

An Interview with Neal Barnard, M.D., F.A.C.C.

by Mark Huberman

Neal Barnard, M.D., F.A.C.C., is the president of the Physicians Committee for Responsible Medicine, founder of Barnard Medical Center, and an adjunct associate professor of medicine at the George Washington University School of Medicine and Health Sciences in Washington, D.C. Dr. Barnard is a fellow of the American College of Cardiology, the 2016 recipient of the American College of Lifestyle Medicine's Trailblazer Award, and has led numerous research studies investigating the effects of diet on diabetes, body weight, and chronic pain, including a groundbreaking study of dietary interventions in type 2 diabetes, funded by the National Institutes of Health. He has authored more than 70 scientific publications, as well as 18 books, including the New York Times best-sellers Power Foods for the Brain, 21-Day Weight Loss Kickstart, and the USA Today best-seller Dr. Barnard's Program for Reversing Diabetes. (You can follow Dr. Barnard on Twitter @DrNealBarnard and Facebook @NealBarnardMD.)



Where did you first begin exploring vegetarianism?

The year before I went to medical school, I had a job as the pathology assistant in a Minneapolis hospital. One day, a person died of a heart attack in the hospital, and we had to examine the body. Knowing that I was headed for medical school, the pathologist wanted to make sure that I saw what heart disease looked like. To do that, he cut a big section of ribs from the front of the chest. He sliced open one of the coronary arteries and showed me what atherosclerosis looked like.

You know, it's one thing to hear about it theoretically, but quite another to see it, feel it, and smell it. This person had atherosclerotic disease in the coronary arteries, the carotids leading to the brain, and throughout the rest of the body. At the end of the exam the pathologist left, and I had to clean up. I took the ribs that had been sitting on the table and put them back in the chest and sewed up the skin and cleaned up.

I then went up to the cafeteria where, of all things, they were serving ribs for lunch! It smelled like a dead body and looked like a dead body, and I realized it *was* a dead body. I didn't become a vegetarian on the spot but I just couldn't eat that. As time went on, I became more and more aware of the relationships between what we eat and

"I became more and more aware of the relationships between what we eat and our health, and I switched to an ovo-lacto vegetarian diet and eventually jumped into a vegan diet."

our health, and I switched to an ovo-lacto vegetarian diet and eventually jumped into a vegan diet.

Was there one book, lecture, or article that you read that helped you begin to put it all together?

Not really. Back in 1977, there weren't so many books on the subject. There were cookbooks that sometimes had a religious slant, but that wasn't my motivation. So, no, I went vegetarian without really knowing much about it.

When you attended medical school, was there any nutritional education?

Nothing meaningful. There were a few lectures on the biochemistry of the vitamins. For example, you could learn about the chemical structure of vitamin C and its role in preventing scurvy—not that we have many patients with scurvy coming into our clinic! It was theoretical and largely irrelevant.

While in medical school, was there anything in particular that began to sharpen your perspective on health and well-being?

It was just a question of learning more and more about how foods affect our health. And one of the things that

really blew me away was learning about cancer. Up until that point, I had thought of cancer as being caused by either smoking or bad luck. However, when I began to read the literature on breast, colon, and prostate cancer, it became clear that there were strong links to diet, and that was really an eye-opener. I became convinced that most cancer cases, in theory at least, could be prevented. This was not something that was well known at the time, but I was convinced from what I had read that that was the case. From there, I started seeing other possibilities. If maybe cancer doesn't have to happen, maybe diabetes doesn't have to happen. This was not something that had occurred to me or my father, who was also a medical doctor who had spent his career treating diabetes but never thinking much about preventing it.

What was the nature of your father's practice?

He was the diabetes expert for eastern North Dakota and western Minnesota.

And did he connect diabetes and diet at all?

Every patient with diabetes would be sent to the dietitian and be told to limit sugar and carbohydrates, but it wasn't much more than that. There was never any attempt to reverse the disease. And the medical approach focused on insulin injections.

As I understand it, when you left medical school, your professional career was in psychiatry, not in general practice. Am I correct?

After graduating from medical school I moved to New York and worked at St. Vincent's Hospital, where I had a busy practice running one of the psychiatric wards, as well as a practice working with patients with combined medical and mental health problems. For example, I had a patient with HIV that had infected the brain and caused mania—that is bipolar disorder. I also had patients who were in the ICU and were delusional. So that work was at the interface of psychiatry and "physical" medicine.

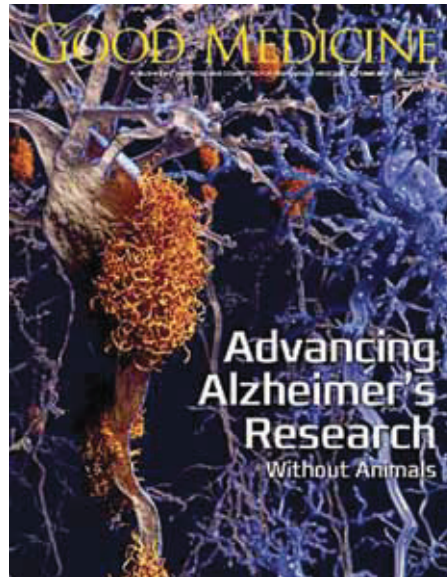
Do you practice any psychiatry today?

My focus now is on metabolic problems, particularly diabetes, weight problems, lipid disorders, and hypertension, and on research studies that investigate better

approaches to these conditions. There is still a role for behavioral medicine in the sense that the treatment for diabetes and heart disease is perhaps 25% biology and 75% behavior.

What was the dawning of your Physicians Committee for Responsible Medicine (PCRM)?

When I was at St. Vincent's I decided to set up a group of 10 or 12 doctors who would write papers on the issues of the day, like the role of nutrition in cardiovascular disease—with the idea that our focus ought to involve preventing it instead of waiting for the heart attack to come in the emergency room door. I was also concerned about the mistreatment of animals and I wanted to have doctors talk about alternatives to the use of animals in research. So, I came up with this rather cumbersome name, "The Physicians Committee for Responsible Medicine." I called it a "committee" since I just intended it to be just a small group of doctors. It has grown quite a bit since then.



"The magazine became an organ for our members, and for others to learn what we were doing and how they could put our information to use."

Did you have an initial partner in the project?

No, it was just me at a folding table in my apartment. But we grew very quickly.

Tell me about your first book which you wrote back in 1990 called *The Power of Your Plate*. What inspired it?

I felt that there were people who had a lot to say about the role of nutrition that other people should hear. I simply interviewed people and put their interviews into a book. For example, I featured Oliver Alabaster who was an oncologist at George Washington University. He talked about preventing breast cancer and other forms of the disease. I interviewed Dennis Burkett who was the researcher who discovered the value of fiber in the diet. Then there was Michael Debakey who had done a lot of work on heart disease, and many others.

When did you start your magazine, *Good Medicine*, and what was the genesis for it?

I believe it was around 1991. The magazine became an organ for our members, and for others to learn what we were doing and how they could put our information to use.



Dr. Neal Barnard presenting at the ICNM Conference, July 28 in Washington, D.C.

People become vegan for a variety of reasons: health concerns; environmental concerns; and/or humane concerns regarding the mistreatment and exploitation of animals. Which was the driver for you?

At first, it was just repulsion that I felt in the cafeteria when I saw the chunk of ribs that was supposed to be called lunch, but that smelled like the autopsy room. This was a quick turn for me because I grew up in Fargo eating a meat-heavy diet. So, I don't know if it would be correct to call my motivations ethical or health-oriented. Maybe "aesthetic" would be the right word.

But before long, I developed a sense of concern for animals when I was in medical school when I found myself confronted with the situation of having to experiment on and kill dogs as part of a laboratory exercise. While I would not say that I was a cocky medical student, I certainly was a confident one and I just knew that I did not have to kill anybody or any animal to learn. So, despite the fact that the "dog lab" was a required exercise, I refused to participate and resolved to get rid of those laboratories. And we have indeed done that.

I also felt that the mistreatment of animals is something that doctors ought to speak up about, and that includes what you eat. And then, of course, the environment is another issue that was on my radar at the time. Francis Moore Lappé wrote a wonderful book called *Diet for a Small Planet* that encouraged people to go vegetarian

"The mistreatment of animals is something that doctors ought to speak up about, and that includes what you eat."

for environmental and economic reasons. I have no doubt that the longer we deprive human beings of grains, and feed most of it to animals, the harder it will remain to conquer world hunger.

Clearly one of your greatest accomplishments has been the work you have done to eliminate the use of animals in research.

Every single medical school in the U.S. and Canada that gives M.D. or D.O. degrees has eliminated the use of animals from the curriculum, and that would not have happened had we not pushed them pretty hard. We finally completed that work in 2016. Unfortunately, however, there is some continuing animal use at some higher levels, such as trauma training, and in some surgical residencies that need to be stopped.

I am pleased to report that we worked with other groups to eliminate the use of chimpanzees in research, and we've knocked out a lot of cruel experiments along the way; but we still have a long way to go. It's worth noting that the beneficiaries of this work are not only the animals who are spared of misery and abuse, but also the human patients who are, in my view, not well served by research that focuses on the wrong species.

Are we any further ahead in the United States in this area than other countries?

Just the opposite. We're further behind. Europe has been much better than the United States, at least with regards to animals and safety testing. But we are catching up. I have a very good staff that deals with this, and they work with the government and with chemical manufacturers and others, and we're making a lot of progress right now, particularly in the area of safety testing. Fortunately, at the National Institutes of Health there is an increasing interest in focusing on human biology—partly because there is more recognition of biological differences between animals and humans—but also because ethical issues are coming more and more to the fore. And then there is technology, which gives us the ability to do things that we couldn't do before.

To what do you attribute your remarkable success in eliminating the use of animals in medical education? Was it more legal or more educational?

We went about this in a strategic way. Of course, it started out with just me because I knew what the laboratories consisted of and I knew that the animal laboratories were not necessary. I also knew that I was able to refuse to participate without being thrown out of school. I passed

the courses, got my M.D. degree and I'm on the adjunct faculty of that same medical school today. Early on I asked a number of doctors to join me in this work and they did.

Our initial work was contacting medical schools and giving them information on alternative ways of teaching. While we called them "alternative" at the time, I wouldn't use that word now, because the methods employed today are far better than experimenting on a dog or a pig. There were a number of cases where medical students were being punished or risked being thrown out of medical school if they didn't participate in animal labs. I worked with the American Medical Student Association to defend those students. As time went on, it became really quite clear that these animal labs were, in some cases, hazing exercises as much as they were educational exercises, and that was simply wrong.

So, our initial strategy involved simply giving out information on the alternatives, supporting students who were in trouble, and when those weren't sufficient, we would ramp it up to the extent that we needed to. As time went on, we would convene meetings of students, and I gave presentations at medical schools and met with instructors. Of course, there were a few cases where we had protests or even litigation, but schools ultimately made participation in animal laboratories optional instead of mandatory. And while that was a good move, it was not enough. Sadly, they would sometimes replace the dogs with pigs or goats or some other animal that they felt people wouldn't identify with, so they could experiment on them without much criticism. But we didn't stand for any of that.

That seems a bizarre "separate but equal" concept.

Johns Hopkins was the oddest one. It didn't stop the medical school animal lab until 2016. The course instructor felt that being able to kill a pig somehow helped students appreciate "reverence for life." I have to say I don't think I've ever heard a more a bizarre defense of the exercise! The good news is that although when we started there was a great deal of resistance to what we were trying to do—and even some medical students who would say, "What's the alternative?" and "How can you teach without it?" our momentum ultimately carried the day, and students actually started to be shocked that this was even done in the first place.

While your work has been legendary in terms of what you've accomplished in eliminating animal experimentation, you have also played another major role in trying to

change USDA guidelines.

There was a big sea change in 2000. As you know, the dietary guidelines are modified every five years, and they're very important because they determine what kids are fed in schools. They also determine what people understand to be a healthful diet overall. When the guidelines were being revised in 1998 and 1999, we looked at the eleven-member committee that was drawing them up. Through the Freedom of Information Act, we found that six of the eleven members had economic ties to industry, particularly the dairy industry, but also the meat and egg industries.

To challenge this, we brought a lawsuit against the federal government, pointing out that there are regulations about federal advisory committees that require them to be balanced and transparent in their work, and that their composition and actions violated the law. We filed our case in the US District Court for the District of Columbia and

rapidly won the case, despite the fact that the government has pretty good legal firepower. That victory opened up the process to a large degree and made it transparent.

Ever since then, the Dietary Guidelines Advisory Committees, while not perfect and not totally free of industry influence, has been better. And the guidelines themselves have gotten better. The most recent version, which came out in 2015, actually lists vegetarian diets as one of three healthy dietary patterns. In fact, the 2015 committee cited PCRM's research; I thought that was quite nice of them! And despite the fact that they are buffeted by commercial pressures, they have done a better and better job of bringing science to the process of refining the guidelines.

And you're keeping them on their toes?

We're doing our best.

In looking back when we interviewed you in this magazine 13 years ago, you had just come out with your book *Breaking the Food Seduction*. Do you still look at food as a "seduction"?

Yes, I do. It is distressing that there are so many people in the food industry working long and hard to figure out just what is the right balance of cocoa butter and sugar that will make a chocolate bar irresistible. There are also people in the dairy industry trying to figure out ways to position cheese at the right spot on the menu of virtually every fast food chain so that they can take more money out of your pockets and put more cholesterol into your coronary arteries. Sadly, there are more and more willing victims for

"The Dietary Guidelines Advisory Committees, while not perfect and not totally free of industry influence, have been better."

these unfortunate addictions.

Is the consequence of all this what Drs. Alan Goldhamer and Doug Lisle call “The Pleasure Trap,” by which I think they argue that there are actually chemicals in your brain that can be affected to make you addicted to these kinds of foods?

Yes. Their book does a terrific job of laying it on the line. We now have pretty good evidence that sugar triggers the release of opiates in the brain. Chocolate does the same. Meat may do that as well, and my research shows that cheese actually contains compounds that have an opiate effect.

Is that the conclusion of your latest book, *The Cheese Trap*? Do you really place cheese in the same category as alcohol, drugs and tobacco?

Yes. The *casomorphins* in cheese are not strong enough to get you arrested. But along with the salt and greasiness of cheese, they keep people coming back for more. The average American consumes about 65,000 calories’ worth of cheese every year. It’s the biggest source of “bad fat” in the diet.

The casein molecule, like all proteins, is a string of amino acids that come apart during the digestive process. However, when casein breaks apart it liberates not only individual amino acids that can pass into the circulation, but also peptides which are chains of 4–7 amino acids that stay intact and pass into the circulation, pass into the cerebral spinal fluid, and attach to the same brain receptors that heroin would attach to.

So that’s the addictive side of it; what’s the most adverse health consequence of dairy consumption?

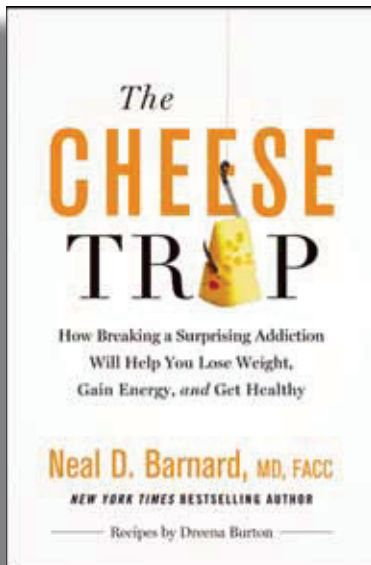
There are many, but if we want to talk about things that can kill you, prostate cancer is strongly associated with dairy in many, although not all, observational trials. At two large Harvard studies, men who consumed the most dairy products had 34% increased risk of prostate cancer in one study and 60% in another study. Now, that probably wouldn’t matter so much if prostate cancer were rare. However, if you take a common cancer and make it 60% more frequent, you’re talking about a lot of deaths.

Milk is very high in saturated fat, and when you turn it into cheese, the saturated fat is concentrated, and that is a contributor to high cholesterol levels. It’s also a contribu-

tor, we believe, to Alzheimer’s disease and other health issues. Cheese is also surprisingly high in salt. For comparison, 2 oz. of potato chips have 330 mg of sodium, while 2 oz. of cheddar have 350 mg! Two ounces of Velveeta have 800 mg! So, it’s high in saturated fat, high in calories, high in cholesterol and high in sodium.

And there’s another piece of this that was surprising to me that I wrote about in *The Cheese Trap*, and that is the hormonal content of cheese. Dairy cattle are impregnated annually, and their pregnancies last about nine months, similar to human pregnancy. Pregnant cows make estrogens and secrete them into their milk. The estrogens become more concentrated when you convert milk into cheese. And although these are only traces of estrogens, we have reason for concern about their biological effects.

Women who have previously been treated for breast cancer have a higher risk of dying of their cancer if they are consuming high-fat dairy products. Men also have been shown to have worse sperm counts if they’re big cheese eaters. The theory is that even though the amounts of estrogens in dairy products are small, our bodies already have all the hormones we need, and even small additions can put some of us in danger. These traces of hormones may not be just innocuous. I think we need more research in these areas to be more definitive, but current evidence is more than enough to raise an alarm.



“Mother Nature scratches her head looking at human beings who consume milk well past the age of infancy, particularly the milk of another species.”

I recall attending a lecture about a year ago by the late George Eisman, who made the point that even without bovine growth hormone injections to push cows to make more milk, milk has plenty of hormones to begin with.

Yes, hormones that come from a pregnant animal. So yes, it’s true, whether its goat cheese or cheese from a water buffalo or cheese from a cow.

Decades ago, pioneering Natural Hygiene physicians like Shelton and Trall made the observational point in their opposition to dairy that no species except humans consume milk past their infancy and that this just made no sense. Were they right about that?

Yes. Mother Nature scratches her head looking at human beings who consume milk well past the age of infancy, particularly the milk of another species. It makes no biological sense. And because of the hormonal, chole-

terol, and fat content that we now know about, one has to be concerned about its contribution to disease states. One can understand how milk consumption might have had some rationale during times of famine. But it's certainly not a health food.

As you know, in the vegetarian world there is a spectrum of adherents, from the strict vegans to those who include some dairy to those who include fish and some fowl. From your long vantage point, is there a "lesser of evils" to incorporating meat, fish or dairy?

They each contribute to diseases in different ways. Dairy products are higher in saturated fats, the bad fats, than any other food product. And the dairy proteins appear to contribute to inflammatory conditions more than just about anything else. If a person with asthma, food allergies or rheumatoid arthritis simply eliminates dairy products from their diet, in many cases they get better. And when they bring dairy back, they get worse again.

On the other hand, when it comes to colorectal cancer, red meat—particularly processed meats like hot dogs, ham and bacon and sausage—is where the finger of blame is being pointed. If you're looking for a big load of cholesterol, eggs are your guy. They have more cholesterol than anything else by far. Which one is worse really depends on which disease you're talking about. But human beings are naturally herbivores, more or less, and none of these groups should be part of our diet.

You haven't mentioned fish and you often hear people say, "I eat really clean but sometimes have a little salmon." What's the "beef" with fish?

Fish is still meat. It has cholesterol and it has saturated fat. And when people are talking about chemical exposure, fish and dairy are particularly bad. With fish it's because larger fish eat smaller fish that consume mercury and other pollutants. With dairy, it's a little bit different because the pollutants tend to concentrate in cow's milk. If you look at weight problems or diabetes prevalence, say, in Seventh-day Adventist studies, the fish eaters are heavier on average than vegetarians and a lot heavier than vegans, and their risk of diabetes is higher, too. While some people imagine that eating only fish could be better than having meat every day, that sort of diet is not as healthful as an entirely plant-based diet.

What is your take on the phenomenon of grass-fed beef, free-range chickens and organic eggs? Is this a step in the right direction or a justification for people's bad habits?

I think it's a wonderful testament to our ability to forget things. My grandpa raised organic, "grass-fed" cattle, filled with organic fat and cholesterol, and that beef would kill you just as surely as any beef that is raised nowadays. To me, it's the equivalent of American Spirit cigarettes which are right next to the Marlboro's and claim to be "chemical free."

What are the environmental concerns of raising cattle, whether in a feedlot or on a free range?

The environmental problems are undeniable now. We have around 90 million cattle in the United States, and if you put them all on one side of the balance, they outweigh the mass of humanity by far. Each one is belching methane into the atmosphere, and methane is a potent greenhouse gas, much more so than carbon dioxide. And if anyone does not believe that climate change is real, one has to have been living in a cave.

What other environmental problems should we be concerned about?

To feed the millions of animals Americans eat *every hour*, we need feed grains. We have to grow acre after acre of alfalfa, corn and soy. That takes a huge amount of acreage, pesticides, fertilizer and irrigation. Then the fertilizer ends up in the rivers and streams, which causes over-growth of algae. Then the algae die and create huge dead zones, such as the one in the Gulf of Mexico, which has become the toilet bowl for the Mississippi River. The fertilizers draining from the Mississippi River have created a dead zone as big as the state of New Jersey where nothing will grow.

This would never have happened if our population were following a vegan diet. But if you want cheese, you've got to feed your cow enormous amounts of grains and you'll raise them with fertilizer and pesticides and irrigation. So, you're wasting land, you're wasting animals, you're wasting water, and you're polluting the waterways and oceans. When I go home to Fargo, I see acre after acre of genetically engineered corn and soybeans, planted with artistic perfection, aiming to feed cows, pigs and chickens. Ecologically it's a disaster.

Do you share the concern about genetically modified foods (GMOs)?

I'm not sure that anyone fully understands the risks of GMOs, but I don't want to be part of the experiment. I see no need for genetically engineered crops. There have been rationales offered for them but they are very thin, and I encourage people to avoid GMOs.

"I'm not sure that anyone fully understands the risks of GMOs, but I don't want to be part of the experiment."

Do you believe that what appears to be a rise, an epidemic, of autism and ADHD have to do with people being raised on the standard American diet?

It's a possibility that needs to be explored, because these conditions do not appear to be genetic or at least not solely genetic.

We found a very good model for tracking down the causes of disease back in the 1940s when the Framingham Heart Study got started. It wasn't entirely clear why some people had heart attacks, so starting in 1948 and '49, a large population in Framingham was carefully followed, and it became clear that the risk factors were high cholesterol, excess weight and smoking. The logical next step was to change those risk factors to see if you could prevent the disease or prevent recurrence of the disease, and lo and behold, you can! That methodology needs to be applied to other things. It's being applied now to Alzheimer's disease, and we're finding dietary antecedents to Alzheimer's disease, which is very, very empowering. We also need to do this for other neurological issues, including autism.

Some folks are uncomfortable using terms like "vegan" and "plant-based diets" for the reason that you can be vegan and still eat potato chips. You can be on a plant-based diet and still consume marijuana. How do you look at these terms?

Vegan just means getting the animal products off your plate, and that's a really good move. Once in a while you'll hear people say, "Well you can be unhealthy if you are eating vegan cookies and junk food." Fair enough. But a person eating meat, cheese, potato chips, and candy who stops eating meat and cheese is taking a good step. That's going to help him or her to lose weight and reduce the risk of heart disease and cancer.

But that's not the end of it. You also want to make additional changes and have healthy, natural foods. Some people don't like to use the words "vegetarian" or "vegan" because they make them sound like a philosopher. I think "vegan" is a useful word because it's clear. "Plant-based" is a word that people have used in a couple of contexts. Sometimes they use it to refer to a vegan diet. In other cases, they use it to refer to a country, like say Japan before World War II where the diet was based on plants but with some use of animal products as flavoring. For me, as long as people are clear with what they mean, I think you can use any term you want.

What do you think of the term coined by Alan Goldhamer "Vegan SOS-free" by which he urges people to follow a vegan diet but avoid added salt, oil and sugar?

The steps that one wants to take might depend on

what one's goals are. For weight control, oil has as many calories as lard: nine calories in every gram. And that doesn't matter even if it is "extra-virgin" olive oil that costs you \$85 a bottle and came straight from Tuscany. It's every bit as fattening as lard or chicken fat. Now, the quality of the oil may be much better but its calorie content is the same. When it comes to salt, it certainly raises blood pressure. And Alan would say, and he's right, that salt and sugar and, to an extent, oil, are the things that attract people to certain foods, make them extra enticing, and lure them into over-eating: The Pleasure Trap.

How do you respond to the perennial questions about where you get your protein or calcium on a vegan diet?

In the same way that no one ever calculates how much oxygen they need. You don't need to calculate how much protein you need. Protein is part of the foods that we've evolved with, and when you eat food, your body extracts the protein from it. It takes the protein that it needs. If you're more physically active, your appetite will drive you

to eat more food and you'll get more protein along with it. With regard to the question, "Do plants have protein," the simplest answer is to look at a bull or a stallion or an elephant or a gorilla; all of the protein that went into their massive bodies came from plants.

I think it was the late Dr. Robert Mendel-son that thoughtfully observed one day that "God didn't make too many mistakes when he made us."

I'm not quite sure where human beings came about but I think there's a lot of things I would call "unintelligent design" in the human body. A lot of things I would do differently if I had the blueprints in front of me. That said, protein is not an issue for anybody on anything like a normal varied diet.

In the larger sense, are we saying that being healthy is really not that complicated?

It's not complicated at all. Now, with regard to calcium, you do have to put a little thought into it. Green leafy vegetables should be front and center on your plate, and they are loaded with highly absorbable calcium. Beans too. And people should supplement with B12. But that's really it. Nutrients from the four food groups—vegetables, fruits, whole grains and beans—supplement B12 and green leafy vegetables. If you don't get any sunlight, you will need vitamin D no matter what kind of diet you follow. Even meat-eaters can become vitamin D deficient. Everybody does because vitamin D naturally comes from sunlight on your skin. But that's really all there is to it.

"We're finding dietary antecedents to Alzheimer's disease, which is very, very empowering."

Tell me about the Barnard Medical Center. That's one of your newer projects.

I am really excited about it. I wanted to see if we could set up a medical center where, in addition to regular primary care that involves the usual tests and prescriptions that you might get anywhere else, we could create one with a real emphasis on tackling the nutritional causes of illness.

So, if a person comes in with diabetes and is on medications, we are able to continue their medications BUT they will very quickly be referred to a dietitian, in addition to their physician or nurse practitioner. They're going to see a dietitian who is going to go through their diet in detail, and we offer classes that are free for as long as they want to come. For the rest of their life they can come and get all the support they need for following a healthy diet. It has been really, really fun.

I think the key element is that while many doctors either ignore nutrition or they complain that they don't have time to teach patients about nutrition, our structure doesn't require the doctor to take much time because we have a team that handles that. In the same way that doctors don't take their own x-rays or do their own lab tests, we have team members who handle the nutrition side of things. They are very good at what they do, and the doctors love it and the patients love to have all these resources available.

Do most health insurance plans cover the people who come there?

Yes. We take all insurances and we have a sliding fee scale for people who have no insurance. The classes are totally free.

If somebody wants to make the physicians at the Barnard Medical Center their primary physician, can they do that?

Absolutely. Thousands of people already have. We're at 5100 Wisconsin Avenue in Washington D.C.

Tell me about your recent International Conference on



Dr. Neal Barnard (far left) with the Barnard Medical Center staff.

“Restaurateurs now know that any night of the week there are going to be people who are looking for vegan meals.”

Nutrition and Medicine. Did you really have over 700 people in attendance?

We did and it was very exciting. The attendees were mostly physicians and medical students, but we also had some dietitians and researchers. These kinds of gatherings are great in a couple of ways. For the attendees it's very, very good. They may not have known much about nutrition from their medical training and here they have a chance to come in on the ground floor. And if they have had some background, they have the

opportunity to learn what's new in the field of nutrition and how it can affect common diseases.

It's also an opportunity for them to taste healthy food because every meal is vegan. It is wonderful to have many of the world's leading experts on cancer and Alzheimer's disease come in, roll up their sleeves and interact with the other presenters and learn about plant-based diets. The 2018 conference is going to be August 10th and 11th and we're real excited about it.

You mentioned earlier that in Europe and in other countries they're ahead of the United States in terms of enlightenment on issues of animal testing. What about in terms of recognizing the benefits of vegan and plant-based diets?

I think the United States has leapt ahead. I remember perhaps 25 years ago being delighted to find a veggie burger in London and kind of thinking it would be nice if the United States could do something like that. Well, times have changed and we certainly have veggie burgers everywhere except maybe McDonald's! But vegan cuisine has gone far beyond that and restaurateurs now know that any night of the week there are going to be people who are looking for vegan meals. And think about the change in health food stores. They often used to be tiny little places playing folk music where the cashier was named "Sunshine" with a few dusty products on the shelves. Today health food stores are huge and they have every possible product, every possible replacement for sausage and bacon and burgers, and 35 different kinds of nondairy milks. And then there are the regular grocery stores, where the dairy

case can hardly be called a dairy case anymore given all the brands of soy and rice milk that have taken over the shelf space.

Do you think that some of the increased consciousness owes to the impact of documentaries like *Forks Over Knives*, *Food Choices* and now *What the Health*?

I think they've had a big impact. I like to give a lot of credit to *Supersize Me* as well. When the author, Morgan Spurlock, came into my office I didn't know who he was. He didn't really have a film crew, and I didn't take the project seriously at all. But look at what he accomplished with that movie. Every single person started thinking about McDonald's as being a purveyor of food that was addictive and unhealthy. Although it was told in a tongue-in-cheek, humorous way, it had a serious message and a tremendous impact.

Forks Over Knives was, of course, a brilliant movie. It was so honest in depicting the wonderful work of Dr. T. Colin Campbell, Dr. Caldwell Esselstyn and lots of other people who have worked with them, and it inspired so many people to change their lives. Now we have *What the Health* and it is amazing how Kip Anderson has found a formula that keeps people riveted to the screen and gets them inspired to make fundamental changes. I don't know how he did it, but he did and I think it's a terrific thing.

As you look back on your twenty-plus years, are you amazed at all that you and PCRM have accomplished?

Certainly, things have moved forward in a good way, but there are still lots of challenges, and I prefer to look forward. To give you just one example of progress, over the past decade or so meat consumption in the United States has dropped about 10%, and that's good. More and more people are also embracing vegetarian and vegan diets, and even people who still eat meat are eating less; and the problems with dairy and its links to diseases is something people are starting to understand. There are also more and more doctors who are changing their own diets and that's all good.



Dr. Barnard (far right) pictured with his musical group, CarbonWorks, whose videos can be found on YouTube.

“Over the past decade or so, meat consumption in the United States has dropped about 10%.”

What do you do when you're not on a book tour for *The Cheese Trap* or guiding the many projects of PCRM?

I have a musical group called CarbonWorks, as in “We are made of carbon and these are our works.” If you go on YouTube, you will see all kinds of music videos that I have made over the years. The website is CarbonWorksMusic.com.

We have some stellar musicians, and for me it's a different language for speaking about what matters.

It seems to have struck a chord. One of our songs, “Louder than Words,” was on the national radio FMQB Adult Contemporary chart for weeks on end, peaking at number 13 during the summer of 2017. And another song, “God Save the King” was at number 34 last time I checked. I'm glad people like our music. But these songs also have messages, as you'll see in the videos.

Dr. Barnard, it's been a real pleasure catching up with you, and I want to congratulate you on the incredible contributions you have made to our progressive health movement.

Thanks, Mark, for all that you have done as well.

