COVID-19 and Real Science

Abstract

The hottest topic in politics and medicine today is COVID-19. Within this narrative there seems to be a recurring discussion about “Real Science,” and what it is or is not. To better understand this and get politics out of the way, we take a look at what defines science and politics, and then use the principles of evidence-based causation to review COVID-19 and how it infects cells and our immune system. Using a meta-analysis approach to understand all the known causal relationships of this disease we found that science has already produced a cure for COVID-19, but because of systemic failures in our government and scientific communities, many people have unnecessarily died.

Areas Covered

Using 18 NIH studies and more than 50 other technical references, this paper defines several different ways the COVID-19 virus attacks our body and how it responds. It also describes how the 17 comorbidity conditions defined by the CDC are involved in nearly all deaths. We also discuss some serious contradictions involving Big Pharma and political decisions, along with why we believe vaccines are not the answer to this pandemic.

Keywords

COVID-19, Virus, Real Science, Groupthink, Principles of Causation, Hydroxychloroquine, Zinc Ionophores, Zinc, Big Pharma, Scientific Journals, Vaccines.

Real Science – What is it?

The word ‘science’ means knowledge in Latin and is a systematic process of understanding the world through testable explanations. Understanding how our world works means understanding the causal relationships that make things happen. And that means asking what, when, where, and **why**!

In politics, which means “affairs of the community,” it is mostly about telling stories about people, places and things and asking what, when, and where, but not so much about asking why. If ‘why’ is asked, the usual strategy is to follow a linear path that believes A caused B, B caused C, C caused D, and somewhere at the end of this linear chain of causes there is a magical cause that started everything, i.e., the “Root Cause.” And once you find the ‘root cause of a problem, you can apply a solution and solve the problem. Since this analysis is usually provided by a group of like-minded individuals in the same community, telling stories to each other, and categorizing their reasons, a strong consensus is created and the “Truth” is born. Once this truth has been defined, it is the purpose of the body politic to spread their truth so everyone else in the community can find value in it. If someone disagrees with this “Truth,” they are ridiculed or ostracized from the group because there can be no descent. This is where name-calling, identity politics, and cancel culture come into play and it’s known as Groupthink.

Groupthink [1] is a psychological condition that occurs in any group of people in which the desire for harmony or conformity is more important than discussing other ideas and often results in an irrational or dysfunctional decision-making outcome.

Science, on the other hand, is the pursuit of knowledge by asking why until we reach our point of ignorance and even then recognizing that our truth is only conditional and forever up for adjustment and change. Effective science understands the principles of causation, [2] and knows that when you reach your point of ignorance and can't find the next cause, you know for sure that there are at least two more of them for each branch of your causal set. So, as you can see, the notion of consensus or groupthink that uses storytelling, categorization, and the linear causal thinking found in politics, is the antithesis of science.

A wiseman once said, "the more we know, the more we know we don't know." So, contrary to the body politic which is focused on a compromised Truth, science is defined by humility and knowing there is no such thing as the "Truth," only cause and effect and the unknown. In short, the purpose of science is to prove conventional wisdom wrong.

Unfortunately, our scientific communities have been polluted with government grant money and meddling politicians and are no longer practicing science. The government/politicians give the scientist money to study anything, with or without any obvious purpose other than the pursuit of science. This is called "pure science" and is performed in hopes that some new and exciting discovery will be made. Nothing wrong with that, because it is seeking knowledge and to do otherwise is not science but the definition of arrogance and stasis.

Unfortunately, scientists need money to expand human knowledge and that can cause problems, the biggest of which is the common belief among scientists that consensus on the given subject is the goal. The thinking being that, if enough of us agree on something by performing all kinds of different experiments to prove it (using lots of government money) it must be right; and a huge Groupthink is created. This is exacerbated by the fact that one of the criteria for giving grant money is to see how many articles have been published [3] on that particular subject. If an idea is new or challenges conventional wisdom the scientist is less likely to be awarded the grant money and must go elsewhere or lose their job. So, the groupthink is systematically perpetuated and our scientific knowledge is stifled.

Additionally, politicians have hijacked the scientific community to influence the actions, beliefs, or behavior of voters as a way of gaining power. They seek to convince the majority of voters of their righteousness to show what great problem-solvers they are. If there isn't a problem, they create one, like man-caused climate change. [4] The citizens, who have never been taught the principles of causation and the need for evidenced-based causal relationships, simply listen for the best narrative and swallow it.

In both these activities, government and politicians, the incentive to challenge conventional wisdom is removed and their purpose of 'real science' is now focused on consensus and political narratives – the total opposite of pure science, which is to question everything and everyone.

In addition to the failures of government owned science, we will also see how 'big-business' money affects science later on in the discussion.

With this understanding of the huge difference between science and the political term of "real science," let's take a scientific look at what we know about COVID-19.

COVID-19

When some people speak about dealing with COVID-19 they say we must "follow the science." They go on to say: "we know from scientific studies that using Hydroxychloroquine (HCQ) is ineffective at treating COVID-19." To support their assertion, they reference a few dubious scientific studies that show how HCQ is ineffective against treating SARS-CoV-2 as the basis for their belief.

If you have an inquisitive mind, join us and let's see if this narrative is valid. What better way to evaluate this than to look at the most recent of those studies published in the New England Journal of Medicine (NEJM) on July 23, 2020 where you will find a classic example of this narrative. The scientific paper is titled *"Hydroxychloroquine with or without Azithromycin in Mild to Moderate COVID-19"*. [5] This report concludes: *"Among patients hospitalized with mild-to-moderate Covid-19, the use of hydroxychloroquine, alone or with azithromycin, did not improve clinical status at 15 days as compared with standard care.*"

What they don't tell you is how the immune system responds to infection and that their study is incomplete because they ignored this simple well-known scientific fact:

You need an ionophore (like HCQ) AND Zinc in your blood serum to effectively fight any virus, including the novel coronavirus, aka COVID-19.

And, as we shall see in a moment, ionophores, like Hydroxychloroquine often do not work on patients with mild to moderate symptoms unless they are accompanied by Zinc – they must be given as a prophylaxis or within 7 days of symptom onset. The patients in this NEJM study were 5 – 9 days from symptom onset and did not receive any Zinc. So, by ignoring the evidenced-based causal relationships our immune system uses to fight infection, this and the other often cited studies did not follow scientific protocol.

To better understand this problem, let's take a closer look at these causal processes and see how COVID-19 attacks us and how the immune system fights it:

First of all, we need to understand that COVID-19 attacks human cells in several different ways, resulting in three phases of the disease as seen below in Figure 1.

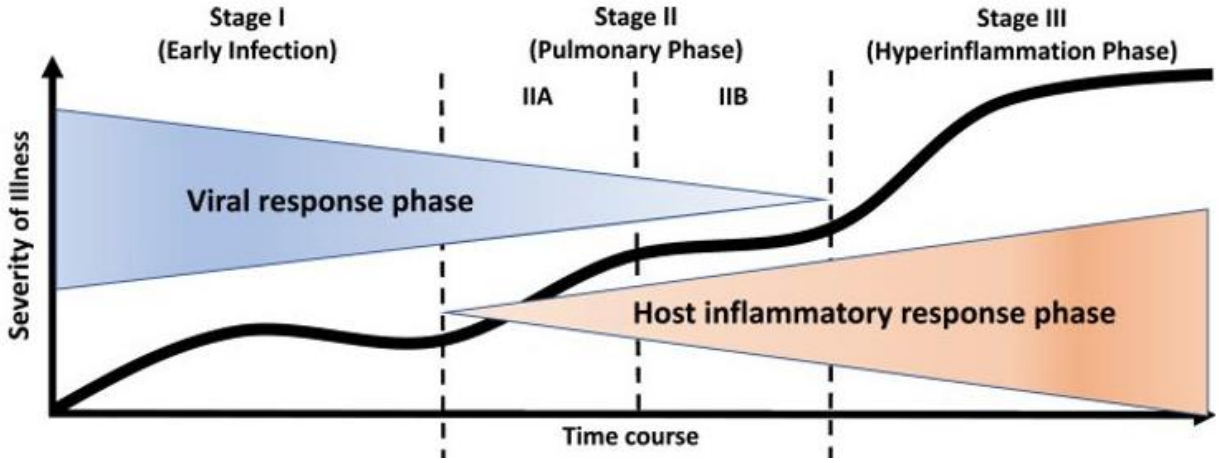

Figure 1: Stages of COVID-19

Phase 1 symptoms are Runny Nose, Respiratory Distress, Dry Cough, Fever, and Loss of Taste and Smell.
Phase 2 symptoms are Shortness of Breath, Tingling and Lack of Oxygen to the Body.
Phase 3 symptoms are Lungs filled with Fluid, Blood Clots, Stroke, and Cardiac Failure.

In order for us to find effective solutions to any problem, we first have to understand the causal relationships of the problem. So, let's look at what we know about how this virus is transmitted and how it attacks the human body to cause these symptoms.

These three phases are driven by six different mechanisms involving human cells, and while cell biology is very complicated, [6] we'll try to make it simple.

What is a virus and how do they attack us?

Viruses [7] are not living things, so you can't kill them, but you can disassemble them if you know how they are put together. They are a protein molecule with a fatty surface called a lipid layer that replicates only inside living cells. Viruses infect all life forms, from animals and plants to microorganisms and bacteria. The Coronavirus is an RNA virus, meaning it has RNA (ribonucleic acid) as its genetic material. Notable human diseases caused by RNA viruses include the common cold, influenza, SARS-CoV-1, SARS-CoV-2 aka COVID-19, Dengue Virus, Hepatitis C, Hepatitis E, West Nile fever, Ebola virus disease, rabies, polio and measles. (**Wikipedia**) Also, there are millions of types of viruses and they have been here since the beginning of time, continually mutating to make new ones. So, let's see how they operate:

Attack Mechanism #1: When we look at this COVID-19 disease as a process we see it starts with the virus hanging around in the air as an aerosol, which we now know, based on several recent scientific studies [8] can last for up to 16 hours in stagnant air. We also know that nose cells have been identified as likely COVID-19 entry points. [9] This helps explain why most people get infected in enclosed areas like the small rooms found in homes and apartments with no or low flow ventilation. It also explains why lockdowns not only don't work, but are the worst thing we could do, as evidenced by the huge number of infections in locked-down New York City and nursing homes. We searched

all the NIH and CDC COVID-19 studies and there doesn't appear to be any evidence that it can transmit outside in free moving air because the concentrations needed to infect someone are not viable in these conditions. Also, consider that there has not been any outbreaks among grocery or other large-store workers, who are exposed to hundreds of people all day long; some of whom are probably infected with COVID-19.

Attack Mechanism #2: Once inside the nose or lungs, the coronavirus first tries to enter a human cell by using its own key, called an "S spike protein." The door lock is inside a little pocket called an ACE-2 Receptor site, kind of like an entryway or portico on a house. After the virus inserts the key (makes a connection with the cell), it looks around to see if this is a friendly place or not by checking the acid levels in the portico. If it is pretty acidic (the normal state for most cell porticos), it rings the doorbell and waits for the cell to open the door. One natural defense mechanism for this intruder is called an ionophore, which is found in many of the plants we eat and ends up in our blood if we eat properly. Since ionophores are non-acidic (known as alkaline or base), they reduce the acidity in the portico and the virus proteins degrade and fall apart. If there are enough alkaline ionophores available in the human body, the virus is stopped at the front door. No infection, no symptoms!

Unfortunately, there usually are not enough of these good guys around and the cell gets tired of the incessant ringing of the doorbell and lets the virus in. But, if the owner of these cells has hired personal ionophore bodyguards named Hydroxychloroquine (HCQ) or Quercetin-supplement then they fill the portico with enough base material to degrade the virus. **Note:** In talking to Harvey Risch, [61] a renowned Epidemiologist, he indicated that HCQ has more staying power than Quercetin and other natural flavonoids because HCQ has more ammonia-nitrogen and is more basic than flavonoids. Melatonin is closest to HCQ in structure and does contain ammonia-nitrogen but not as many.

Again, both HCQ and Quercetin [10] ionophores are alkaline (high pH) and reduce the acid levels, thus destroying the virus at the front door. So, as you can see, if you take an ionophore like HCQ or Quercetin as a prophylaxis, it can prevent the coronaviruses from getting into the cell and you won't get sick! For details on this mechanism see *"An Effective Treatment For Coronavirus (COVID-19)"*, by James M. Todaro and Gregory J. Rigano, March 13, 2020. [11]

Attack Mechanism #3: If there are not enough of these ionophore bodyguards to stop the virus from entering and it gets inside the cell, it looks for a nice cozy place to rest and snuggles up in some little compartments called Endosomes, Lysosomes and Golgi. Once safely inside these compartments, the virus begins to multiply. This is the beginning of Phase One of the illness and you begin to show symptoms. And just like most battles, the side with the most players usually wins. If you have enough ionophore bodyguards, natural or from a pill, they will also get inside these compartments, increase the pH and thus destroy the virus proteins just like they did in the portico. This helps explain why HCQ must be given within the first 7 days of symptom onset or taken as a prophylaxis.

Attack Mechanism #4: [12] If your bodyguards went to sleep, or went on vacation, or are too old to fight anymore, then the virus goes crazy and keeps multiplying until the cell dies, which causes the release of millions more viruses to go and infect other cells. If COVID-19 starts in the nose, as is often the case, it soon moves down into the lower lungs. If the virus gets to this point, you enter Phase Two with the beginning of severe respiratory distress.

As this infection spreads in the lungs, these new viruses also go out the mouths of infected people in the form of tiny droplets, known as aerosols, and the process repeats itself when the next human inhales many of them. However, if your bodyguards are well trained, they bring along a sidekick known as Zinc.

The surface of living cells are composed of a fat (lipid) layer which selectively allows different ions and organic molecules to cross over and get inside the cell for various cellular functions. Zinc in the body comes in the form of a metal ion, meaning it is an atom that has an electrical charge and is used by the cell to fight invaders like coronavirus. But, it needs a transporter to create a doorway to take it across the cell membrane so it can do its job. This is where the ionophore bodyguards help again by taking the Zinc inside the cell. To direct these molecules to the various locations in different parts of the body (tissues, organs, vessels), the human body uses “Zip” protein ionophores, much like ZIP codes are used to transport mail in different parts of the country, and each body part has a different zip code.

> **Note:** There are billions of ionophores, including many natural ones, like Quercetin, which is found in many fruits, vegetables, leaves, seeds, and grains; red onions, capers, and kale. And, there are many man-made, synthetic ionophores, one of which is Hydroxychloroquine (HCQ), the inexpensive and safe drug used to fight malaria and lupus for the past 65 years. Zinc is a natural micronutrient, found in meats and seafood (Oysters are very high in Zinc), that stops the virus from replicating. But, many people have Zinc deficiencies, which we will also discuss later to help us understand why some people get very sick. It also helps us understand why about 50% of people who test positive for the virus are asymptomatic because they have high blood serum zinc and lots of ionophores.

Attack Mechanism #5: We also hypothesize that the coronavirus creates a special enzyme called a protease [13] that acts like a catalyst to mess with the mailman when it tries to deliver Zinc zip protein ionophores to various cells in the body. This subsequently causes other Zinc deficiencies in various organs and bodily functions. For example, by taking away from the bodies normal supply of Zinc, one of the first things the virus does is hinder our sense of smell and taste. More on this attack mechanism in a minute.

Attack Mechanism #6: [14] If your ionophore bodyguard didn’t bring along some Zinc, or the Zinc fails to get into enough of the infected cells, this line of defense is done and the immune system uses another tactic.

Our bodies have a special cell called the T-Cell, which has a variety of forms that exist to fight infection. When T-Cells are activated, they release cytokines, which are a

protein used by cells to communicate between each other. One of the ways they communicate is to trigger the production of additional T-Cells, which then release even more cytokines. One type of T-Cells that are created are called cytotoxic T-Cells. Cytotoxic T-Cells are the cells that roam the body and mercy kill infected cells, like COVID-19, that are chemically calling out to be killed.

If your body responds normally, the cytotoxic T-cells will only go after infected cells, kill them, and move on. Additionally, the immune system has a chemical communication mechanism that tells overzealous immune response cells to stand down once the threat has been neutralized. It is when we are in the middle of a cytokine storm that those systems start to get overwhelmed and malfunction. In essence, our body's immune response gets so pumped up that it stops differentiating between infected and healthy cells and attacks everything in its path. For obvious reasons, this is very bad for the infected person because not only is the COVID-19 virus killing the cells in our bodies, now our immune system is too.

> **Note:** Because Zinc is involved in T-Cells, immunoglobulin Ig cells, and Basophil cells, [15] all used for immune defense, we also hypothesize that since this virus inhibits transport of Zinc by messing with the mailman who delivers zip protein ionophores to the cells (Attack Mechanism #5), it may also interfere with the immune system by abnormally affecting these cells which could also help explain some of the abnormal cytokine storm response. While all the causal relationships between Zinc and T-Cells are not well understood yet, we do know from several studies [16] that people with high concentrations of blood serum Zinc also have high levels of T-Cells. This may be another way the immune system makes an early attack on the COVID-19 virus.

So, as you can see from this causal understanding of how the body responds to the various attack mechanisms that if the immune system is working like it should, greater than 98% of people will survive the attacks. But, what about the ones that don't survive and why is this the case?

Pre-existing Conditions

We know that most of the people who die from COVID-19 have some kind of pre-existing condition. Based on the most recent CDC studies, [17] the following pre-existing conditions have been identified as causing an increased risk of death or severe symptoms if you get infected with the COVID-19 virus, so let's see what's going on:

Increasing Age – As we can see from Figure 2 below, 92.6% of deaths occur in people over 55. And, according to a study in the *Journal of Nutritional Biochemistry*, [18] about 40 percent of elderly Americans and as many as two billion people around the world have Zinc deficient diets. They also found that Zinc ionophores are significantly reduced in older adults which causes an enhanced inflammatory response in various parts of the

body, but especially in the lungs. Vitamin D and Melatonin are natural zinc ionophores that also help the immune system fight infections as well as prevent bone loss and other old age health conditions.

Age group	COVID-19 Deaths	Percentage of COVID Deaths
Under 1 year	8	0.008%
1-4 years	5	0.005%
5-14 years	13	0.013%
15-24 years	125	0.121%
25-34 years	699	0.676%
35-44 years	1,780	1.722%
45-54 years	4,976	4.815%
55-64 years	12,307	11.909%
65-74 years	21,462	20.769%
75-84 years	27,529	26.640%
85 years and over	34,435	33.322%
All Ages	103,339	100.000%

Source: CDC

Figure 2: COVID-19 Deaths vs. Age

Cancer – As discussed in a peer reviewed 2017 NIH paper, [19] cancer remains the second leading cause of death in the United States, with ~590,000 deaths and ~1.7 million new cases each year. This includes ~350,000 deaths and ~500,000 new cases of prostate cancer, liver cancer, and pancreatic cancer where a Zinc deficiency is common. Compelling evidence supports the plausibility that a Zinc treatment regimen will prevent development of malignancy and termination of progressing malignancy in these cancers; and likely other carcinomas that exhibit decreased Zinc.

Chronic Kidney Disease – Many studies [20] show that chronic kidney disease is caused by a Zinc deficiency.

COPD - Chronic Obstructive Pulmonary Disease – Studies show that Deficient Zinc Transport in Lungs is linked to COPD and Cystic Fibrosis. [21] Overall, this study helps explain the involvement of Zinc in the onset of pulmonary diseases, as well as its effects in mRNA regulation. The study also says to be effective you need Zinc ionophores.

Low Immune Health – As we have discussed many times already, Zinc is essential to a healthy immune system. Decreased natural killer cell activity, antibody responses, and defenses against pathogens and tumors has been observed in Zinc-deficient animals. Reference: Role of Zinc Signaling in the regulation of Mast Cell-, Basophil-, and T-Cell Mediated Allergic Responses. [22]

Obesity – Obesity is considered a chronic disease by the American Medical Association and it affects over 42% of the US population with 9.4% being morbidly obese. According to many studies, [22] obese people have significantly lower Blood Serum Zinc levels than people with a normal body mass index (BMI). So, this comorbidity condition actually causes a zinc deficiency and sets the obese person up for failure.

Coronary Artery Disease – The medical journal The Lancet [23] shows several cases where the SARS CoV-2 virus invades ACE-2 receptor sites in endothelial cells in the major blood vessels of the heart. Another article in the New England Journal of Medicine [24] uses statins and ACE-2 inhibitor drugs to mitigate blood clot and plaque rupture. The role of Zinc in various states of cardiovascular diseases [25] has been studied and described by several research groups. [26]

Sickle Cell Disease – The American Journal of Clinical Nutrition [27] states that Zinc deficiencies observed in patients with sickle cell disease (SCD) are evidenced by low Zinc concentrations in plasma, erythrocytes, hair, lymphocytes, and granulocytes and low activities of certain Zinc-dependent enzymes. Zinc supplementation [28] for SCD patients has also been described.

Type 2 Diabetes – It is well known [29] that Zinc plays an important role in insulin synthesis in pancreatic beta cells and also enhances the ability of body tissues to absorb insulin.

Asthma – Zinc deficiency [30] has demonstrated an association with the risk of asthma. Zinc supplementation as the adjuvant therapy to the standard treatment during asthma exacerbation resulted in rapid lessening of severity.

Dementia – Zinc dyshomeostasis [31] may have a critical role to play in the pathogenesis of Alzheimer's Disease (AD), and the chelation of Zinc is a potential therapeutic approach. This study [32] discusses metal binding compounds that are designed to cross the blood brain barrier and restore metal homeostasis as potential Alzheimer's disease therapeutics.

Cerebrovascular diseases, such as stroke – The Journal of Molecular Medicine [33] describes the role of Zinc in cerebral ischemia (stroke). Another study [34] examines Zinc serum levels in ischemic stroke patients. Results of this study show that Zinc is found to be deficient in patients with ischemic stroke. The development of new treatment and preventive strategies needs to be taken into account for the role of Zinc in neuronal function, damage and repair.

Cystic Fibrosis – See study referenced above in COPD, saying it is also caused by Zinc deficiency.

Liver Disease – Incidence of Nonalcoholic Fatty Liver Disease (NAFLD) has increased in America over the past few decades. It is estimated that up to 40% of all Americans have some degree of this malfunction, and recent research [35] suggests that Zinc may

offer valuable ammunition against NAFLD and its complications. And given that during this pandemic, alcohol consumption has significantly increased, people need a way to combat the potential consequences.

Smoking – The Journal of Respiratory Research [36] shows a protective association between the zinc-to-cadmium ratio and respiratory risk suggests that Zinc may play a role in smoking-associated lung disorder by modifying the influence of cadmium. Another study shows [37] how Zinc supplements may lower cadmium levels in smokers and may help prevent DNA damage.

Type 1 Diabetes – The Journal of Biomedical Central provides its first comprehensive systematic review [38] and meta-analysis on the effects of Zinc supplementation in patients with diabetes and demonstrates that Zinc supplementation has beneficial effects on glycemic control and promotes healthy lipid parameters. In another study, [39] iMedPUB Journals, they state: "Zinc is essential for storage of insulin and for processing of insulin in the body. In diabetic patients the content of Zinc is greatly decreased in the pancreas. Zinc also plays an important role in the formation of insulin crystals, release of insulin and transport of insulin."

Thalassemia (A Blood Disorder) – Thalassemia is a common hereditary anemia in humans, and beta thalassemia represents a group of recessively inherited hemoglobin disorders. A study published in Cureus, [40] a subsidiary of the US National Library of Medicine concluded that hypozincemia was prevalent in beta thalassemia major patients and that further evaluation regarding the role of Zinc in the development and progression of thalassemia is recommended.

When we researched the common medicines used to treat many of these co-morbidity medical conditions we found that many of them are zinc-ionophores. So, it seems that the scientific community clearly knows the causal relationships Zinc plays in maintaining a healthy body. So why don't they tell us about this simple solution to such a huge set of problems? Do you think human greed could be involved? We'll take a look and see.

Summary of Causes:

As you can see, not only are Zinc and Zinc-ionophores important in preventing COVID-19 viruses from getting inside your cells, all of these co-morbidity causes involve Zinc-deficiencies. They either cause it or are caused by it and their treatment involves Zinc-ionophores. Since Zinc is involved in over 300 bodily functions it should be no surprise that such a deficiency could cause so many problems.

Given what you now know about the role of Zinc and Zinc-ionophores in good health, the question at hand becomes: What can we do about it? And, how do I know if I have a zinc deficiency? One way to tell if you have a zinc deficiency is if you always feel like you need a sweet after a meal or if your sense of taste and smell are fading; something that is common in older adults, who we know are prone to a zinc deficiency. Or, just ask your doctor for a blood serum zinc test to see if it is in the normal range.

In addition to being an essential component of our immune system, Severe Zinc Deficiency [41] can cause many other problems, like anxiety and depression, poor concentration, chronic painful acne, hormone deficiencies, muscle loss, slow healing, stomach pain and gas.

Only discovered as an essential element for human health in the 1960s, a recommended daily intake was first established in the mid-1970s. In the short time since the 1970s, scientists have discovered that Zinc is involved in, well, pretty much *everything,* as you can see from the diagram below:

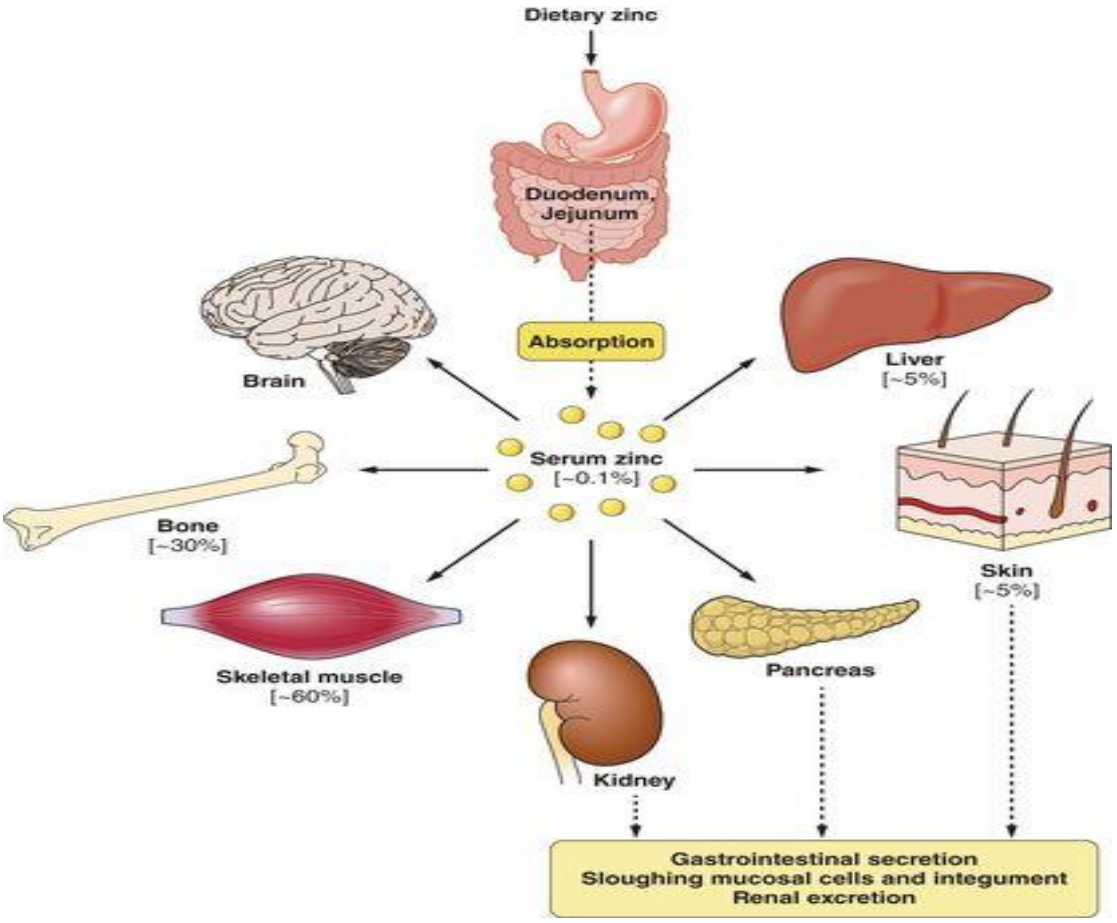

Figure 3: Simplified Diagram of how Zinc is used in the human body

Given that humans could not have evolved without a strong immune system and that many of these pre-existing conditions were less prevalent in the past, what's going on?

One difference is that because of current farming and fertilization practices, soils in which fruits, vegetables, and animal feeds are grown, some may have lower concentrations of Zinc and other essential micro elements/nutrients.

Also, our eating habits have changed significantly and seventy percent of our body's immune response results from beneficial gut bacteria. Most inflammatory and immunosuppressive diseases, like those discussed above, are caused by inefficient digestion of the healthy types of food we should eat. Sugars, fats, and amino acids which we ingest, may not be totally digested by our modern gut flora and result in a build-up of fermenting/putrefying food remnants which can lead to various inflammatory and immunosuppressive diseases. When we **overeat** or eat non-nutritional "junk foods" we stress our immune systems because we borrow from our pool of digestive enzymes. Because these enzymes help regulate both our immune and digestive systems this reserve is reduced, which lowers our resistance to germs and infection.
Since Zinc concentration in our blood plasma is vital to our nutrition and immune response, we need to eat healthy foods and supplement our foods with known concentrations of elemental Zinc along with an ionophore like Quercetin.

And here is where you can get natural Zinc to provide these important defense mechanisms:

Rank	Food Name	Zinc Per 100g (3.5 oz)	% Daily Value
1	Shellfish, especially oysters	78.6mg	524
2	Wheat Germ	16.7mg	111
3	Red Meat (Beef and Lamb)	12.3mg	82
4	Pumpkin seeds	10.3mg	69
5	Sesame Seeds	10.2mg	68
6	Dry roasted cashews	5.6mg	37
7	Poultry	5mg	33
8	Dark Chocolate	3.3mg	22
9	Dry roasted peanuts	3.3mg	22
10	Mushrooms	.9mg	6
11	Spinach	.8mg	5

Figure 4: Sources of Dietary Zinc

And these healthy foods in Figure 5 below contain natural Zinc ionophores:

Raw Onions	Red Apples with skin	Red Grapes
Kale	Spinach	Capers
Watercress	Cherries	Berries
Broccoli	Tomatoes	Asparagus
Green & Black Tea	Red Leaf Lettuce	Chili Peppers

Figure 5: Natural Zinc Ionophores

If you are going to take supplements, which we highly recommend, they will boost your immunity to fight not only COVID-19 and other RNA viral infections, but also some

cancers and the inflammatory and Immunosuppressive diseases discussed above that involve Zinc deficiencies. Getting enough vitamin D also helps prevent overactivation of your immune system as discussed in attack mechanism #6, which in turn helps control auto-immune diseases. See Appendix A for what Dr. Zelenko recommends. There are many available, but make sure you take both an elemental Zinc along with an ionophore like the following:

N-Acetylcysteine	Glutathione	Melatonin
Vitamin C	Vitamin D	Vitamin E
Azithromycin	Ivermectin	CQ
HCQ	Quercetin	Resveratrol
ECG	Curcumin	Elderberry Juice

Figure 6: Natural and Made-Made Zinc Ionophores

Supplement	Mg of Zinc in 100mg Pill	Percent Zinc
Zinc Sulfate	23	23
Zinc Gluconate	14.3	14.3
Zinc Acetate	35.7	35.7
Zinc Chloride	48.5	48.5
Zinc Picolinate	21.1	21.1
Zinc Orotate	17.3	17.3
Zinc Citrate	11.3	11.3
Zinc Ascorbate	15.6	15.6

Figure 7: Amount of Zinc in Various Zinc Supplements

Note: The Recommended Daily Allowance (RDA) is 2 – 6 mg/day for children, 8 mg/day for women, and 11 mg/day for men.

But, How Do We Know This and Why Hasn't Anyone Told You?

These causal relationships of Zinc, Ionophores and Coronaviruses has been known since at least 2005, when an NIH study titled: *Chloroquine is a potent inhibitor of SARS Coronavirus infection and spread*, [42] where they provided the following conclusion: "*Chloroquine is effective in preventing the spread of SARS-CoV-1 in cell culture."* And OBTW, SARS-CoV-1 is 78% identical to SARS-CoV-2 aka COVID-19.

In November 2010 another NIH study: Zn^{2+} Inhibits Coronavirus and Arterivirus RNA Polymerase Activity [43] provides more evidence of these causal relationships, and states: "*In this study we demonstrate that the combination of Zn^{2+} and Pyrithione (PT)* ***at low concentrations*** *(2 µM Zn^{2+} and 2 µM PT) inhibits the replication of SARS-coronavirus (SARS-CoV) and equine arteritis virus (EAV) in cell culture."* Pyrithione is also an

ionophore, like HCQ that facilitates Zinc's entry into cells and efficiently impairs the replication of RNA viruses, like the newly mutated COVID-19 coronavirus.

For more evidence of the efficacy of HCQ and Zinc, let's check out a report from the Association of American Physicians and Surgeons; Hydroxychloroquine Has about 90 Percent Chance of Helping COVID-19 Patients. [44] This report said: *"that the total number of reported COVID-19 patients treated with Hydroxychloroquine and Zinc was 2,333. Of these, 2,137 or 91.6% improved clinically. Of the 63 deaths, 52 were severely ill before getting the virus and should not be counted as COVID deaths."* When you remove the 52 people who were nearly dead from other causes, that's an efficacy of 99.5%!

Also, Dr. Vladimir Zelenko, a board-certified family practitioner from New York, had a 100% success rate [45] when he treated 699 coronavirus patients with Hydroxychloroquine Sulfate, Zinc and Z-Pak [46] (aka Zithromax).

On May, 27, 2020, Dr. Harvey Risch, a renowned Epidemiologist, published a paper in the American Journal of Epidemiology [47] which among other things said: *"Hydroxychloroquine + azithromycin has been used as standard-of-care in more than 300,000 older adults with multi-comorbidities, with estimated proportion diagnosed with cardiac arrhythmias attributable to the medications 47/100,000 users, of which estimated mortality is < 20%, 9/100,000 users, compared to the 10,000 Americans now dying each week. These medications need to be widely available and promoted immediately for physicians to prescribe."* He also recognizes the importance of Zinc in treating COVID-19 and says there is not a single study showing that HCQ, Zinc, and Z-Pak does not work. Furthermore, he said that in his entire career as an MD and researcher since 1976, he has never seen stronger evidence for a curative therapeutic.

In fact, thousands of doctors from around the world [48] say HCQ and Zinc works very well to stop COVID-19. In Sub-Saharan Africa where HCQ is available as an over-the-counter drug commonly taken to fight Malaria, the deaths from COVID-19 are almost non-existent. For example, India has 1.3 billion people and only 1 in 24,000 have died. Mozambique has 30 million people and only 35 COVID deaths so far, Zambia has 17 million people and only 312 COVID deaths, Angola has 33 million people and only 132 COVID deaths. And an accidental experiment happened in Switzerland in late May 2020, when they banned the use of HCQ. The death rate immediately shot up to four times what it had been. Two weeks later they rescinded the ban and the death rate fell back to its previous low numbers.

There are now 53 studies [49] that show positive results of hydroxychloroquine in COVID infections. There are 14 global studies that show neutral or negative results -- and 10 of them were of patients in very late stages of COVID-19, where no antiviral drug can be expected to have much effect. The other four have been discredited as fake science.

Since we know from these and other studies that if the HCQ, Zinc, Azithromycin "cocktail" is given to patients within the first 7 days of symptom onset, we can stop the virus in its tracks and therefore the claims that HCQ is ineffective and unsafe are totally false.

With this overwhelming evidence provided in these reports and many other scholarly articles [50], that HCQ and Zinc effectively fight coronaviruses why did the so-called 'real science studies' ignore these scientific facts? Why do the main stream media and the politicians keep referencing and sensationalizing these lies? Why do they attack the messenger [51] instead of providing sensed evidence that their claims are valid? More unanswered questions that seriously need to be answered because they are costing thousands of lives.

The Players

The biggest players in this false narrative are the politicians, who need a scary global problem to solve, like the man-caused climate change hoax, [52] so they can look like they are great problem solvers. But another main player in this scam [53] are the scientific journals that publish the supposedly peer reviewed studies.

Just ask yourself, if these anti-HCQ papers were actually peer reviewed why didn't the peer scientists ask the same simple questions we have? Like, why did they ignore the causal relationships we have presented; that are common knowledge? Why didn't they check the blood-serum Zinc level of the patients in their study? Because if they had, they would have probably found that most of those who responded well to HCQ, had high blood serum Zinc levels and those who did not respond well, had low levels of Zinc.

And why didn't they question the supposed adverse effects of HCQ, when we know that not only is HCQ not dangerous, it is safer than Aspirin. A study at Oxford University [54] of 956,000 people from all over the world showed no deleterious effects when recommended doses are used.

They gave the patients a dose of 400mg twice a day, when the recommended dosage [55] is 200 mg twice weekly. Remember, we learned from the 2010 NIH study discussed above that **low concentration** doses of Pyrithione, which is another Zinc ionophore like HCQ worked to transfer the Zinc across cell boundaries and stop the virus in infected patients.

In another report presented about 2 ½ months earlier, the Journal of the American Medical Association (JAMA) published a similar article [56] claiming HCQ didn't work and also could cause heart rate problems and should not be used without medical supervision. Problem is, they also used 400mg twice a day and **did not use Zinc** in their treatment. Toxic doses that are 14 times what is recommended equals toxic results.

And once again, on May 22, 2020, *The Lancet*, a highly respected online medical journal also published a paper saying HCQ was ineffective and dangerous. Because both *The Lancet* and NEJM studies reported that HCQ is dangerous, the FDA rescinded its emergency order allowing HCQ to be prescribed for COVID-19. This also caused several state governors to issue orders to local pharmacies not to fill HCQ prescriptions

ordered by many board-certified Doctors for their COVID-19 patients. Something that has never happened before and certainly resulted in more deaths like we know happened in Switzerland.

Also, *The Lancet* finally asked for a detailed peer review regarding the article they published on May 22, 2020 and as reported in WebMD [57] they retracted the article because the authors would not provide data that could be adequately peer reviewed, and it was eventually found to be completely false; so at least someone is following scientific protocol.

So, why do we have three top scientific journals publishing fake/inaccurate science? While we may not know all the causes of this sick and dangerous problem, here are some interesting possibilities provided by some real scientists and physicians:

Whistle Blowers

Several Family Doctors, who have successfully treated many COVID-19 patients, have finally come out in public to question the path we are currently on. One of them is Dr. Simone Gold, who exposes the truth about Coronavirus and Hydroxychloroquine. [58]

In an article by the *Alliance For Human Research Protection* [59] on June 5, 2020, they report that Dr. Philippe Dousty-Blazy, the former French Health Minister, publicly stated that *The Lancet* and the *New England Journal of Medicine* editors admitted to being pressured by pharmaceutical companies to publish certain results.

When *The Lancet* editor Dr. Richard Horton was asked why it initially published the discredited article discussed above, he said: "*"If this continues, we are not going to be able to publish any more clinical research data because pharmaceutical companies are so financially powerful; they are able to pressure us to accept papers that are apparently methodologically perfect, but their conclusion is what pharmaceutical companies want."*

Also, Marcia Angell, former Editor-In-Chief of the NEJM writes in her 2004 book "The Truth About the Drug Companies": "*The combined profits for the ten drug companies in the Fortune 500 ($35.9 billion) were more than the profits for all the other 490 businesses put together ($33.7 billion) [in 2002]... Over the past two decades the pharmaceutical industry has moved very far from its original high purpose of discovering and producing useful new drugs. Now primarily a marketing machine to sell drugs of dubious benefit, this industry uses its wealth and power to co-opt every institution that might stand in its way, including the US Congress, the FDA, academic medical centers, and the medical profession itself*."

In a recent open letter [60] to Dr. Anthony Fauci, three board certified doctors made it very clear that he has grossly mishandled the pandemic response by asking him 122 very pointed questions highlighting his inconsistencies, and concluded the following:

"Americans must not continue to die unnecessarily. Adults must resume employment and our youth return to school. Locking down America while awaiting an imperfect vaccine has done far more damage to Americans than the coronavirus. We are confident that thousands of lives would be saved with early treatment of high-risk individuals with a cocktail of hydroxychloroquine, Zinc, and azithromycin. Americans must not live in fear. As Dr. Harvey Risch's Newsweek article [61] declares, "The key to defeating COVID-19 already exists. We need to start using it.""

More evidence to support what these leading Physicians said can be found in what the Big Pharma Company "Gilead Sciences" has done. Their magic medicine, which Dr. Fauci wholeheartedly endorses, is Remdesivir and they have put a lot of money pressure on MDs, Medical Journals, Press, Academia, NIH, and the CDC to discredit HCQ - even though it has 65 years of safe use as a malaria drug and 40 years of safe use to treat lupus and some forms of arthritis.

Gilead contributes big money [62] to the income of 20% of the National Institute of Health (NIH) Board Members and since Dr. Fauci heads the NIAID, one of 27 institutes that make up the NIH it might be hard for him to contradict them. And, oh-by-the-way, he is not required to disclose any ties to Big Pharma. Gilead also funds Academic Medical Research and as we learned above, cleverly influences Medical Journal Publishers. When you couple that with the fact that 45% of the FDA's budget comes from Big Pharma you absolutely can't trust them. [63]

Our recent sleuthing into Remdesivir using the Pharmacology Database and comparing the similarities of the organic structure for binding sites of Zinc, shows that Remdesivir is just another Zinc ligand/ionophore, like the ones in Figure 6 above, but has some slight changes in its structure to make it unique and patentable, but it still does the same thing as HCQ.

Gilead has not shared that information with the public, but we're quite sure that Gilead Pharmacology Chemists are very aware that Remdesivir is a just another ligand/ionophore for Zinc (one of 230 million listed in the NIH sponsored database known as ZINC15) and can help transport Zinc across cell membranes to interfere with viral reproduction just like its inexpensive competitor HCQ.

We believe that Gilead is not promoting/touting Remdesivir as a Zinc ionophore because it is afraid of losing out to HCQ, which is manufactured by many companies all over the world and is over 100 times less expensive than Remdesivir.

Gilead, being focused on money not saving lives, has spent hundreds of millions of dollars in research, marketing, and propaganda, to sell its 5-day injection treatment for $2,340 versus $25 or less for HCQ pills that can be bought over-the-counter in most of the world.

Vaccines

Given that we have a known therapeutic for COVID-19, why are we waiting on a vaccine to reboot the world economy and life as we once knew it? Once again, the answer lies in the fact that Big Pharma can't make any money on HCQ and Zinc, but they can make big bucks on vaccines. But, do vaccines work? How do they work? Let's take a look at them and see:

We know that vaccines have worked as an effective solution for polio, small pox, chicken pox, and measles but are hit and miss as an effective solution for coronaviruses like the flu and colds, so what's that all about?

A vaccine is defined as a suspension of weakened, killed, or fragmented microorganisms or toxins [64] or of antibodies [65] or lymphocytes [66] that is administered primarily to prevent disease. They work by gently training our immune system to recognize a bad guy when they see it and then attack and destroy it. The bad guys can be viruses, bacteria or venom and other toxins.

But not all vaccines work well. In fact, for the 2018 – 2019 Flu season, the CDC reports a Vaccine Effectiveness [67] (VE) of only 9 – 44% effectiveness for all ages depending on the type of virus. If you are older than 65, the effectiveness was 12 – 16%. The reasons for this are primarily that coronaviruses continually mutate and efficacy is narrow and short lived. [68]

Also, vaccines present a solution that focuses on preventing spread, whereas the real problem with COVID-19 is death, so why aren't our scientist and physicians focusing on that? Since we have a known cure with preventative therapeutics available at minimal cost that prevents death, why has the federal government spent billions of dollars on a vaccine?

As you can see from our lengthy investigation, the reason we are not using a proven therapeutic like HCQ + Zinc and instead waiting for the all-important and lifesaving vaccines Dr. Fauci and the media are touting, is because vaccines are so much more effective – NOT!; 9 - 44% versus 99 - 100%! Is that what they call "Real Science?"

Science Revisited

Science is about questioning everything because we know from the infinite set of causes that to do otherwise is incredibly arrogant. Why, because if you understand the principles of causation, [1] you know that when you reach your point of ignorance and can't find the next cause, you know for sure that there are at least two more of them for each branch of your causal set and that infinite set of causes is what defines *Humility*. But that doesn't or shouldn't stop us from asking why and seeking evidenced-based causal relationships to understand all we can.

Instead of trusting conventional wisdom, all we are doing here is asking why and trying to find evidence to support the causes that answer the many why questions surrounding

this situation. We clearly don't have all the answers, but in trying to better understand as many of the causal relationships as we could, we discovered that our politicians and scientific community are NOT following the core values of 'Science,' rather they are discrediting it by calling their false narratives 'Real Science.'

The use of a vaccine to solve the COVID-19 problem simply does not take into account the virus' attack mechanisms. Instead it relies on an outdated solution that worked for our ancestors, but is irrelevant today given what we know about this coronavirus. Unfortunately, and sadly, since the public does not know about the principles of causation and effective problem-solving, they have to trust our government scientists and physicians to do the right thing and in the process they are being duped. This travesty has been clearly proven in a 440 page book by Dr. Ben Goldacre, titled: *Bad Pharma – How Drug Companies Mislead Doctors and Harm Patients, © 2012.* [69]

For anyone who is reading this and thinks these ideas are just opinions, we simply ask that if you want to critique or criticize, that you do the hundreds of hours of research we have done and then please share your evidenced-based causal relationships clearly defining your reality with us. By doing this, we can add your version of reality to ours and help create a common reality and thus avoid a political debate. That's what a *real scientist* would do.

Bottom Line

We leave it up to the reader to make their own conclusions about these findings and hope they will dig into the areas we did not have time to pursue because we think it should cause every person on the planet to question every politician, scientific journal and Big Pharma. To do otherwise is to NOT "follow the science."

By Dean L. Gano and E.J. Ledet; September 15, 2020; Revised November 13, 2020. – Over 80 combined years of experience in incident investigations and scientific problem analysis.

Appendix A

Zelenko Covid-19 Prophylaxis Protocol

Twitter: @zev_dr

Low Risk Patients

Young healthy people do not need prophylaxis. Covid-19 causes mild cold-like symptoms in this low-risk group. I suggest that it is advantageous for these patients to get Covid-19 and have their immune system clear the virus. This will facilitate the development of herd immunity and help prevent future Covid-19 pandemics. However, if these patients request prophylaxis then it should be provided to them.

Moderate Risk Patients

Patients from this category are healthy but have high viral load exposure. This includes medical personal, first responders, military, and other professions that are crucial to the continued functioning of society. I suggest that these patients be given the option for prophylaxis against Covid-19.

High Risk Patients

These patients are considered high risk if they are over the age of 60 or younger than 60 but they have comorbidities. These patients have between a 5 to 10% mortality rate if they get Covid-19.
I suggest that these patients should be highly encouraged to take prophylaxis.

Low and Moderate risk patients:

Elemental Zinc 25mg one a day[1]
Quercetin 500mg (OTC) once a day and Vitamin C 1000mg once a day[2] or
Epigallocatechin-gallate (EGCG) 400mg (OTC) once a day[3]

High Risk Patients:

Hydroxychloroquine (HCQ[4]) 200mg once a day for 5 days, then once a week.
Elemental Zinc 25mg one a day.

If HCQ is unavailable then use Low and Moderate risk protocol.

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