

# **The 2015 Dietary Guidelines:**

## **A Special Interview with Nina Teicholz**

By Dr. Joseph Mercola

**DM:** Dr. Joseph Mercola

**NT:** Nina Teicholz

**DM:** The US Dietary Guidelines were just published. What did they say, and how could any governmental agency ever issue such important health recommendations that are so seriously flawed? Hi, this is Dr. Mercola, helping you take control of your health. Today we are joined by Nina Teicholz, who is an investigative journalist and the author of the *New York Times* bestseller *The Big Fat Surprise: Why Butter, Meat & Cheese Belong in a Healthy Diet*. I actually interviewed her previously for that book.

She also was a reporter for the National Public Radio. She attended Yale and Stanford where she studied biology. She also has a master's degree from Oxford University. We're delighted that she is here to join us and give us an update on this important document that's recently released by the US federal government. This has been so for the past 35 years. Nina, why don't you give us a background on this, so we could start the discussion?

**NT:** Right. The first question to ask is who cares about the dietary guidelines? They don't affect me. You're readers and listeners are people who care about their health, pay attention, and read things that are not the government guidelines. They probably think it doesn't matter at all to them.

Here's why they do matter: they determine what foods are in the feeding assistance programs run that are by the US Department of Agriculture (USDA) that touch 1 in 4 Americans every month. Those include the National School Lunch Program (NSLP) (for many people the food that their kids are getting at school), programs for the elderly, Supplemental Nutrition Assistance Program (SNAP) (programs which food stamps are now called), and military rations. They determine a lot about what people eat in America.

You think you don't go to the government website and find a nutritional advice, but the long tentacles of that governmental policy reach into most people's lives. If you go to your doctor, your nutritionist, or your dietician, their nutritional recommendations are based largely on the dietary guidelines, so they are hugely important.

They were launched in 1980. They've been around for 35 years. Every five years a new version is issued. A part of that process is that there is an expert panel that is picked from members of the academia, usually around 14 members. They are supposed to review all the evidence that's come in over the previous five years and make their recommendations about what should stay the same or what should change in these dietary guidelines, which are our national nutrition policy. That's basically what they are. They're very influential. The newest version has just been released.

**DM:** Most likely it has an impact on other foreign countries, because the US is typically viewed as a leader in this area. I suspect that many replicate these recommendations in their own countries. They don't have the resources and scientific expertise to duplicate a similar process.

**NT:** That's exactly true. I have people from all over the world who write to me and tell me, "We can't move on this because your dietary guidelines say that." The rest of the world really sees the US as a leader in this. Also, international organizations like the World Health Organization (WHO) and the Food and Agriculture Organization of the United Nations (FAO), they also follow, to a large extent, what the US leadership says.

**DM:** These are really important recommendations. Even though, as you mentioned, and I couldn't agree more, for most of the people watching this, they don't directly influence us. We're smarter than that. We don't have to buy into the nonsense that essentially reinforce the concept out of the government commission in the first report of the low fat myth, which you effectively demolished in your book, *The Big Fat Surprise*.

**NT:** Before me, Gary Taubes did that and other people have done that research. But the fundamental point about these guidelines when they were launched in the 1980 is that they were based on this Senate committee report on, the government committee report.

There's quite a story in there. I won't go into it. But it's really an amazing story about how one Senate staffer wrote what became our entire national dietary guidelines. He was heavily influenced by some scientists, but really wasn't in the position to do a comprehensive good review of the science, because he didn't have a background in it.

The diet that was launched was a diet that is low in fat, high in carbohydrates. Just to give you a sense of what that looks like, in 1965, Americans ate about 40 percent of their calories in carbohydrates, about 40 percent of their calories in fat. Once the dietary guidelines were issued, in 2010, those numbers looked very different. They recommended to reduce fat to between 3 and 35 percent (Americans did that. They brought their fat consumption to that range and increase carbohydrates up to 55 and 65 percent.

That's what the government told us to do. We did that. We now eat over 50 percent of our calories as carbohydrates. That advice, even though the language hasn't changed... The language has changed, but the basic advice – eat a high-carbohydrate diet – remains. Increase grains. A lot of foods have a lot of carbohydrates in them, as I'm sure your listeners know. Grains, pasta, rice, potatoes, and other starchy vegetables, they're all carbohydrate-based foods.

**DM:** We need carbohydrates. I want to make that distinction early on, because they are an essential component. Some people teach that we don't need any, but we do. They're absolutely essential for good health, especially the fiber carbohydrates, which are mostly vegetables. Because they breakdown into short-chain fatty acids in our gut that helps make ketones and nourish our bodies in a very important way.

**NT:** That's right. Carbohydrates are a complex issue. But the one point I think to understand here is that there's a large body of science showing that restricting carbohydrates – it doesn't have to be dramatic restriction, but just cutting down on total carbohydrates – is an effective way to fight obesity, diabetes, and heart disease. Excessive carbohydrates, if you have too many carbohydrates and too little fat, that diet seems to worsen heart disease risk factors.

The shifting away from fat to carbohydrates over the last three and a half decades is plausibly what has provoked obesity and diabetes. In fact, there's a very disturbing chart that shows obesity rates in America being relatively flat and low. In the 1980, the dietary guidelines coming, they just shoot up, that you could say 1980 was really the beginning of the obesity epidemic, and truly thereafter, the diabetes epidemic again. There's a plausible correlation there to suggest that the dietary guidelines actually cause those nutrition-related conditions.

**DM:** Sure. But I just want to re-emphasize, it's the fiber carbohydrates that are the good ones and that it's actually the increase in the non-fiber carbohydrates. For the most part, if you're eating a high-vegetable

diet, it's likely 90 percent of those carbohydrates is going to be fiber. You might have 100 grams of fiber, but you're eating 10 to 15 grams of digestible carbohydrates, which converts to glucose. The rest don't. It's essentially indigestible, except to the good bacteria, which is converted to fatty acids in your large intestine. That's an important concept.

Anyway, let's get back to this issue. You mentioned the government report was written by one staffer. I think it sounds like it has actually gotten worse. The staffer may have been well intentioned and had sincere ideals. But now, although the literature I was reading on it doesn't suggest it, I can't think of any other conclusion to reach, other than there has to be some massive corruption of industry influence to set these goals. Because there's just no other rational conclusion for the recommendations they're making.

**NT:** I think that you can talk about two areas that undermine the ability to create policy based on the best possible science. What you really want is a policy that takes a comprehensive look at the most conclusive science, like the best science that we have, and translate that into policy.

What that science says is that the low-fat diet really has not been proven effective. There's a lot of good clinical trial evidence to show that. There's a lot of clinical trial evidence to show that saturated fats are unlikely to cause heart disease. That was an idea that was actually tested extensively in many clinical trials with tens and thousands of people, and they couldn't show that saturated fats conclusively increases cardiovascular mortality and causes heart disease.

There's a tremendous amount of research on that. Why don't the dietary guideline committees, those expert committees, review that evidence and tell America, "Low-fat diet is over. Saturated fats are questionable. Don't worry about them so much"?

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I think that there are two kind of big explanations for why this is true. One is that, as you say, there are huge industry interests. Because the guidelines are part of the USDA, half of the USDA's mission is to promote agriculture. They have a mandate to promote American agriculture. At the same time, they have a mandate to tell people to eat less of some things over other things. Those two mandates conflict. The process of creating the guideline is inherently sort of porous, and those industries have access to influencing the guidelines.

What are the industries that benefit from the guidelines? The makers of carbohydrate-based food. All those refined carbohydrates – snack foods, cookies, crackers, chips, grains, even healthy whole-grain foods, all of that.

Corn, soy, soybean. And the other big industries, the vegetable oil manufacturers. Because when you tell people not to eat saturated fats, what they eat instead are unsaturated fats, mainly vegetable oils, which have increased over 91 percent over the last three decades of our consumption of them. The manufacturers of those are huge corporations ADM, Unilever, Monsanto, and Bunge – just huge corporations. I think they clearly work closely with the scientists who are most influential over the guidelines. That's one of the things that I documented in my book. Those are the big industries that profit from the way the guidelines are now.

But I think the other major factor that keeps the guidelines from changing – they've basically been unchanged in their advice for 35 years – is that there's a tremendous professional investment in this particular kind of advice. There are university professors' reputations staked on it. There are many, many institutions who have invested in this particular hypothesis about what makes people healthy. The entire federal government invested in this hypothesis about what makes people healthy. The American Heart Association (AHA).

These giant institutions cannot be seen as flip-flopping on their public. They can't be wrong. That prevents I think backing out of any advice that might be flawed. When they do, they're really called out on it as they shouldn't be. That's embarrassing and difficult, and ultimately erodes the public's confidence in our institutions.

For instance, one of the biggest headlines of these recently released dietary guidelines is they backed out on their advice on cholesterol caps. For 35 years, the government has said limit your cholesterol, the cholesterol in your food, to 300 milligrams a day. That's why we all cut back on egg yolks, organ meats, and shell fish. Now the government says, "You didn't have to do that. That was mistaken."

In fact, we are one of the last governments to back out of our cholesterol caps, because the science on that, which backs that your dietary cholesterol does not really affect your serum cholesterol in a reliable way, that science has been known since the late '70s or early '80. Most other nations have already backed out of that advice. It shows you how difficult it is to back out of mistaken policies.

**DM:** Yes indeed. The recommendation for the cholesterol cap was in the preliminary guidelines released last January. The final guidelines that were released this year put it back in.

**NT:** No. The expert report that was released last year, they said that the cholesterol cap should be eliminated, that 300-milligram. In the dietary guidelines just released, which is the policy document based on that expert report, that policy document did eliminate the 300-milligram cap.

**DM:** OK, good.

**NT:** But in a contradictory confusing fashion, includes text telling people to keep their cholesterol as low as possible or to eat as little cholesterol as possible. That's an example where there are all these conflicting contradictory bits of information in the guidelines and in the expert report. You just don't know what to make of it. It's very confusing.

I'm one of the few people who... I spent many, many weeks reading the entire 571-page expert report that came out last year. I wrote an article on it for the *British Medical Journal (BMJ)*. I spent a great deal of time with that expert report. It's as difficult an experience as I've ever had reading science. I mean, the number of things that contradict each other, that don't make sense, that aren't supported by the evidence, evidence that's been ignored. It was very disappointing to see that this was the document that was guiding our national policy on this.

**DM:** Thank you for mentioning the report you had published in the *British Medical Journal* and all your thorough investigation of this report, because I'm sure that took loads of hours, time, and effort to do that. But that document you had published was actually quite controversial. Let's take a tangent and talk about that now, because it really was contradictory to what much of the conventional nutritional science was preaching. As a result, I believe your article was retracted, wasn't it?

**NT:** Yeah.

**DM:** OK. What happened?

**NT:** This article that I wrote for the *British Medical Journal*, it's the first high-level critique of the way the science is reviewed for the dietary guidelines, and it makes a number of points. It says that some of these reviews did not happen in a systematic way. They have their own system within the USDA called the Nutrition Evidence Library (NEL), which is supposed to do systematic reviews of the literature. On a number of key topics, they did not use the Nutrition Evidence Library for reasons that are really... Including on unsaturated fats where there's been a tremendous amount of new research in the last five years, and yet they did not do a systematic review of that literature.

I point out that in quite a few cases, there are recommendations that are based on what's called the Grade III inconclusive evidence. There are three grades that they give evidence to judge its quality – Grade I, II, and III for available evidence. There are a number of recommendations – including the vegetarian diet – based on what they consider to be Grade III evidence, which seems to be problematic to me. They are not supposed to, according to their own procedures, make such recommendations based on such weak evidence.

Then probably what was one of the more controversial parts of the article was that I talked about what kinds of bias might have entered into the report? Conflicts of interest statement. The committee members who participated in this expert review are not required to reveal their conflict of interest, their conflicts of interest, which are considerable. I point some of those out. The fact that it's very hard to make sure for institutions to reverse advice in any way.

There were a number of claims made. As I said, it was really the first challenge ever made for those guidelines and the science behind them. As a result, there was a tremendous amount of angry responses led by a group called Center for Science in the Public Interest (CSPI), which has been very close to the American Heart Association working in Washington for decades and very closely allied with the government. They got more than 170 scientists to sign a letter asking for the retraction of my article based on 11 points that they consider to be grievous flaws.

The *British Medical Journal*, per its standard policy, put those questions to an outside review panel to have an evaluation of them. If anybody's interested, they can see, I reviewed them and posted something on my website. I consider them to be largely, almost entirely, extremely flimsy charges. One of them doesn't even present any point of fact. Another one I already answered in a response letter published on the *British Medical Journal* site.

It does seem to be an effort to try to silence this article, a kind of censorship to prevent these issues from being discussed and debated as they should, I really believe. I'm sorry to say this, but the main point is that the dietary guidelines are clearly not working.

**DM:** Res ipsa loquitur, the facts speak for themselves.

**NT:** Yeah. Scientists in this field ought to be curious. Why aren't they working? Here's a clue: maybe they aren't based on good science. Take the clue and run with it. That ought to be the response to this article. It is surprising. I think that nutrition science is just more politics than it is science in my humble opinion.

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**DM:** Because obviously, if they're really committed, objective, sincere, and rational individuals seeking to achieve the best possible outcome for the public, they would have to reflect on what the impact these guidelines have had for over three decades, which is an adverse impact.

**NT:** They clearly aren't working, right?

**DM:** Yes.

**NT:** They clearly have failed. The nicest thing that you can say is that they have failed to fight obesity and diabetes. The meanest thing that you could say is that they caused them, those conditions. The truth has to be somewhere in that range of possibilities. That looks terrible. It's a terrible state of affairs.

I think it's even so disappointing to me seeing these guidelines that are just, as you say, just announced, the media coverage of them and the response of our leading experts on the guidelines that just came out is

not to mention anything about... There's no mention that they might be problematic, not working well, or there's something fundamentally wrong with them.

Instead, there's universal blaming the meat industry for trying to keep meat in the diet. I would say 90 percent of media stories on the dietary guidelines talk about the meat industry having somehow... They had started the process simply to keep meat in the diet, because everybody knows that red meat is bad for health. That's just the assumption that is made now by experts and by the media.

**DM:** That's an absolutely brilliant strategy to defer the blame. There's no question, to pin the blame. It's absolutely close to irrelevant.

**NT:** You need to have a scapegoat, right? Why aren't the guidelines working?

**DM:** Absolutely.

**NT:** It was trans fats for a while. But on their way to eradicating trans fats, people still aren't looking healthier. Who to blame now? I think there's a huge effort to blame red meat and the meat industry, not just based on the presumed assumption that it's not good for health, but now on the additional argument that it's bad for the planet, that it's not socially just the pound of meat consumed to many of the earth resources compared to a pound of plants. Now there are all these additional arguments coming from the progressive left that bolster that case against meat.

**DM:** Let's take a slight tangent. I believe we had a previous interview where we talked about the trans fat issue after it was banned by the Food and Drug Administration (FDA). You had made the brilliant observation that even though that was extensively a move in the right direction, it didn't go far enough because it allowed the use of something even worse that we probably wouldn't even know about another two decades which are these fats that are heated. I think cyclic aldehydes were one of them and some other toxic byproducts. Maybe you can expand on that, because I thought it was a really useful observation,

**NT:** Yes. This story falls under the general category of unintended consequences, rather big in nutrition policy and really argues for being where you do not know, be humbled, do not advise, because you don't know what the unintended consequences might be.

When trans fats were banned because they were considered largely on the basis of the epidemiological evidence to be harmful for health, I agree actually that probably the evidence points against trans fats, not based on that evidence, but still, they had to be taken out of the food supply. Trans fats are basically oils, mainly soybean oil now, that have been hardened through a process called hydrogenation. It makes the oils hard.

The reason they had to do that is oils themselves are highly unstable, especially when heated. There's science going back to the 1940s showing that when you take soybean or corn oil, especially when you heat it, it created hundreds of oxidation products, some of which are known toxins, including, as you say, these toxic aldehydes that are particularly worrisome.

When you replace trans fats, what's going to replace them? What should replace them is the kinds of fat that those hardened oils are meant to mimic – lard, butter, tallow, suet. Those are the ancient hard fats that were used for cooking. They're hard. They don't oxidize. They're stable. They're stable even when heated. Hardened oils were meant to mimic those fats. Think about Crisco was meant to replace lard. Margarine, also a hardened vegetable oil, meant to replace butter. It was a way of getting those cheap hard fats.

Now that you can't use trans fats, what is replacing them? Basically, they are trying to find new ways to make oils more stable. They went back to the chemistry lab and did a bunch of things. Interesterification is one of them. They do all kinds of genetic modifications as another tactic. But basically, they have to create newfangled oil products to replace trans fats.

We have no idea if those new products are safe or what they do. They're all novel vegetable oils. If they don't use those more stable novel vegetable oils, they're using just the traditional oils like they did in restaurant fryers. Those oils still produce toxic oxidation products.

**DM:** Have you studied the process of approving them for human consumption? Are they typically approved on their Generally Recognized as Safe (GRAS) certification?

**NT:** They're supposed to get GRAS status. I don't really know much about that process and if they're reliable.

**DM:** I know with food additives. There are over 10,000 food additives. They actually have an industry group that consists of about three people who certified them as GRAS. Never been tested on humans. No idea of the toxicity of its individual as well as synergistic toxicity when you put multiple ones together. It's just a real sham. These things are never studied for human safety.

If they are, you have these other shams like aspartame and GMO foods, which are studied for just literally weeks in animal models. They don't study them for the full lifespan of the animal, and they conclude they're safe. Essentially, they're approved based on flawed safety studies.

**NT:** That did not surprise me. Knowing how agencies become captured by industry, that is... It's unsurprising to me.

**DM:** Under the item unintended consequences, getting back to the dietary guidelines, I think one of the most pernicious impacts they got on health is the shift that you mentioned earlier because of the vilification of saturated fats and the encouragement to decrease fats. That has left only with polyunsaturated fats, which can be healthy. They absolutely can be healthy. I think we do need a good supply of them, but never from processed vegetable oils – industrialized, commercialized oils, which are, in my view, probably more pernicious than the increase in carbohydrates, because of the damage they do.

**NT:** I think that's very plausible. It's a plausible idea that the vegetable oils, which have increased by 91 percent, from 1970 to 2005 (the only time period which we have data available from the government), have had a deleterious effect on health. If you look at the rise in heart disease in America, it goes in perfect lockstep with the rise in vegetable oils in the early '19s, '20s, and '30s. It was an unintended consequence of getting rid of saturated fats. It was partly orchestrated by industry. They produce vegetables. They figured out how to press seeds and beans into oils. They figured out that they could create these products, vegetable oils.

I tell a story in my book about how Crisco, Procter & Gamble, was very involved in launching the American Heart Association in 1948 by helping finance it. The American Heart Association was the champion of replacing saturated fats with polyunsaturated vegetable oils. There is this story of industry being involved in even the original recommendations. The American Heart Association, of course, in 1961, was the very first. That was the very first time that advice was given to American to reduce saturated fat and replace it with vegetable oils.

**DM:** In this report, saturated fat is still vilified.

**NT:** That's right. At 10 percent.

**DM:** A cap of 10 percent.

**NT:** That's been 10 for a long time. Maybe from the beginning, I don't know if they gave it a percentage. But for a long time, that's been 10 percent.

**DM:** That is a big challenge for sure. I think personally, I probably have a lot more than 10 percent in my diet. Maybe 30 percent of my diet is saturated fat.

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But I'm wondering if you could review or highlight the evidence, because you've done some really magnificent work on this, on how you could best rebut this to someone who believes otherwise. Because those who believe otherwise, that saturated fat is still dangerous, is the vast majority of the health profession, the public, the media, and the journalists. How do you rebut that effectively and concisely?

**NT:** Saturated fats were condemned in the 1950s, because they raised total cholesterol. Then when they could do better measurements, it was shifted from total cholesterol to LDL cholesterol. Neither total nor LDL cholesterol, it turns out track very well with your heart attack risk. In other words, you're just as likely to get a heart attack if you have high LDL as you have low LDL. That's been shown in a number of clinical trials with thousands of people.

It turns out that, according to more reliable biomarkers – HDL cholesterol, your triglycerides, your LDL particle number, your LDL subfraction size, more up-to-date biomarkers that have now been developed that more reliably track with heart attacks – saturated fats looks perfectly good, if not healthy. In fact, saturated fats are the only food that you can eat if you were to raise your HDL. If you go to your doctor and he says you have low HDL, how do you raise it? Get more exercise. Drink red wine. But the most reliable thing that would raise your HDL is to eat more saturated fats.

In addition to that explanation, there is the fact that in the '60s and '70s, there were many large clinical trials on tens of thousands of people. Remember, this is the single most important piece of dietary advice coming out of the American Heart Association starting in 1961. It was tested, this idea, in many government-funded clinical trials where they took out saturated fats and replaced it with vegetable oils and things like soy-filled milk, soy milk, soy-filled cheese, margarine over butter, reducing saturated fats down to 9 percent.

In all of those trials, they could not demonstrate that reducing saturated fat reduced cardiovascular mortality. Those trials, a huge body of evidence, have basically been suppressed and ignored for decades.

What happened in the last five years is that many people dusted off that evidence, read it, looked at it, and analyzed it. There has been almost a dozen now, systematic reviews and meta-analyses looking at that clinical trial data, the best kind of data that you can rely upon, concluding saturated fats cannot be said to increase cardiovascular mortality. Saturated fats are not associated with heart disease in observational studies. A number of conclusions challenging the idea that saturated fats cause heart attacks.

The point I'm making, which might be uncharitable, is that the dietary guideline committee did not review that body of literature, all those meta-analyses and systematic reviews for the last five years. Their job was to review that last five years of evidence, and they just didn't do it. They didn't do it comprehensively. They didn't do it systematically. They did it through hand searches. They just didn't do it in a systematic way. They left a lot out. That's why they could come to the conclusion that the evidence against saturated fats was still strong in their view.

**DM:** You would think there would occur some type of liability from this professional negligence or irresponsibility. Essentially, they didn't do their job.



**NT:** It's possible that that's one reason, that there needs to be this retraction effort, really to take this out of the record.

**DM:** Interesting. Is there a retraction effort underway?

**NT:** The BMJ is reviewing that letter.

**DM:** No. I thought you were talking about a retraction of the current dietary guidelines.

**NT:** No. There's no retraction.

**DM:** Let's do it. Let's throw the bums out.

**NT:** If you want to organize 100,000 followers to write... It should be. It should be retracted.

**DM:** Yes. Actually that's the only logical approach. They were negligent in their responsibility to not review the evidence. It's a flawed document.

**NT:** I believe so. Their mandate is to review the best and most current science. They have a system for doing that in a systematic and comprehensive way, and they didn't use that system.

Actually, Congress is hugely concerned about all this. They held a meeting last October, called Secretary Tom Vilsack (Agriculture) and Secretary Sylvia Burwell (Health and Human Services), who are jointly responsible for the dietary guidelines, had a two-hour hearing on the dietary guidelines, and asked them a number of questions.

Why did your experts not use the Nutrition Evidence Library like they're supposed to? Why didn't the guidelines work? Why are you issuing recommendations on children when there's no data on children? Why aren't the guidelines nutritionally sufficient? Why are the guidelines still a one-size-fits-all recommendation? Those are the big questions. The Congress is deeply concerned about it.

**DM:** Has this interviewing occurred in the past, or is it in the process?

**NT:** That hearing that Congress held, it was the House Agricultural Committee. That was in October. I don't know, but I think it's, in recent history, the only time that secretaries have been called to Congress to account for the dietary guidelines. That level of concern is much higher than it has been in recent history if ever, again, because they haven't worked. They clearly haven't worked. Anybody can see that, so there is a high level of concern in the Congress about it.

What they did was they mandated the first ever peer-review of the dietary guidelines by the National Academy of Medicine, the first ever review of this policy in 35 years. Now the National Academy of Medicine will review the dietary guidelines. Whether that would be an independent kind of assessment, I just don't know.

**DM:** Do you anticipate that it will occur this year, the review?

**NT:** I think so. Congress actually appropriated money for it, a million dollars, to ensure that it actually gets done. Interestingly, they asked the members of the 2015 Dietary Guidelines expert committee to recuse themselves from the process. They stated that the USDA cannot begin the 2020 Dietary Guidelines. They'll start thinking about committee members, appointing them, and all of that. But none of that can start until this report is completed.

**DM:** We've really highlighted what's wrong with the current 2015 USDA Dietary Guidelines. Maybe we can mention some of the few things that seem to be going in the right direction, because there's a few

food choices that have seemed to improve like total sugar intake reduction and reduction of refined grains. Maybe you could comment of what your impression is on the improvements of them.

**NT:** My favorite recommendation is for coffee and alcohol. For the first time, they singled out those as being healthy in moderate amounts, and those are two of my favorite food groups.

**DM:** Coffee can be a superfood. It really can be.

**NT:** That's good to know.

**DM:** Ninety-seven percent of it is not organic and it's really one of the most heavily sprayed crops around. You've got to be really careful in picking the right type of beans, the really high-quality beans. But brewed properly and roasted properly, it's a magnificent food, very similar to raw cacao, dark chocolate.

**NT:** That's what Mr. Bulletproof says. But the dietary guidelines, they implemented a 10-percent cap on added sugar for the first time, which is still a lot of sugar. Anybody caring about their health should already know not to eat sugar. Interestingly, there's not actually a lot of clinical trial data yet on sugar, so the evidence isn't quite there. But I think it doesn't matter to me. The historical evidence is quite strong that the introduction of sugar really decimated communities when it came or decimated their health when it was introduced.

**DM:** And there's a strong set of molecular biology information that supports that, too.

**NT:** Right. Yes. The reason I make that point is that I believe that policy ought to be based on rigorous clinical trial evidence. The question of science becoming quantified into policy is questionable there. But fine. Sugar, telling America to reduce added sugar is definitely, I think, a good idea. Again, we don't know what the unintended consequences are, or will we see a rise in artificial sweeteners that are perhaps untested and potentially toxic? We don't know.

**DM:** What were the previous guidelines? Were they 15 percent, or did they have any limit or cap at all?

**NT:** They did not have any cap on sugar. Telling Americans to eat less sweets I think is a good idea. That, I think, is positive. Interestingly, if you look at the admittedly flawed consumption data, it shows that Americans have already, since 2001, reduced their total and added sugars between 14 and 25 percent I believe, and obesity and diabetes have not abated. It makes you wonder if sugar alone can be responsible for the kind of sickness that we're seeing.

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Refined carbohydrates have also come down since 2001, which I think is sort of a measure of what you're talking about, our carbohydrates without fiber, the refined. Again, that may not be enough to really solve the obesity and diabetes epidemic. Because both those numbers have come down, but the obesity and diabetes have still gone up. Maybe there's some kind of lapse, a delayed effect of those reductions.

I'll tell you another interesting thing about the guidelines. Even though they tell America "Don't eat refined grains. Eat more healthy whole grains," the actual recommendations where they were modeling what they do in the dietary guidelines, and it's that modeling that goes out to all the food assistance programs I told you about, it's the same amount – three to five servings of refined grains, three to five servings of whole grains. That's the same, the same that it's always been. It's been the same for decades. They still actually recommend that you eat a considerable half of your grains as refined grains.

The question is why did they do that? I can answer that.

**DM:** OK. What's your answer?

**NT:** My theory is the reason why they do that is that the refined grains, like breakfast cereals, are basically where they fortify foods. They need to get those nutrients into the food supply, because the dietary guidelines, even with those nutrients, are still nutritionally insufficient. They don't meet nutrient targets for vitamins and minerals. They need to get that through refined grains, which are fortified.

Why do the dietary guidelines not meet nutritional sufficiency? My hypothesis is because they limit saturated fats. Most the nutrient-dense foods where those are found are organ meats, meat, dairy, and eggs – that's where you'll find the nutrients. It's so bizarrely that's why you have to recommend Americans to eat three to five servings of refined grains every day. That's one reason.

**DM:** That's a great theory. I have some other guesses as to why there's some confusion on the carbohydrate issue. As I mentioned before, it really is quite simple. I believe we should only have about 50 grams of total carbohydrate. If you do a nutrient analysis and you have your total carbohydrate, list that and the total amount of fiber. What I do is subtract the fiber from the total carbs, and that's your total non-fiber carbs. If you limit that to 50 I think you're doing well. If you do a lot of exercise and are particularly active, you might be able to up it to 100.

But that's where the distinction is. Ultimately, whether it's whole grain, refined grain, or sugar, it boils down to the same darn thing – it is a non-fiber carbohydrate. Is it fiber or is it not. That's where they have to make the difference. Unless you get down to that level, you're not going to see a change in the health outcomes, at least in my view.

**NT:** That's why people just reduce all carbs and see the same effect, because they take everything.

**DM:** Sure. That'll work too, because you're reducing the non-fiber carbs.

**NT:** Right. There is a lot of confusion about exactly what kinds of carbs, what fructose does certain things, and glucose does different things in the body. All of that I think science that is still unfolding. I look forward to seeing that science come out. But so long as you believe you should be eating three to five servings of refined grains or whole grains, you won't see that research. There's no environment to which that research to really have an impact.

The other thing about the dietary guidelines is that they're greatly in form the kind of research that the National Institutes of Health (NIH) funds. If your working hypothesis is that you shouldn't have a high-grain diet, you're not going to fund the research looking at the potential benefits of restricting grains or certain kinds of grains. It's very hard to get funding to promote that kind of research.

**DM:** Are there any other highlights of your comprehensive analysis of this 500-page document?

**NT:** I did an analysis of the USDA NEL that has kind of shifted away from talking about fat, carbohydrate, and nutrient-based recommendations to what they call dietary patterns. Those are talking about foods, the foods that they recommend. It seems positive to talk about food rather than... Nobody goes to dinner and says, "Can I have 25 percent fat, please?" You talk about food. That seems positive.

They say they offer a range of dietary patterns – the USDA one, the vegetarian one, the Mediterranean style, and in the past, there's been the DASH style pattern. But one of the analyses I did was to look at the actual amount of food in each one of those patterns. They all seem kind of a one-size-fits-all diet. They're very, very close to each other in terms of what they recommend. Both in terms of food and in terms of the macronutrients, they're all 55 percent carbohydrates, they're all 32 to 34 percent fat, and they recommend pretty much the same foods.

The issue there is that people do respond very individually to diet. There are different nutritional needs for children. Women respond differently from men. The elderly have different nutritional needs. There are genetic factors that influence people's responses. To continue with the one-size-fits-all diet seems to foolhardy and not a good kind of policy to have.

There's also the particular variation in the American population now, which is metabolic health. If you are obese or have diabetes, that is a sign of your intolerance to carbohydrates or a certain kind of carbohydrates. There needs to be included in the guidelines a recommendation for those people, because who are those people?

Two-thirds of Americans are overweight or obese. More than half are pre-diabetic or diabetic. The guidelines are not for those people. You're talking about a policy that doesn't address the majority of America. There's no big caveat that comes with the guidelines saying, "Hey America, most of these are not for most of you." There needs to be more variation in the recommended suggestions I believe in order to respond to the various states of health and disease in America.

**DM:** How would you adjust the recommendations? It sounds like you're interested in customizing or refining it for individual groups. How many groups do you have and what are those groups?

**NT:** I just think that rather than advise, the guidelines should inform people. They can make their own decisions. I think there's not enough evidence to say, at this point in time, that we know what the healthy diet is for everyone. We simply say there's a gigantic body of clinical trial, more than 70 clinical trials, including long-term clinical trials, showing that carbohydrate restriction works for people with metabolic conditions – obesity, diabetes, and heart disease. It works for those people.

Offer that as one possible option. Offer that to the American people. Other people might want to... That's one possible diet. You can also offer the vegetarian diet or the vegan diet, and let people know how much evidence there is to support those recommendations. There doesn't happen to be any clinical trial evidence for the vegetarian diet, but there could be in the future.

I think that there ought to just be a range of possible options that we'll know about the state of the debate over the literature on saturated fats, and say, at this point in time, it's not clear. I realized that people want to have their dietary advice and that ambiguity is not something that public institutions seek. But we have to allow people to know what the evidence says. If nutrition science is still in a state where it can't know everything, people should allow...

You know one of the thing that they could do is they could go back to what their grandmothers ate. Maybe now everybody has to be Mediterranean. Maybe there are some people who would prefer to eat what their grandmother ate back in Sweden. Let them do that rather than say, "We know what's healthy. Here it is. You should all eat like Mediterraneans."

**DM:** I believe that they need to incorporate three simple words to improve the guidelines. That would radically improve the quality of the health of the population.

**NT:** Let me hear what they are.

**DM:** Guess what those three words are.

**NT:** [Bring] fat back.

**DM:** That would actually be good. But that's a subset of the broader recommendation which is to eat real food. Because you could eat more fat, but if it's the industrialized and polyunsaturated fats we're talking about, you will get sick and die prematurely. But if you eat real food, you're likely to be much healthier

because you'll avoid a lot of processed foods. Yes, it's still not necessarily going to limit the non-fiber carbohydrates, but it will certainly reduce them.

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**NT:** I think that is a good recommendation but not sufficient.

**DM:** Really? OK. Why is that?

**NT:** Because a vegan eats real foods and a Paleo person eats real foods. Maybe that's fine, but there's an additional requirement, which is that a diet be nutritionally sufficient and have the basic nutrients needed for basic human life. I think if you say eat real food that is nutritionally sufficient, that would be enough. That would narrow down your options.

**DM:** We want to keep it simple. The two groups you alluded to, the vegetarians and the Paleo, are actually significantly healthier than the general population applying these guidelines. It's a movement in the right direction. It certainly needs refinement. But I think that's the broad basis, and you can refine it from there and customize it for individuals.

There are some really good databases out there that can help you make that determination to yourself. I'm sure you're familiar with some of them. My Fitness Pal is one. But I've long since abandoned My Fitness Pal, because I found a superior nutritional assessment tool which is called CRON-O-Meter. You can enter all your foods, and it will give you this analysis of all your nutrients and tell you if in fact you're meeting not necessarily the guidelines, but it will show you quantitatively how much each nutrient you're getting. You'll know even down to the amino acid level.

**NT:** That's interesting. The subtle twist on that is that nutrients are not all equally bioavailable from all foods. You need to eat, for example, fat-soluble vitamins with the fats. If you have skim milk, you can absorb the vitamins that are supposedly in milk. But you can't absorb them if you don't have the fat to absorb them with. If you don't have the vitamins, you can't absorb the minerals. It's more complicated than just simply tallying it up. But it's a good start.

**DM:** It's a start. Obviously, there's refinement to everything. But you're a lot further along figuring it out than if you have no data at all.

**NT:** Right.

**DM:** You'll know where you're at. It's a real mystery even to understanding from a macronutrient composition what the ratios are of what you're eating. What is the percentage of protein, carbohydrates, and fat that you're eating? Or saturated versus polyunsaturated or cholesterol, which even the government is saying is not an issue now. But those ratios, figuring out the ratios. It's really helpful to have the type of data to customize your program to know that you might be missing something.

**NT:** Right. It's a mystery. How did our ancestors avoid obesity and diabetes without all this information?

**DM:** That's right. They ate real food. That's for one. It's a lot easier because there wasn't as much garbage food out there.

**NT:** It's true. The temptations are overwhelming.

**DM:** Obviously, there were challenges in the 19<sup>th</sup> century. But the 20<sup>th</sup> century was when the food industry started to gain its momentum, and really when the quality of the food, and the industrialization and processing started. In the 1900s and before, it was, for the most part, not that much of a challenge.

Almost all the food available, you'll make the right choices. You're going to be OK. It was never an issue. But not in the 20<sup>th</sup> century and beyond. It's a whole new ballgame.

**NT:** Right. One of the best things you can do for your health is move to a pre-industrialized nation. But I don't think they really exist anymore.

**DM:** I kind of want to have the benefits of both worlds. The knowledge and being able to... Thankfully, we do live in an environment, in a country where it is possible to access this information. If we're motivated, we could find out these pieces of information that allow us to make choices, because we have the freedom to do that and the availability of food.

Obviously, 95 percent of the typical food from the grocery, you don't want to eat. But there are good foods in there that will nourish you. With the right knowledge, it's certainly possible. Unfortunately, that's not the case for the vast majority of people. These USDA Dietary Guidelines don't help.

**NT:** Right. The Internet is a very confusing place. It's hard to find trusted sources of information. There's much misinformation, much of that they're on purpose funded by different industries. It's also sort of a realm of outlaw information. It's hard to know.

**DM:** Sure. It's confused by the fact that many of these large corporations have billions of dollars at their beck and call. As a result, they subsidize and create these industry front groups that look extensively like consumer action groups. CSPI would probably be the most egregious example. Center for Science in the Public Interest, what better group to protect the public, right? But actually, they've been wrong at just about every public health nutrition issue there was.

**NT:** They did promote trans fats in the late 1980s. It's due to their actions that trans fats were ramped up to an extremely high level in the food supply, because they said trans fats were better for your health than saturated fats. That was due to their campaign.

**DM:** They're also strong advocates of artificial sweeteners. I called Michael Jacobson, who's the head of CSPI, on the phone and confronted him with this. He was just adamant about the fact of their safety even though he had no evidence and justification to support it. Then they, of course, retracted their position recently.

**NT:** I don't know what to say about that.

**DM:** Yes.

**NT:** They're the longest standing actor in Washington. Over the decades, it's inevitable, they've become close to the government. They are the vociferous defenders of the government's diet. They may have started as something very different back in the '70s. They've been doing this for decades now.

**DM:** Yes indeed. Are there any other items you'd like to highlight before we sign off and maybe points to re-emphasize about the guidelines and your extensive analysis?

**NT:** I guess I would say that, again, the dietary guidelines influence people's diets more than they realize it. If you have a child in school, if you know somebody in the military, if you have somebody in the nursing home, any time you go to the hospital, they really do reach into people's lives in significant ways.

I think that when a citizen movement starts to change the dietary guidelines sometime in the future, sign up and try to lend your voice or your people's voices to that, because it's important that they change. They are hugely influential. They should be right, so that we can help heal the nation so it just doesn't look so sick and diseased and overweight. I guess that's what I would say. It's worth fighting for.

**DM:** Good. Thanks for that encouragement. I'll discuss it with our team and see if it makes sense to put in the effort and energy, and if there's going to be a likely outcome that we could make a difference, we might consider that. Good point.

**NT:** OK, good.

**DM:** All right. Thanks again for your tireless effort, for all your work on putting together these insights to help us understand what the reasons are for these types of recommendations to come forth, and for helping us really evaluate them more carefully, because the media is not going to do that for us. We need voices like yours who really spent the time, effort, and energy to do this type of careful analysis.

**NT:** Thank you. And thank you for giving me a chance to talk about it. I really appreciate it.

*[END]*