets being appropriate for health, and they can be, but they are not by any means exclusive. They also talk about it being important for environmental health to try to reduce the methane from the cows.

It turns out the cows didn't spew methane until we started giving them antibiotics, because we killed off the good bacteria in their guts and now they have quadruple the amount of methane compared to what they did in 1968 before the animal antibiotic craze got started. So, it's not the cows, it's what we do to the cows. All food is inherently good. It's what we do to the food that's not, and that's what I show in the book."

The adulteration of our food can actually be traced back to around 1850. In Great Britain, the industrial revolution was a turning point where two things happened at the same time.

One, people in sweatshops worked long days and didn't have time to cook proper meals, so they ended up eating processed biscuits laden with sugar, which had become available from other British colonies like Barbados. This undernourished them in terms

of antioxidants, fatty acids and other important nutrients. The second big dietary change was canning, which exposed people to lead poisoning as the cans were made of lead.

Why You Shouldn't Focus on Food Labels

By now, you've probably trained yourself diligently to read food labels. The problem is that the label will not tell you what's been done to the food. "This is one of the reasons why nobody's getting better because there's nothing to learn from the label that will actually help you," Lustig says. According to Lustig, a food is healthy if it satisfies two criteria:

1. It protects your liver
2. It feeds your gut

A food that does neither is poison, and any food that does only one or the other, but not both, is somewhere in the middle. Real food, because it has fiber, protects your liver and nourishes your gut. Processed food is fiberless, and the reason for this is because fiber decreases shelf life. By removing the fiber from the food, it prevents it from going rancid, but it also makes it inherently unhealthy.

Essentially, "in an attempt to try to increase availability, decrease wastage, we turned our entire food supply on its head in order to create commodities rather than make food available," Lustig says.

Then, in the 1970s, Richard Nixon told the U.S. agriculture secretary, Earl Butts, to come up with a plan to decrease food prices, as fluctuating food prices were causing political unrest. The result was the start of monoculture and chemical-driven farming.

"Now, we have nitrogen runoff destroying our environment and antibiotics in the feed in order to keep the animals alive, but basically killing off their own bacteria and ours, and also creating chronic disease and destroying the environment as well."

It's basically built into our Western food system. And we're not going to solve health care, we're not going to solve chronic disease, we're not going to solve the economics [or] the environmental problems until we recognize what the problem is," Lustig says.

Refinement Makes Everything Worse

While Lustig argues that the refinement of carbohydrates is the primary culprit that makes processed food so bad for your health, I believe processed fats may be an even bigger contributor.

Omega-6 **linoleic acid** (LA), in particular, is a pernicious metabolic poison. In 1850, the LA in the average diet was about 2% of total calories. Today, it's between 20% and 30%. While we do need some omega-6, since your body does not make it, the point is we need nowhere near the amount we're now getting.

"I agree that omega-6s are a problem," Lustig says. "No. 1, they're proinflammatory by themselves and No. 2, they have enough unsaturated double bonds so that if you heat them high enough, you flip them and end up making trans fats. That's the problem of all of these polyunsaturated fats. They're not meant to be heated beyond their smoking point, and we do."

In addition to those issues, polyunsaturated fats such as LA are highly susceptible to oxidation, and as the fat oxidizes, it breaks down into harmful sub-components such as advanced lipid oxidation end products (ALES) and oxidized LA metabolites (OXLAMS). These ALES and OXLAMS also cause damage.

One type of advanced lipid oxidation end product (ALE) is 4HNE, a mutagen known to cause DNA damage. Studies have shown there's a definite correlation between elevated levels of 4HNE and heart failure. LA breaks down into 4HNE even faster when the oil is heated, which is why cardiologists recommend avoiding fried foods. LA intake and the subsequent ALES and OXLAMS produced also play a significant role in cancer.

HNE and other ALES are extraordinarily harmful even in exceedingly small quantities. While excess sugar is certainly bad for your health and should typically be limited to 25 grams per day or less, I believe LA is far more damaging overall. As explained by Lustig:

“We have a metabolic burden of reactive oxygen species (ROS) that are doing damage if you can't quench them. That's why we have antioxidants in our body – glutathione, vitamin E – [they're] basically the sink for those reactive oxygen species. The fact of the matter is our mitochondria are making ROS every single minute of every single day.

It is a normal byproduct of metabolism. The point is we're supposed to be able to quench them. You can only quench them if you get the antioxidants into you.

The problem is as soon as you've taken the germ out of the grain kernel, you've basically reduced your antioxidant consumption by tenfold. So, we are antioxidant deficient because of food processing, which then leaves us vulnerable to the ravages of ROS from multiple sources including our own mitochondria.”

Real Food Is the Answer

The key, then, is to eat whole food, which is **naturally rich in fiber** and low in sugar. On a side note, free radicals are not all bad. They're also biological signaling molecules, and if you indiscriminately suppress them, which is the danger you run into when using very high amounts of antioxidant supplements, it can backfire.

The best way is to get your **antioxidants** from your food, and real food not only provides antioxidants, but also doesn't create excessive ROS, so you get help from both ends, as it were. As for the type of diet you choose, any diet can work, provided it's right for your metabolism. The only diet that does not work for anyone is a processed food diet.

Solutions, Solutions

Now that you know the root problems, what solutions does Lustig suggest? For starters, education alone is not enough, he says. We need education plus implementation. And that requires a different societal response.

“The way I describe it is that there's personal intervention, which for the lack of a better word we can call rehab, and societal intervention, which for lack of a better word we can call laws. Rehab and laws for everything that is a hedonic substance – you need both.”

The first step of personal intervention is figuring out if you're sick. “And don't ask your doctor because they don't know how to figure it out,” Lustig says. In Chapter 9 of his book, he lists clues that can help you self-diagnose.

In terms of addressing your health problems, your primary “treatment” will be to make, possibly significant, changes to how you shop and eat. As a general, easy-to-follow rule, if it has a label, don't buy it. Real food does not have ingredient labels. Lustig's book also includes guidance on how to read food labels in cases where you might not have an option.

“We also need societal intervention. The problem is the food industry doesn't want any societal intervention because this is their gravy train. So, the question is, how do you do this?”

Normally we would do it through legislation, but the food industry has completely co-opted the entire legislative branch; 338 out of 535 congressmen take money from the American Legislative Exchange Council (ALEC), and agriculture is their fourth [largest] contributor after petroleum, tobacco and pharma.”

Barring legislative success, we're left with litigation. Already, there are a number of lawsuits in the works, several of which Lustig is a part of. Ultimately, we must restructure the entire food system so that all stakeholders benefit. “And we have to demonstrate to them how they can benefit,” Lustig says.

Subsidies Are the Biggest Hindrance to Change

Can the food industry make money selling real food? Lustig believes the answer is yes, and in his book, he details how real food makes both financial and ecological sense. The key is to remove subsidies, which currently grease the wheels of the processed food industry.

“The subsidies are the single biggest blockade,” Lustig says. “They’re the single biggest obstacle to being able to fix the food supply because that’s what’s making processed food cheap. The Giannini Foundation at UC Berkeley did a back of envelope calculation several years ago.

What would the price of food look like if we got rid of all food subsidies? It turns out that the price of food would not change. People say it would go up. No, it wouldn’t. It would not change except for two items. Two items would go up: Sugar and corn [used for high-fructose corn syrup]. So, basically, that would reduce consumption of the primary toxin in our diet that’s causing the most trouble ...

The food industry ... can make more money doing the right thing provided we get rid of the subsidies or make the subsidies for real food so that they can make money selling the right thing. This requires government. There’s no way around it. That’s why this book is complete. It’s laid out for all the stakeholders, including government, as to what has to happen and why.

I wrote this book for everyone to understand the same principles all at once, so that we can actually have an argument and a debate and hopefully come to the table about the facts, because until we do that, there will be no solving this problem. If everyone comes to the table, honestly, and admits to what the issue is, what the problem is, we can, in fact, solve it.”

To learn more, be sure to pick up a copy of Lustig’s book, “[Metabolical: The Lure and the Lies of Processed Food, Nutrition, and Modern Medicine](#).” You can also find a wealth of information on his website, [RobertLustig.com](#), including media appearances, audio

recordings, video lectures, books, articles and upcoming events where you can hear him speak.