

## Working Paper

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### Forgotten Scientific Miracles

Allan Afuah  
Stephen M. Ross School of Business  
University of Michigan

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Forgotten Scientific Miracles<sup>1</sup>  
ALLAN AFUAH  
Ross School of Business  
University of Michigan

**ABSTRACT:** Why do we in the US spend more money on healthcare than anyone else in the world but keep getting sicker, fatter, and more susceptible to healthcare shocks such as the covid-19 pandemic than anyone else? What is the solution to this problem? In this paper, I argue that three causation-correlation errors that we made in the vetting and gatekeeping of scientific research findings—as the findings flowed down the healthcare hierarchy from scientists to doctors and their patients—landed us in the healthcare quagmire. By leveraging the wisdom and power of crowds, we can use three strategies—low-carb, high-dose micronutrients, and cause-based treatments strategies—to obtain superior solutions to the problem at little or no cost. These strategies are disruptive to the business models of the status quo healthcare players who have presided over the quagmire and profited from it. Resistance from these status quo healthcare players can be expected.

*Key words:* Causation-correlation errors, healthcare quagmire, problem solving, covid-19, wisdom of crowds, crowdsourcing, business model, open innovation, Vitamin D, disruptive innovation, trust, gatekeepers, low-carb strategies, high-dose micronutrients, Type 2 diabetes, root causes.

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<sup>1</sup> This paper is an academic version of the book of the same title (*Forgotten Scientific Miracles*, by Allan Afuah).

*This paper is for educational purposes only. It is NOT medical advice and should not be misconstrued as such*

## INTRODUCTION

For decades, we have outdone the world in healthcare expenditures only to get sicker, fatter, and more susceptible to healthcare shocks such as the covid-19 pandemic even as drug makers and other healthcare players have made money year after year. This raises two multi-trillion dollar questions. What caused this healthcare quagmire? What is the solution to this monumental problem?

## THE CAUSES OF THE MASSIVE HEALTHCARE PROBLEM

Understanding how we got into the healthcare quagmire starts with knowing that, in scientific evidence-based medicine, medical doctors usually do not generate the core scientific knowledge that they use at work. Medical doctors are usually in the healthcare frontlines saving lives, as we witnessed in the covid-19 pandemic. Scientists generate the original scientific knowledge about the human body—about the ultimate self-preservation machine—and the nutrients that the machine must be fed, what should be kept out of it, and the causes and cures of the diseases that afflict it (the body). These scientists' findings are vetted by communities of other scientists in a vetting process that depends on the incentives and absorptive capacities of the scientists involved. Vetted research findings then pass through gatekeepers—e.g., doctors, medical associations, drug makers, medical schools, medical journals, food companies, hospitals, government agencies, politicians, etc.—who filter, reinterpret, misinterpret, or manipulate the findings to reflect their own interests, incentives and absorptive capacities before passing the findings (or what is left of them) down the healthcare hierarchy to patients and their doctors.

For example, if your doctor says you are overweight and should go on a low-fat diet, there is a very good chance that he or she did not conduct randomized studies to obtain a result showing that overweight people will lose weight by going on a low-fat diet. There is a good chance that the information came from government dietary guidelines (such as the food pyramid) that reflect the incentives of gatekeepers rather than those of the scientists who generated the original scientific knowledge on what we should eat or not eat, why and why not.

In any case, because of imperfections in these vetting and gatekeeping processes, decision makers made three major causation-correlation errors about what we should or should not eat and what medicines we should take and should not take—mistakes that landed us in the healthcare quagmire, and that powerful organizations exploited to build very profitable and entrenched business models. What were these three mistakes?

### **Blaming Dietary Saturated Fats for Heart Disease**

The first causation-correlation error was blaming dietary saturated fat for causing heart disease while, importantly, letting the real perpetrator—excessive carb intake—get away with murder.<sup>1</sup> Doctors, hospitals, and medical associations instructed us to eat low-*fat* foods high in carbs, exercise frequently, and stay away from dietary fats, especially saturated fats, even as we got sicker and fatter every year despite following these orders. Food companies were only too happy to offer low-fat foods loaded with sugar and other carbs, actively encouraging people to eat more of these foods and do so frequently. Drug makers were more than happy to develop and market drugs to “help” us “manage” or prevent the diseases afflicting us, without determining the root causes of the diseases. It turns out that carbs are not an essential nutrient—that is, we do not have to consume

carbs to live—and therefore eating too many of them is “toxic” to the body. Indeed, excessive carb intake causes or exacerbates many nasty diseases including most of the top ten killers and a lot more—that is, excessive carb intake is a major contributor to making us sicker and fatter.

### **Failure to Understand the Depth and Breadth of Micronutrient Deficiencies**

The second error that we made in the vetting and gatekeeping processes was in not realizing that maiming diseases (e.g., rickets, cretinism/goiter, beriberi, etc.) that were caused by micronutrient deficiencies—deficiencies in essential micronutrients (vitamins and minerals)—were only the *tip of the iceberg* of the numerous other diseases that these deficiencies can cause or exacerbate. Importantly, these numerous other diseases can be prevented, reversed, or managed with higher doses of the micronutrients, not drugs. For example, rickets is but the tip of the iceberg of the numerous diseases caused or exacerbated by deficiencies in Vitamin D—diseases that can be prevented, reversed or managed with high doses of the steroid hormone. Over the years, depleted soils, over-processed foods, pollution, and our habits have only made these deficiencies more severe and widespread. As diseases from the deficiencies have become more rampant and severe, drug makers have happily developed and marketed more drugs to treat or prevent the diseases, while leaving the root causes of the diseases—micronutrient deficiencies—to wreak even more havoc on health.

### **Targeting Measurable Disease-Correlates for Treatment Rather than Pursuing the Root Causes of Diseases.**

The third causation-correlation mistake we made—as a result of the imperfections in the vetting and gatekeeping processes in scientific research—was that, as the diseases caused or exacerbated by excessive carb intake, hidden micronutrient deficiencies, and other factors got more pervasive, drug makers developed even more drugs to prevent or cure these diseases and others. However, rather than targeting and eliminating the root causes of diseases—e.g., targeting excessive carb intake and hidden micronutrient deficiencies—drug makers focused on producing drugs to treat *measurable disease-correlates*. (A disease's correlates are the other diseases or signals/symptoms generated by the root cause of the disease.) Treating the correlates of a disease—rather than pursuing the root cause of the disease—simply leaves the cause of the disease to keep wreaking havoc. For example, research and empirical observation now suggest that high blood pressure is a correlate of heart disease, obesity, stroke, and other diseases caused by excessive carb intake or severe micronutrient deficiencies (e.g., magnesium, potassium, etc. deficiency). Therefore, using drugs to lower high blood pressure hoping to reduce heart disease and stroke rarely achieves the goal and leaves the real perpetrators—excessive carb intake, deficiencies in micronutrients such as magnesium, potassium, etc.—to keep causing or exacerbating heart disease, stroke and more. What is even more tragic in using drugs to treat disease-correlates—rather than pursuing the root cause of the disease—is that some of the drugs end up creating new health problems, requiring even more new drugs.

Now that we know what caused the massive healthcare problem, the question becomes: *What is the solution to the problem?* That is, how do we get out of our healthcare quagmire?

## SOLUTIONS TO MONUMENTAL PROBLEMS

Getting us out of the healthcare quagmire at little or no cost is a monumental problem that belongs to a category of problems that appear impossible to solve using status quo approaches but become relatively easier to solve using crowds.<sup>2</sup> The Longitude Problem that was solved back in the 1700s using crowds comes to mind.<sup>3</sup> A more recent example is Wikipedia whose "problem" of offering the most comprehensive encyclopedia to everyone in the world—for free—would be near impossible to solve without the use of crowds. In problem solving, a crowd is defined not so much by the number of solvers (people solving a problem), but by whether the people solving the problem have been designated to solve it or not. In crowdsourcing, solvers self-select to solve the problem with no ex ante contracts. For example, the people who write Wikipedia entries are not Wikipedia employees or contractors who have been hired by the organization to create entries. Rather, these people self-select to write Wikipedia entries without being specifically selected by Wikipedia to write specific entries.

The question is: Why do crowds provide superior solutions to these monumental problems—solutions that are superior to the status quo solutions provided by those who have traditionally solved similar problems? Crowds often have the incentives, resources (skills, time, knowhow, mentality, etc.) and other attributes to solve these problems that those who have traditionally solved the problems—status solvers—are not likely to have. For example, drug companies, hospitals and other status quo healthcare players are not as interested in finding a free non-drug solution to Type 2 diabetes as the patient who has been told the disease is incurable and must be managed with drugs (riddled with adverse side effects) for the rest of the patient's shortened life. Crowd's of patients, loved ones,

family members, academics, and others—some of whom are doctors—have the incentives and skills to read and interpret the original scientific research showing that a low-carb diet (less than 50 grams per day) can be used to reverse Type 2 diabetes.

With this background information on why solving monumental problems using crowds is more likely to deliver superior solutions than solutions from status quo solvers, let us move on to the solution to our healthcare quagmire.

## THE SOLUTION TO THE HEALTHCARE PROBLEM

We can solve our massive healthcare problem by using crowds to pursue three strategies: Low-carb, high-dose micronutrients, and cause-based treatment strategies.

### **Low-carb Strategies**

In a *low-carb strategy*, people use highly restricted carb diets (less than 50 grams of carbs a day) to prevent, reverse, or manage the diseases that are caused or exacerbated by excessive carbohydrate intake. These diseases/symptoms include acne, attention deficit hyperactivity disorder (ADHD), Acanthosis nigricans, Alzheimer's disease, asthma, autism, cancer (especially breast, colon, ovarian, pancreatic, renal, and aggressive prostate), cataracts, chronic obstructive pulmonary disease (COPD), dementia, depression, enlarged prostate, epilepsy, erectile dysfunction, fatty livers, gastro-esophageal reflux disease (GERD), glaucoma, gout, heart burn, heart disease, high blood pressure, infertility, inflammation, insomnia, insulin resistance, kidney disease, macular degeneration, metabolic syndrome, Ménière's disease, mental fog, migraines, non-alcoholic fatty liver, obesity, Parkinson's disease, polycystic ovary syndrome (PCOS), psoriasis, retinopathy, sleep apnea, stroke, spare tire belly, tinnitus, tooth decay, Type 2 diabetes, vertigo, and many others.<sup>4</sup>



Because no drugs or new products are required, anyone anywhere in the world can benefit from low-carb strategies. Low-carb diets include Atkins, ketogenic diet (omnivore, vegetarian, or vegan keto), carnivore, and so on. The common denominator in these diets is that the total number of carbs consumed a day is below 50 grams. Calories matter but only when they are from carbs.

What do crowds have to do with all this? Everything! To illustrate the role of crowds, consider Type 2 diabetes. Prior to the Internet, knowledge of the causes and treatment of Type 2 diabetes circulated largely among doctors, hospitals, drug companies, medical associations, medical schools, medical journals, medical schools, and other healthcare players who acted as gatekeepers of what got to patients. With the advent of the Internet, academics from different backgrounds, people with a family history of Type 2 diabetes, Type 2 diabetics, people who reversed their Type 2 diabetes using a low-carb diet, and outer circle doctors exchange information about how to use a low-carb diet to reverse Type 2 diabetes—a disease once thought to be incurable. These crowds have the resources (emotional support, knowhow, etc.) and incentives (e.g., the need to do good) help people in their efforts to prevent or reverse Type 2 diabetes just by changing their diet. No drugs.

### **High-dose *Micronutrient* Strategies**

While low-carb strategies are about what (and how much) we are consuming that we should not be consuming, *high-dose micronutrient strategies* are about which micronutrients (and how much of each) we should be consuming that we are not. The strategies are about essential micronutrients—about vitamins and minerals that we need to consume to live. In a *high-dose micronutrient* strategy, people leverage the high-dose

potential of life-saving micronutrients (e.g., magnesium, zinc, Vitamin D, iodine, Vitamin B1, etc.) to fight diseases beyond the ones that the vitamins and minerals were “discovered” to cure. For example, high plasma levels of Vitamin D (from high doses of Vitamin D) can prevent, reverse, or control the following diseases/symptoms that are caused or exacerbated by Vitamin D deficiency: acute respiratory distress syndrome (ARDS), all-cause mortality, allergies, arthritis, asthma, autism, autoimmune diseases (e.g., Type 1 diabetes), back pain, bone brittleness, bone pain, bowed legs, cancer (especially breast, colon, ovarian, pancreatic, aggressive prostate, and renal), cataracts, chronic fatigue, chronic obstructive pulmonary disease (COPD), covid-19, depression, diabetes, frequent injuries (especially for athletes), heart disease, hypertension, infertility, inflammation, influenza, insulin resistance, knocked knees, kyphosis, leprosy, lordosis, loss of strength (e.g., athletes), mental fog, metabolic syndrome, miscarriage, multiple sclerosis, muscle pain, muscle spasm, osteomalacia, pre- and post-natal issues, rickets, scoliosis, skin issues, stroke, tuberculosis, Type 2 diabetes, and many others.<sup>5</sup>

Billions of people worldwide who suffer from these hidden deficiencies could benefit from high-dose micronutrient strategies. No new products. Only a clever increase in the dosage of *micronutrients*—the same micronutrients that have nourished our bodies for thousands of years—is needed. The word “*micronutrients*” is emphasized here because the high doses in question are doses of micronutrients, and NOT of synthetic chemical compounds with side effects—not synthetic chemical compounds such as those produced by drug makers and often approved by government institutions such as the Food and Drug Administration (FDA) in the US and prescribed by doctors and other healthcare professionals.

What do crowds have to do with high-dose micronutrients as a solution to the healthcare quagmire? Everything. To see how, consider Vitamin D. First, some online websites are dedicated to Vitamin research and its numerous benefits beyond curing

rickets. Second, many people share their Vitamin D stories with trusted others on social media, and the word goes around.

### **Cause-Based Treatment Strategies**

The third strategies for delivering superior healthcare solutions at very low cost—thereby contributing to getting us out of the healthcare quagmire—are the *cause-based treatment* strategies. In *cause-based treatment* strategies, consumers work with their doctors to ensure that each treatment (drug, procedure, etc.) that they are prescribed for a disease goes to the root cause of the disease rather than to silencing measurable disease-correlates/symptoms from the root cause of the diseases. Two examples illustrate this.

First, if someone has high blood pressure, it is important to determine the root cause of the high blood pressure. High blood pressure may be caused by micronutrient deficiencies (e.g., deficiencies in magnesium, potassium, Vitamin D, vitamin C, etc.), excessive carb intake, or something else—the same perpetrators that also cause heart disease, stroke, and other diseases. Using drugs (e.g. diuretics) to make the high blood pressure go away may not only be useless in treating the diseases caused by the micronutrient deficiency or excessive carb intake but the drugs may also create new health problems of their own. Other measures taken to lower blood pressure (in the name of preventing heart disease and stroke) can be just as ill-advised. For example, telling people to keep their salt intake low to avoid high blood pressure may actually end up doing the opposite of what is intended: Increasing the risk of death from heart failure by as much as 160%.<sup>6</sup> This is not surprising to those who have read the original scientific literature showing that we need to consume sodium and chloride—the two elements that make up salt—to live. Sodium and chloride are essential nutrients. Also, because many

people get iodine (another essential mineral) from iodine-fortified salt, cutting back on salt can mean iodine deficiency for some people, especially in developing countries.

Second, because cholesterol is often found in the plaque buildup in the arteries of heart disease victims, cholesterol-reducing drugs (e.g., statins) have been prescribed to reduce total plasma cholesterol levels hoping to stem heart disease. Decades of using statins to “normalize” plasma cholesterol levels have done little to prevent heart disease from maintaining its position as the number one killer in the United States. What is even more disheartening is that statins have very nasty side effects. These nasty side effects should not surprise those who know that the body is a lot smarter than us and produces cholesterol everyday because it needs the substance to perform at least five vital physiological functions. Statins inhibit the body’s ability to produce this important substance, thereby inhibiting the body’s ability to do what it has done for thousands of years to help us thrive. The point here is that we have to be careful with drugs that second-guess the ultimate self-preservation machine that is the human body—the machine that keeps us and our offspring healthy, and that has worked relatively well for thousands of years. Our bodies know more than we do.

Effectively, if patients and their doctors (as patients’ agents, not distributors for drug firms) choose only drugs that treat the root causes of diseases, pharmaceutical companies may develop such treatments rather than silencing measurable disease-correlates while leaving the root causes of diseases to keep wreaking havoc. The ultimate goal of cause-based treatment strategies is to avoid drugs that add little or no value to preventing, curing, or reversing diseases and yet cause new health problems. What do

crowds have to do with all this? Crowds can help patients get to the root causes of diseases.

In summary, the potential of the three strategies—low-carb, high-dose micronutrients, and cause-based treatment—to deliver superior solutions to consumers' health problems at low cost is phenomenal. Pursuing the strategies can prevent, reverse, treat or manage many nasty diseases—including most of the top ten killers—while trimming trillions of dollars off healthcare costs. Restriction of carb intake, elimination of some drugs, and the use of high-dose micronutrients are the primary focus. The question is: If these strategies are that good, why haven't they already been used to stop us from getting sicker and fatter every year, taking us out of the healthcare quagmire?

## BARRIERS TO THE PURSUIT OF THE STRATEGIES

There are four major barriers to the pursuit and success of the three strategies: Money, beliefs, habits, and competitive advantage.

### **Money**

The three strategies are disruptive to the business models of incredibly powerful healthcare players that include inner circle status quo doctors, hospitals, pharmaceutical companies, medical associations, medical schools, politicians, insurance companies, pharmaceutical benefits managers, and so on. This business model disruption means less money for these players and, therefore, they have sought to defend their business models and their status quo positions in healthcare by fighting the progress of the strategies.<sup>7</sup>

### **Beliefs**

Patients' beliefs and trust in doctors—the doctors who believe in the status quo solutions that are being disrupted by the three strategies—can make it difficult for the patients to take advantage of the three disruptive strategies. These beliefs include believing that one knows better than the human body. Worse still, doctors' beliefs in status quo solutions—e.g., using drugs to treat nutritional deficiencies or measurable disease-correlates—can be very difficult to change.

### **Habits**

Carbs can be as addictive as alcohol—which is made from carbs—making it difficult for some people to follow a low-carb strategy. Just as unfortunate, some prescription drugs can be addictive to patients, making it difficult for them to get off drugs that cause more harm than good.

### **Competitive advantage.**

A person's competitive advantage is something that enables the person to outperform his or her perceived rivals. Some people just have to win at whatever they do and, therefore, need something to give them that edge to win. Whether it is in losing weight, beating diabetes, having better medical exam reports, having a flat tommy, or looking good, these people want to win. Low-carb, high-dose micronutrient, and cause-based strategies are that something—that competitive advantage—that helps these people win. Some very competitive people tend to keep these competitive advantages a secret. This is particularly true of high-dose micronutrient strategies—e.g., high-dose Vitamin D strategies—in which all one has to do is take a supplement.

## OVERCOMING THE BARRIERS

Fortunately, as formidable as these barriers appear to be, three factors are enabling anyone from anywhere in the world to overcome the barriers to successfully pursuing the three strategies. First, using digital technologies, people can leverage the power and wisdom of crowds to bypass healthcare gatekeepers—doctors, drug makers, medical associations, medical schools, hospitals, governments, etc.—to obtain information about diseases, their causes, and cures directly from well-vetted original scientific sources, rather than depending on these gatekeepers that filter and manipulate information to reflect their interests and incentives. Bypassing these gatekeepers drastically reduces their power over patients, thereby erasing some of the major hurdles to the three strategies.

The second factor that is enabling anyone anywhere to overcome the barriers is the fact that many powerful people in the healthcare value chain—doctors, heads of medical schools, medical journal editors, heads of medical associations, heads of hospitals, healthcare activists, and numerous other powerful healthcare professionals and executives—are succumbing to Type 2 diabetes, obesity, spare tire bellies, covid-19, or some of the numerous other diseases/symptoms caused or exacerbated by excessive carb intake, micronutrient deficiencies, and drugs targeting measurable disease-correlates rather than the root causes of diseases. These powerful people are becoming increasingly aware that status quo solutions will not work for *them* and their loved ones.

For example, doctors who have become type 2 diabetics are not likely to stick with the status quo of taking drugs and eventually going blind, succumbing to heart disease, kidney disease. or getting their limbs amputated when all they have to do is pursue a low-carb strategy that comes with numerous other health benefits. That is, these very powerful people are not likely to refuse low-carb strategies in favor of impotent status quo solutions that—for example—see type 2 diabetes as an incurable disease. Even the American Diabetes Association came to grips with the reality of low-carb strategies when, in May 2019, its *Diabetes Care* publication said, “Reducing overall carbohydrate intake for individuals with diabetes has demonstrated the most evidence for improving glycemia and may be applied in a variety of eating patterns that meet individual needs and preferences.”<sup>8</sup>

The third factor helping people overcome the barriers to the three strategies is the covid-19 pandemic and its negative impact on the health and economies of the world. The need to solve such an urgent problem—and the irrelevance of status quo solutions—has given the strategies more teeth to overcome the barriers confronting them. For example, knowing that high doses of Vitamin D are the solution to the covid-19 problem is a strong incentive to pursue high-dose micronutrient strategies rather than status quo solutions.<sup>9</sup> Also, knowing that most victims of covid-19 complications tend to be those with pre-existing health conditions—caused or exacerbated by excessive carb intake, severe micronutrient deficiencies, or needless drugs—also points to pursuing the three strategies.

## CONCLUSIONS



Can the three strategies solve the covid-19 pandemic problem? Yes, they can!<sup>10</sup>

Research suggests that high serum levels of Vitamin D—from high doses of Vitamin D—significantly reduce infections and deaths from covid-19. Zinc, iodine, and Vitamin C are also being investigated for their antiviral “vaccine-like” immune properties—properties that can fight the virus and its damaging effects. Also, early analysis of the data from the pandemic showed that more than 90% of the most vulnerable patients to severe complications from covid-19 suffered from pre-existing health conditions such as obesity, heart disease, high blood pressure, diabetes, stroke, chronic lower respiratory disease, cancer, and spare tire belly.<sup>11</sup> These diseases are a subset of the diseases that low-carb strategies can prevent, reverse or fight. Also, it has been hypothesized that some of the drugs used to treat measurable disease-correlates might be problematic in the face of covid-19. Effectively, in addition to doing what healthcare professionals and authorities tell us to do—e.g., social distancing, wearing masks, frequent and thorough washing of hands, frequent testing, etc.—it may be prudent for us to also pursue the low-carb, high-dose micronutrient, and cause-based strategies of this paper in the fight against covid-19 and a lot more.

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<sup>1</sup> Teicholz, N. (2014). *The big fat surprise: Why butter, meat and cheese belong in a healthy diet*. Simon and Schuster.

<sup>2</sup> Afuah, A., & Tucci, C. L. (2012). Crowdsourcing as a solution to distant search. *Academy of Management Review*, 37(3), 355-375.

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Surowiecki, J. (2005). *The wisdom of crowds*. Anchor.

<sup>3</sup> Bennett, J. (2003). The travels and trials of Mr Harrison’s timekeeper. In *Instruments, Travel and Science* (pp. 87-107). Routledge.

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<sup>4</sup> Proponents of the low-carb strategy point to the research which suggests that sufficient carb restriction can successfully fight obesity, Type II diabetes, pre-diabetes, metabolic syndrome, non-alcoholic fatty liver, epilepsy, polycystic ovary syndrome (PCOS), some cancers, Alzheimer's, autism, Parkinson's disease (PD), fibromyalgia, lupus, Rheumatoid arthritis, and other ailments that are caused or exacerbated by excessive carb intake.

See, for example: Cordain, L., Eades, M. R., & Eades, M. D. (2003). Hyperinsulinemic diseases of civilization: more than just Syndrome X. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 136(1), 95-112. Kelly, C. T., Mansoor, J., Dohm, G. L., Chapman III, W. H., Pender IV, J. R., & Pories, W. J. (2014). Hyperinsulinemic syndrome: the metabolic syndrome is broader than you think. *Surgery*, 156(2), 405-411.

Kraft, J. R., & Fcap, J. R. K. M. M. (2008). Diabetes epidemic & you. Trafford on Demand Pub. Importantly, see Dr. Benjamin's research. You can also go to Google Scholar or any other scholarly search engine to locate the academic articles written by Dr. Benjamin Bikman about excessive carbs, insulin resistance, and the diseases that they cause or exacerbate. Here is a video that summarizes Dr. Bikman's research findings and thoughts for non-academics: *The Plagues of Prosperity | Benjamin Bikman*. Published on July 19, 2018. Retrieved on April 29, 2019, from: <https://www.youtube.com/watch?v=xefdEXfG9j0>

See also: Dr. Berg's video. Retrieved on April 14, 2019 from <https://www.youtube.com/watch?v=tRPqYqa3oLA>

Video from Dr. Mark Hyman, MD. Video entitled, "The Ground-Breaking Study You Haven't Heard About." Retrieved June 23, 2019, from: <https://www.youtube.com/watch?v=ek4-G1BSNZ4>

See also Amy Berger's blogs. For example, Berger, A. (2018). Is Gout Caused by Red Meat or Metabolic Syndrome? June 19, 2019. Retrieved September 17, 2019, from: [https://www.youtube.com/redirect?v=MSCo\\_yPnpJE&redir\\_token=CFNRfQPjJn18PwKOj4hp58üPd8MTU2ODg0MzM4OEAXNTY4NzU2OTg4&event=video\\_description&q=https%3A%2F%2Fketodietapp.com%2FBlog%2FfchF%2Fis-gout-caused-by-red-meat-or-metabolic-syndrome](https://www.youtube.com/redirect?v=MSCo_yPnpJE&redir_token=CFNRfQPjJn18PwKOj4hp58üPd8MTU2ODg0MzM4OEAXNTY4NzU2OTg4&event=video_description&q=https%3A%2F%2Fketodietapp.com%2FBlog%2FfchF%2Fis-gout-caused-by-red-meat-or-metabolic-syndrome).

See also: Webster, C. C., Murphy, T. E., Larmuth, K. M., Noakes, T. D., & Smith, J. A. (2019). Diet, Diabetes Status, and Personal Experiences of Individuals with Type 2 diabetes Who Self-Selected and Followed a Low Carbohydrate High Fat diet. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*, 12, 2567.

See also Gupta, L., Khandelwal, D., Kalra, S., Gupta, P., Dutta, D., & Aggarwal, S. (2017). Ketogenic diet in endocrine disorders: Current perspectives. *Journal of Postgraduate Medicine*, 63(4), 242.

<sup>5</sup> For a list of the scientific studies linking Vitamin D deficiency to these diseases, see: <https://vitamindwiki.com/VitaminDWiki>. Retrieved September 25, 2019.

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Here is a useful video: The Crucial Story of Vitamin D and Human Health - Ivor Cummins:  
<https://www.youtube.com/watch?v=72SiVOMjHJI>

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<sup>6</sup> Taylor, R. S., Ashton, K. E., Moxham, T., Hooper, L., & Ebrahim, S. (2011). Reduced dietary salt for the prevention of cardiovascular disease: a meta-analysis of randomized controlled trials (Cochrane review). *American Journal of Hypertension*, 24(8), 843-853. See also the video: What I've learned. (2017). WHY Low Salt Stresses the Body (Sodium, Hormones & Potassium). Retrieved September 26, 2019, from:  
<https://www.youtube.com/watch?v=0bNdhM4vt4I>

<sup>7</sup> Throughout this paper, my use of the word “disruptive” is different from Professor Clayton’s use of the word. His work refers to a new product (from a new entrant firm) that first addresses a niche market, costs less than mainstream products, and whose initial

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performance is inferior to that of mainstream products (but keeps improving). There are three major differences between Professor Christensen's work and mine. First, in my work (crowdsruption = disruption by crowds), no new products are involved; rather, disruption involves getting rid of products. Second, firms are not the disruptors; rather, crowds of consumers are. Right from the word go, the solutions from crowds are superior to status quo solutions. For more on Professor Christensen's work, see: Christensen, C. M., & Bower, J. L. (1996). Customer power, strategic investment, and the failure of leading firms. *Strategic Management Journal*, 17(3), 197-218. See also: Gans, J. (2016). *The disruption dilemma*. MIT press.

Also see the video by Dr. Jason Fung entitled, “Dr. Jason Fung: Financial Conflicts of Interests and the End of Evidence-Based Medicine” published September 24, 2019 on YouTube. Retrieved October 1, 2019, from:

<https://www.youtube.com/watch?v=z6IO2DZjOkY>

<sup>8</sup> Evert, A. B., Dennison, M., Gardner, C. D., Garvey, W. T., Lau, K. H. K., MacLeod, J., ... & Saslow, L. (2019: 736). Nutrition therapy for adults with diabetes or prediabetes: a consensus report. *Diabetes Care*, 42(5), 731-754.

<sup>9</sup> Afuah, A. N. (2020). The Covid-19 pandemic is a Vitamin D Deficiency problem and is easy to solve. Ross School of Business Working Paper Working Paper No. 1398.

<sup>10</sup> Afuah, A. N. (2020). The Covid-19 pandemic is a Vitamin D Deficiency problem and is easy to solve. Ross School of Business Working Paper Working Paper No. 1398.

<sup>11</sup> Fang, L., Karakiulakis, G., & Roth, M. (2020). Are patients with hypertension and diabetes mellitus at increased risk for COVID-19 infection?. *The Lancet Respiratory Medicine*. The covid-19 virus invades cells through angiotensin-2 (ACE 2) receptors. It turns out that diabetes, heart disease, hypertension, and cancer increase ACE 2 receptors giving the virus the opening that they need.

For an easy-to-assimilate presentation of the data, please see: *COVID-19 and Underlying Health Conditions and Susceptibility* by Dr. Eric Berg in the YouTube video:

<https://www.youtube.com/watch?v=T4ZfGxAPJbk>.