A Synthesis of Discovery About SarsCov-2 in the USA

SarsCov-2 “is really two different diseases. In the first few days, it is like a very bad cold. In some people, it then morphs into pneumonia, which can be life threatening. What I found is that treatments for the cold don’t work well for the pneumonia, and vice versa.”—Dr. Harvey A. Risch, Yale University

A virus is a nearly infinitesimal mote of DNA encased in a protein shell. Scientists have grouped the many varieties into cladistic relationships that consider size, shape, topology, and behavior, among others. There are seven known coronaviruses that infect humanity; the first was discovered in 1931 and subsequently tied to human infections in the 1960s. SarsCov-2 is the latest strain. But given its close physical and behavioral similarities to other members of its single-stranded RNA family, it is not that mysterious. Like all viruses, it requires a host cell to reproduce. The virus invades the cell and commandeers its reproductive system to churn out cascades of progeny, which can then destroy the host and spread throughout the organism, often with mortal consequences unless that organism has an immune response sufficient to quell the viral invasion.

Sars-Vov-2 is one-tenth the size of a micron; that is, a single virion is one tenth of a millionth of a meter. A cluster of a hundred on an aerolized droplet a few microns in diameter can pass through almost any filter. Even one virion, which takes only minutes to become over 200 in a host cell, can soon impart a lethal dose of disease.

Confounding Treatments, Confusing Numbers

In a population of 330 million, at least one half of the approximately 150,000 deaths in the United States attributed to SarsCov-2 is skewed--for three entwined reasons.

First, during the initial pandemic phase in February and March, many physicians misunderstood the nature of the illness. This new strain of coronavirus tricks the immune system so that the latter produces out of control inflammatory responses, which for many results in damaged lungs leading to severe pneumonia, fibrosis, and often deadly blood clots. However, since its first symptoms manifest as a cold, this led to treatment protocols that often made the infection worse. Doctors did not at first realize that the cold symptoms masked the real problem, uncontrolled inflammation; with better understanding, they would have employed early anti-inflammatory/antiviral interventions.

In consequence, many deaths resulted from acts of both omission and commission, such as:

1. Inappropriate deployment of ventilators to treat a multitude of critically ill

patients; about 90 percent of those so treated died. Though this deadly result was unintentional, thousands likely succumbed that need not have.

2. A petulant reluctance that grew to active resistance on the part of government healthcare agencies and regulators, along with most news outlets, to authorize the use of hydroxychloroquine (HCQ) for treating SarCov-2 disease, despite its role in successfully helping millions of people daily around the world combat diseases like malaria, lupus, and rheumatoid arthritis. This stance continues to take a bizarre epistemic toll, with grave consequences.

The idea justifying the use of HCQ did not emerge out of the blue. Scientists have long understood why it might be good candidate for treating high-risk patients under outpatient conditions; they even knew its toxicity dosage (5 grams). Fortunately, many front line doctors in emergency room situations here and around the world, desperate to help their patients with what seemed to be a novel, very lethal disease, began experimenting on the fly with various HCQ cocktail delivery systems—hoping to find a combination that worked based on theory.

Then, in April, Dr. Vladimir Zelenco of Monroe, NY, released a two-page paper describing a HCQ-based treatment protocol, complete with clinical reasoning/procedures, dosing conditions and regimen, and patient results that were, in context, extraordinarily successful. Despite considerable pushback from government health care agencies, this finding inspired thousands of other doctors here and throughout the world not only to give that protocol to their most vulnerable infected patients but also to prescribe it for themselves and their healthcare team workers as a prophylaxis. They became convinced that Dr. Zelenco's short-term regimen consisting of a combination of HCQ/azithromycin/zinc sulfate was highly effective, if delivered shortly after the appearance of COVID-19 symptoms, For they had observed that the cocktail short-circuited viral replication, reduced the viral load, and even in many cases prevented the virus from taking hold, just as theory predicted it should.

Here's what Dr. Harvey Risch, one the nation's most respected scientists, has said about the hydroxychloroquine regimen: "Had we permitted HCQ use liberally, we would have saved half [of the 140,000 attributed deaths] … and it is very possible we could have saved three-fourths, 105,000." Risch is a professor of epidemiology with the Yale School of Medicine. As a measure of his influence among scholars in his field, he has an off-the=chart h-index of 89, denoting the accomplishments of a "truly unique individual." Building on the work of the French microbiologist, Dr. Didier Raoult, he had earlier published a compelling endorsement of HCQ in the prestigious American Journal of Epidemiology, which included a history of the drug's use, a scientific rationale for its safety, and a litany of the many successful test trials, including two controlled studies. He also showed that, treated early in the disease, even patients with upper respiratory infections had a "50 fold" increase in survival. He followed up with an Op Ed in

Newsweek: “Fortunately, the situation [all those COVID-19 deaths] can be reversed easily and quickly,” offering good news for lowering future mortality.

Secondly, because six state governors in panic mode mandated that nursing homes accept already infected people without ensuring adequate safeguards, thousands of additional nursing home residents became infected who would not otherwise have been. Approximately half of all deaths attributed to SarsCov-2 has occurred in nursing homes. That total might rise to 60 percent or more if those who had contracted the virus while in these facilities but who later died in a hospital setting are included in the count. Presently, they are not.

Thirdly, mortality attributions did not accurately account for the high rate of comorbidities in nursing homes or long-term care centers. More than 95 percent of residents have more than one serious medical disorder; most have more than four diseases (for example, morbid obesity, immune-deficiency, diabetes). Although only one in 200 hundred people live in long-term care facilities, 24 percent of all deaths in the United States occur there. Fully half of all people admitted to nursing homes die within six months, so that many deaths assigned to SarsCov-2 were as likely caused by other pathologies.

Beyond these three issues, there are others at play that further confound accurate mortality numbers. For example, the recent large-scale mixing of SarsCov-2 antibody blood test results with those that test for the active virus has also muddied the count. The former identifies who has been exposed to the virus while the latter tests for those who currently have the virus. By combining the two, the numbers become significantly—inaccurately—increased. Moreover, so many false positives adhere to current virology testing that the reported numbers should be considered suspect until more refined testing is assured.

Astonishingly, based upon serology (blood) testing, a large number of people, perhaps as much as half the population, already appear to have immunity to SarsCov-2. That’s why so many seem to have been “asymptomatic." It’s likely they had already built up immunity acquired from a closely related, physically similar corona strain, perhaps SarsCov-1, that had given them a bad cold from which they recovered (SarsCov-1 has been around for twenty years). In the process, their immune system produced antibodies that eventually inspired the formation of T-cells—specialized white blood cells—that became a second line of immunity response complementing the initial antibody reaction. Indeed, it’s possible that those T-cells, since they course throughout the body, confer immunity that lasts for years, even without antibodies. Consequently, for every positive test for SarsCov-2, there are likely 20 other people who either are immune based upon prior viral infections or immune because they’ve already been infected with SarsCov-2, had mild or no symptoms, and moved on with normal living without realizing they had been infected.

Added to the confusion about SarsCov-2 mortality numbers is the problematic

way many states recorded (and continue to record) daily death counts, particularly in Florida, Arizona, and Texas.[1] Because deaths lag well behind the detection of positive cases, COVID-19 deaths occurring weeks before were often lumped together and then dumped into the totals published for a particular present day—thereby substantially but falsely inflating the daily tallies, which in turn lead to a phony narrative that death counts were rising ominously, when in fact the opposite was the case.

All of these issues, and more--such as those given positive test results who never were tested, along with those who died from causes unrelated to the virus but were found to have the virus in their system--have combined to blur the overall mortality numbers from this pandemic to the point of near opacity.

What is clear is that a substantial number of attributed deaths would not have occurred had (a) ventilators not been used early in the pandemic, had (b) the proper hydroxychloroquine regimen been liberally available and used to treat early COVID-19 symptoms and provide prophylaxis, and had not (c) so many thousands of actively infected people been sent to nursing homes. At the same time, the haphazard methods in place for defining, assessing, and properly sorting out the manifold categories of deaths associated with the virus has made a hash of accurate record keeping. There have been so many different ways to record a COVID-19 death over the last six months that authentic figures may not be known for years, if then.

The issues of ventilators and HCQ use are correctable going forward, while deaths from co-morbidities and other apples/oranges misalignments should be properly assessed and accounted for in future. Without an accurate comprehensive measure of the deaths wrought by this coronavirus pandemic, distilled by subtracting those deaths that could have been avoided with better knowledge while also sorting out the chaff of bad data from the wheat of correct data, no one can truly understand how lethal this virus is.

The real story must be accurate in its details. And contextually true.

Immunity Matters

Given that a high percentage of the US populace probably either has had prior immunity or has been infected with SarsCov-2 already, the overall long-term mortality rate from it will likely be minuscule in the scheme of things, especially compared to other viral epidemics over the last century. With proper medical treatment, future deaths from those infected should be a fraction of the total generated from March through mid-May, particularly with the (a) early use of the

HCQ cocktail as treatment and/or prophylaxis for patients and medical staff and (b) protections in place to safeguard the at-risk elderly. Over time, the mortality rate is likely to fall to **one in 2000 cases**, less if the deaths now attributed are reduced as explained above.

Epidemiologists expect that around 70 percent of all US residents will eventually be exposed to SarsCov-2 in the next several years. If that is correct, the country now seems ready to mount a successful campaign against it, even without a proven immunizing vaccine, which is unlikely to be developed and properly tested during this time frame. No vaccine exits for the other six coronaviruses. Moreover, no one should wish to relive this cautionary tale: In 1976 a vaccine was rushed along to protect against the Swine Flu. As a result, over 40 million Americans were vaccinated. Alas, over 4,000 of those claimed health damages. The vaccine was withdrawn soon thereafter.

Absent a safe immunizing vaccine, here is the probable near future scenario for infection, range of symptoms, hospitalization, and mortality:

1. The majority of those who contract the virus will have few or no symptoms.
2. Those who experience debilitating symptoms will recover reasonably quickly with few if any long-lasting effects and without need for hospitalization.
3. Virtually all of the relatively few who contract the virus and experience severe symptoms that require hospital treatment will have compromised immune systems—that is, they will have problematic comorbidities that may allow the virus to get the upper hand for a time.
4. There will be a small fraction that will die, generally less than those who succumb to the flu; the great majority will be nursing home or extended care residents at great risk of soon dying from other causes.

Unless they have compromised immune systems, children will very rarely get this virus—nor will they transmit it; worldwide, there has been no confirmed case where a child has transmitted it to a teacher. A child, with CDC-based odds of more than one in a million against dying from the virus, is far more likely to perish from the flu or lightning strikes. Sadly, during extended lockdowns, many more high schoolers will succumb (have already succumbed) from suicide than from this coronavirus.

Most of those now contracting SarsCov-2 are of an age cohort—approximately 30-40—that predicts they will be minimally impacted These newly confirmed cases don't alter the mortality numbers, since they rarely result in death. But they do substantially reduce the mortality rate, since that is determined by dividing the number of confirmed deaths by the number of confirmed positive cases. Nor will they overload the hospitals.

A month ago, Florida had registered a "spike" of 265,000 new virus cases since

June 1. Of these, 100,000 cases developed in those aged 45 and over, of whom 1500 died, with an average age of 80. However, only 75 died among those under the age of 45. New reports from Sweden suggest only one in 10,000 people under 50 will die from the virus, compared to one in 14 aged 80 and older—and one in six over the age of 90. This data affirms the claim that Stanford epidemiologist John Ioannidis once made: "If you are under 45 years old, your chances of dying of Covid-19 are almost zero."

What is happening now with widespread spikes in disease infections is what must happen absent an effective vaccine—the development of herd immunity, where so many individuals, perhaps 60 to 70 percent of the population, have become immune that the rest of the community is safe from the virus. This process will almost assuredly follow the contours of the bell-shaped curve William Farr, a British epidemiologist, first described in 1840. Known today as Farr's Law, the principle shows how epidemic infections rapidly rise to a peak, then generally fall in the same symmetrical pattern in a downward slope, at the bottom of which is a linear progression of fewer and fewer deaths.

Areas of high population density will see prolonged infections. Deaths will continue longer for confined populations such as nursing homes and hospitals, unless protective measures are carefully followed. Eventually, mortality data will provide enough information about when the epidemic reaches its peak; with SarsCov-2, the time lag from infection to death ranges from 21 to 28 days. Knowledge of this time range is the basis for planning when to reopen these local communities.

For added insight, consider how Farr's Law is refined by the Gompertz Function, first presented in 1825 to describe the arc of human mortality but later modified to organize a range of data to understand and predict the progression of epidemics, among many other practical uses. As applied to COVID-19, the Gompertz Function shows rapid but *never* exponential growth of disease in the beginning. At peak growth, however, the rate of infection decreases exponentially, even from the first confirmed case.

Locking down the larger society will only delay this phenomenon, prolong the fear, and result in more death and suffering—as it continues to do throughout the USA and those countries throughout the world that instituted severe, long term economic and social contraction, particularly in states that mandated universal public mask wearing.

Pandemic Context and Excess Mortality

According to the Center for Disease Control's Pandemic Severity Index, the SarsCov-2 pandemic, in terms of infection and mortality rates, belongs firmly in its level 2 Category. Level 1 represents a typical year; level 5, the highest, represents a worst-case scenario. In comparison with other U.S. viral respiratory

pandemics over the last century, SarsCov-2 seems to fit between the 1957-1958 Asian Flu assault and the Hong Kong Flu in 1968.

In a population of 179 million, the former killed 116,000 people with the virus known as H2N2; the latter, with H3N2, killed about 100,000 in a population of 203 million.

In1918-1919, the Spanish Flu with the H1N1 virus killed over 700,000 Americans, targeting young and old alike, in a population of 106 million. According to the CDC, the Spanish Flu was a Category 5.

For added context, in 2017-2018, the seasonal flu resulted in over 80,000 deaths that included many children.

However, the number of U.S. hospitalizations estimated so far this season (2019-2020) is lower than end-of-season total hospitalization estimates for any season since the CDC began making these estimates. Through July, the number of flu cases this season is one-fourth that of previous years for the same time period.[2] There seems to be at least a partial correlation between the numbers of reported SarsCov-2 "caused" deaths and the lower numbers reported thus far for the flu, with the SarsCov-2 numbers helping to fill in the gap between the lower flu numbers and the historically expected high end numbers. That hospitals receive 20 percent more in Medicare revenue for deaths attributed to SarsCov-2 is another reason to suspect mortality numbers due to the virus are problematic.

One of the barometers to watch at year's end is "excess mortality," an epidemiological term that refers to deaths in a given year above and beyond the average statistical expectation. It's used to measure and assess the mortality impact of a crisis when not all causes of death are known.

Viruses Go Viral, Lockdowns Go Bragh*

What is increasingly evident is that nothing will prevent the virus from spreading, except severe quarantining in narrowly defined places like nursing homes. There is no causal link among a lockdown's timing, the severity of its restrictions, and the progression of the disease. Aside from the country's initial effort to protect the elderly and healthcare facilities, giving the latter more time to prepare for the presumed onslaught, large-scale perpetual lockdowns have provided no benefits to any region while wreaking havoc upon the healthcare system itself and the health and general welfare of scores of millions of people.

We are not in this together. Those making the decisions, the "essentials" in government—the news media, social media, public education, food service, and many throughout the international corporate landscape, such as Amazon, Apple,

Microsoft, and the general financial community—maintained their income while adding to profits and influence during months of shutdown. Those scores of millions whom they restricted, however, have lost virtually everything they have materially, including their livelihoods.

Beyond this terrible asymmetry is what is happening in countries that closed down. They're struggling, in worse shape than nations that responded more strategically, in the process coming much closer to arriving at herd immunity without shredding their social/cultural fabric and risking more lives. Witness Sweden.

With no major lockdowns and without mask mandates**,** Sweden's GNP has increased while deaths are now barely discernable. Farr's Law/Gompertz Function in action. This is what herd immunity does. Had Sweden forcefully intervened to safeguard its sequestered elderly early on, its overall deaths might have been markedly decreased. As it was, the country's death rate for the first few months of the pandemic paralleled that of the U.S; today it's virtually zero.

By contrast, examine what has occurred in countries like **Peru** and, more recently, New Zealand, where, despite draconian social and economic suppression for extended time periods and near ubiquitous mask wearing, the virus is now unloosed throughout the island, underscoring how delusional lockdown policy prescriptions actually are**.** New Zealand is not a lockdown success story.

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*Anglicized from the Gaelic, meaning "lockdowns to the end of time."

Orwell, HCQ, Masking, Mendacity

Closing the schools, fecklessly keeping people dangerously masked, shutting down or substantially downsizing virtually all small independent businesses, and pursuing severe economic retrenchment is costing lives and corroding the ability to think and act critically. Pandemic COVID fear has produced monstrous Orwellian theater as it intones one preposterous scientific howler after another. A howler is a ridiculous idea or proposition, one that elicits howling laughter; it is also a type of magic spell from the Harry Potter series.

Those who believe SarsCov-2 posits an existential threat to humanity are engaged in blind, enthusiastic acceptance of the idea, an acceptance unmoored from empirical reality, the kind of sufferance that Orwell described as *bellyfeel* in his Nineteen Eighty-Four, where any good citizen internalizes government doctrine such that it becomes gut instinct—a feeling in the belly. At the same time, a barrage of Orwellian *blackwhite* rhetoric has been unleashed to inculcate irrational public fear, using words with contradictory meanings to convey how

people have been propagandized to believe that black is white while never realizing that the reverse might be true.

It is the ultimate achievement of Orwell's *newspeak*, confusing, deceptive bureaucratic jargon, to require a continuous alteration of the past made possible by a system of controlled thought. The current mask mandates, for example, place the entire 80-year history of scientific investigation about mask effectiveness into one of Orwell's memory holes, as if that history did not exist. It showed mask wearing does not stop the transmission of viruses and can even cause harm to many wearers, impeding normal breathing but not obstructing viral pathogens.

Unsurprisingly, punditry, an enterprise where experts promote a particular point of view, has come to the rescue of mask mandates. A spate of new reports, hurriedly put together, now claim masks *are* effective after all. This campaign began with a recent modeling study that is not based upon empirical evidence; rather, its algorithmic constants, variables, and sequencing can be manipulated to obtain any result desired, uncontaminated by reality. A few days after this modeling exercise was released, a Brigham Young University research team consisting of three undergraduates supervised by an environmental scientist, announced that even cloth masks effectively reduce the "jets of droplets that could spread COVID-19 by 90 percent." This study is so loose and uncontrolled that it mocks the scientific method. And yet, such initiatives are blackwhite and newspeak ballyhooed as science when they are its antithesis.

Such belllyfeel findings are inimical to what is known about the physics and biology of viruses. Every *empirical* study ever done ratifies this idea, as reiterated last month by the Center of Infectious Disease Research and Policy. Its conclusion: "we found no significant reduction in influenza with the use of face masks." "Moreover, "very poor filter and fit performance of cloth masks … and very low effectiveness for cloth masks in healthcare settings lead us to conclude that cloth masks offer no protection for healthcare workers inhaling infectious particles near an infected or confirmed patient." This commentary is recommended reading, particularly because of its focus upon aerolized transmission and its documentation.

But mask stoppage potential is only part of the problem. Equally important is the minimum infective dose. It is true that partial masking of a large number of air particles encrusted with pathogens might make a significant difference if those particles have to reach the lungs within a certain time for illness occur. On the flip side, if the minimum effective dose is so small that it can be born on a single aerosol particle able to avoid mask capture, then what's the point? Since it can, the issue becomes moot.

Equally Orwellian is the issue of hydroxychloroquine: one of the safest, most useful drugs ever made and the only one thus far proven to be effective against

SarsCov-2 as part of an early treatment regimen. So much so that, in an early April worldwide poll of doctors, nearly 40 percent of the 6500 queried rated HCQ as "the most effective therapy" from among 15 options.

Nonetheless, in late March, immediately after President Donald Trump announced that the drug showed promise, Trump's legion of detractors began to blackwhite it as unsafe and ineffective, as if its medical history over the last 60 years didn't happen, as if the tens of thousands of people around the world infected with SarsCov-2 who were successfully treated with it over the previous months didn't exist. The fact that Trump was merely "following the science" was turned into a newspeak fiction that he was not.

These Orwellian assertions relied upon the suspiciously concerted publications of "scientific" articles appearing in three of the world's leading medical journals (along with an observational study from the Department of Veterans Affairs), all aligned at the same time to declare that the regimen was ineffective, even dangerous and deadly. But the data and methods deployed were so flawed that the articles were quickly withdrawn in two of those publications, The Lancet and the New England Journal of Medicine. However, the article that appeared in the Journal of the American Medical Association (JAMA), which described a trial in Brazil characterized by toxic, untimely dosages and a lack of ethical oversight, has not been withdrawn as yet—but the flaws in it are evident and obvious. Nonetheless, its phony message continues to be broadcast in ways that echo decrees from Orwell's Ministry of Truth.

A few other disparaging but methodologically unsound studies from Minnesota and Brazil have also just materialized using hydroxychloroquine in various dosages but not combined properly with either azithromycin or amoxicillin and zinc (which was used in only one study that also excluded azithromycin). In some cases, treatment began too late. Therefore, the authors can't truthfully claim to have replicated the experiments that earlier had produced successful results. Given that the recommended regimen for success has been known for at least three months, there is more than a whiff of sleight of hand disingenuousness about these profferings. Significantly, however, none reported any serious side effects from HCQ. Even so, claims that the drug causes harm still dominate the news media and the punditry of quite a few national health officials.

Federal and state regulators continue to engage in nothing short of what Dr. Risch has dubbed a "misinformation campaign" against HCQ, even withholding it from widespread therapeutic use. This policy has no medical basis. Risch and his colleagues agree that it is not an effective treatment for gravely ill late stage patients in whom the virus and inflammation have taken strong hold. But they forcefully defend its early outpatient use because of its low dosage and the evidence it works in that setting. According to Jeremy Kahn, a spokesman for the FDA, "Once the FDA approves a drug, health care providers generally may prescribe it for an unapproved use when they judge that it is medically

appropriate for their patient." Since HCQ is an overwhelmingly safe medicine, no doctor/patient relationship should be denied the regimen if they wish to have it. As Risch once asked when addressing this risk-benefit issue, "what do [patients] have to lose?" If the regimen doesn't work, they won't be any worse off. However, if it does, that would be a lifesaver.

In response to those who, like Dr. Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases, demand that the public should, in the midst of a pandemic, wait months—or years—until results of random, double-blind placebo controlled HCQ clinical trials become known, Risch countered with a 2017 article in the New England Journal of Medicine, arguing that such trials have "substantial limitations" and that "many other data sources can provide valid evidence for clinical and public health action." He estimated, in a late July television interview, that widespread use of HCQ is likely to "save 75,000 to 100,000 lives going forward." For his part, Fauci continues to dismiss HCQ while stoking fears about its safety and even discouraging controlled clinical studies of it.

Mask mandates and draconian lockdowns violate years of worldwide scientific findings and recommendations. Until late March, the world's health agencies, from the CDC and NIH to the CIDRP and the WHO, argued against widespread use of masks and large-scale societal retrenchment, the latter because, as the world is discovering, it would make a pandemic worse. When, in early March, Dr. Fauci told a television audience that masks were unnecessary, that they might make people "feel a little better" but don't provide protection, he was distilling the medical wisdom of the last half-century on the subject. When he discouraged long-term lockdowns, he was consulting decades of accumulated medical knowledge.

Since the scientific facts and rationale didn't change, why did Dr. Fauci and his institutional colleagues suddenly flip the narrative on its head, without providing any scientifically vetted evidence on behalf of their pivot? **3** Worse, what medical bureaucrats, healthcare regulators at the federal and state level, and the nefarious ensemble of Internet media/services are doing by withholding HCQ, mandating masks, and mongering fear goes well beyond what transpired between Galileo and the Church. It smacks of the Inquisition. They are spearheading a sustained and poisonous attack on what they view as apostasy and the heretics who gainsay it.

Truth is, agencies—such as the CDC, NIAID, NIH, FDA, and WHO—have rarely gotten much right about this pandemic. Their many predictions about SarsVov-2's infection scope and trajectory, as well as their pandemic "sky is falling policy" prescriptions, enjoy a success rate below what could have been achieved with a stopped clock. Establishment "experts" were wrong about model projections of disease and death, viral transmission mechanisms, infection numbers, mortality rates, risks to children, and now mask wearing and lockdowns. They mangled

policy about protecting those in nursing homes and hospitals. They still can't accurately count SarvCov-2 deaths and even seem unaware of how to classify actual COVID-19 cases.

The politicization of healthcare should be anathema. Those who restrict medical practice and subvert its scientific basis to achieve political ends are not pursuing sound, informed policy. Rather, they are in thrall to the science of Cargo Cultists, Chicken Little, rune stones and chicken bones.

There is a powerful odor of mendacity wafting up and over the entire SarsCov-2 issue, where Orwellian sloganeering, bullying sanctimony, demented history, debased science, and mass delusion seem to hold illimitable dominion over all.

Jon Boone
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ACKNOWLEDGEMENTS

Despite its censorious behavior of late, the Internet was by far the most productive source of information for this project. However, because most of the search engines worked in concert to obscure, hide, or even eliminate many of the documents I sought to find, the search process was time consuming and often frustrating. Moreover, many of the people whose material I sought were too often marginalized by "hit pieces" written by those who disagreed with their conclusions. America's Frontline Doctors, for example, was placed under the banner of Scam Artists, and their views were castigated as "right wing conservative," as in too far out for credibility—when in fact they were stating mainline scientifically valid information. Politicizing science and labeling good practitioners of it as kooks, now the norm on most social media platforms should be abjured.

Although I subscribe to no social media services, I extend kudos to Twitter for hosting the independent reporter, Alex Berenson@AlexBerenson, whose reportage on the coronavirus issue has generally been superbly accurate; Justin Hart@justin_hart, a data expert; and Jordan Schachtel@JordanSchachtel, an investigative journalist and foreign policy analyst—all of them aligned at the hip of providing timely information, charts, and a range of expertise on this subject. Thank you, gentlemen.

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DR. HARVEY A. RISCH
Dr. Risch is both an MD and PhD (University of Chicago). He is professor of epidemiology at the Yale School of Medicine. His special research interests include cancer etiology, prevention, and early diagnosis, as well as epidemiological methodologies. To date, he has authored 325 original research publications in the medical literature. As a measure of his influence among scholars in his field, he has an h-index of 89, denoting the accomplishments of a "truly unique individual." He is among the most respected epidemiologists in the world.

On May27, the American Journal of Epidemiology published his seminal paper "Early Outpatient Treatment of Symptomatic, High-Risk Covid-19 Patients that Should be Ramped-Up Immediately as Key to the Pandemic Crisis." This was followed by a clarifying letter to the Journal. On July 20, in a televised interview with Laura Ingraham, he claimed that without HCQ over the coming months, 75,000 to 100,000 people in the US would likely die from SarsCov-2

On July 23, he wrote an Op Ed In Newsweek, "The Key to Defeating COVID-19 Already Exists—We Need to Start Using It." In an interview on July 30, Risch

described the inept methodologies of HCQ studies that proposed to show HCQ was ineffective. He also maintained Dr. Anthony Fauci was leading a misinformation campaign against the drug and quoted a 2017 NEJM about the limitations of RCT. In an interview with Dr. Simone Gold, Risch noted, as of July 15, that cumulative US deaths totaled 140,000. Had the nation permitted HCQ use liberally, it would have saved half, 70,000, and it is very possible it could have saved 3/4, 105,000. See footnote 74, Simone Gold, "White Paper on Hydroxichloroquine,"

The usual, highly predictable pushback against Dr. Risch came in the form of a letter of "grave concern" to medium.com from some of his Yale colleagues, almost none of whom have any expertise in the field. The letter is a defamatory hit piece, filled with innuendo and error, as Elizabeth Woodworth details in her August 9 post on Global Research.

HYDROXICHLOROQUINE

See Risch, "Early Outpatient Treatment of Symptomatic, High-Risk Covid-19 Patients that Should be Ramped-Up Immediately as Key to the Pandemic Crisis."

For a lucid examination of why it works in tandem with azithromycin and zinc, see this video of "American's Frontline Doctors Summit Session 2 in Full," 4 minutes into the presentation: Dr. Mobeen Syed explains how SarsCov-2 attaches to a cell membrane, enters the cell's interior, and then, using the cell's chemical composition and its reproductive mechanisms, begins to reproduce. After which he explains the way HCQ, as a weak base, reduces the cell's acidity, which is necessary for viral reproduction, hinders viral fusion, interferes with the assembly of new viruses in the cell, enables a pathway for zinc through the cell, and, along with azithromycin, breaks the bond between the virus and the cell's membrane receptors that is essential for the virus to penetrate the cell in the first place.

For why HCQ and zinc work together, see J.P. Leonard, Add Zinc: "From Game-Changer to Game Winner against Coronavirus." For the potential of azithromycin, see David Gornoski, "How Z-Pak Could Slay COVID-19." He quotes Britain's Dr. Michael Lisanti, whose laboratory recently demonstrated that Z-pak selectively removes 97% of senescent cells. Without those cells acting as host receptors, it may be harder for COVID-19 to take root in the body and cause serious damage. "Clinically, it appears what is leading to fatalities in older [COVID-19] patients is the very strong inflammatory reaction and the resulting fibrosis. Azithromycin inhibits inflammation-induced fibrosis, by targeting and removing senescent cells."

For a recounting of HCQ's safety, see Risch's AJE paper. See also Monica Gold's White Paper.

There are now 67 studies that have been conducted testing the safety and effectiveness of HCQ as a treatment for SarsCov-2, 42 of which were peer reviewed. 53 show positive results for the drug. 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 (an observational study conducted by the Department of Veterans Affairs was local and ineffectual—see below). Of the remaining four studies, two come from the same University of Minnesota scientist, David Boulware, who constructed methodologically suspect experiments The other two are from the faulty Brazilian trial published by JAMA, in which HCQ was administered to advanced stage elderly in poisonous doses. It should be retracted, as the fake Lancet paper was. See this article by veteran virologist, David Hatfil: https://www.realclearpolitics.com/articles/2020/08/04/an_effective_covid_treatment_the_media_continues_to_besmirch_143875.html.

For a good summary of the recent history and politics involving HCQ treatment for coronavirus, see: https://www.lifesitenews.com/news/doctors-insist-this-drug-is-a-proven-safe-inexpensive-key-to-returning-society-toward-normal-functioning-and-to-preventing-huge-loss-of-life-from-covid-virus. See also: https://www.hospicepatients.org/white-paper-on-hcq-from-americasfrontlinedoctors-com-2020.2.pdf. Gold, et al. It describes a number of studies re HCQ success.

Henry Ford Health Center HCQ trial cut death rates significantly in sick hospitalized patient.
https://www.henryford.com/news/2020/07/hydro-treatment-study

In a worldwide poll of 6500 doctors, 40 percent rated HCQ as the most effective therapy, See:
https://www.washingtontimes.com/news/2020/apr/2/hydroxychloroquine-rated-most-effective-therapy-do/.

The Association of American Physicians and Surgeons wrote a letter to Arizona governor Doug Ducey, in which it presented data on 2,333 patients treated with HCQ across the globe that showed 91.6 percent of those who got the drug fared better after treatment. Further, they pleaded against waiting for controlled trials, since the data was so overwhelming positive.

"Early treatment with hydroxychloroquine: a country-randomized controlled trial ", https://hcqtrial.com. August 10, 2020. An analysis showing that the death rate was reduced 79% in nations that used HCQ liberally to treat infected patients. See also https://www.lewrockwell.com/2020/07/tyler-durden/hydroxychloroquine-the-one-chart-you-need-to-see/. See also, https://video.foxnews.com/v/6178621375001?playlist_id=5622526903001#sp=show-clips.

For the FDA policy on approval of prescription drugs for off label use, see: https://thehill.com/opinion/healthcare/491932-hydroxy-hysteria-when-saving-lives-collides-with-politics-and-bureaucracy

Fraudulent and Problematic HCQ Studies

The Department of Veterans Affairs (VA) study, in which HCQ was given to sicker veterans in late COVID stages. It claimed that 22 percent of those given HCQ plus azithromycin died compared to 11 percent who died with regular care. Criticism: late stage; no zinc. See https://nationalfile.com/busted-media-uses-va-study-to-launch-easily-debunked-attack-on-hydroxychloroquine/.

For information about the methodological problems with the peer reviewed/peer approved HCQ trial published in The Lancet on May 22, see Erika Edwards' article for NBC News: https://www.nbcnews.com/health/health-news/lancet-retracts-large-study-hydroxychloroquine-n1225091. For an informed critique of the trial, see https://uncoverdc.com/2020/06/06/politicized-science-lancet-nejm-retract/. See also this video presentation by Dr. Simone Gold and Dr. Dan Wohlgelernter, in which Dr. Gold explains the core problems with the Lancet piece, problems so blatant that the piece was withdrawn by the authors on June 4, a virtually unprecedented action.

For information about the bogus HCQ study that the New England Journal of Medicine published on May 1 and then withdrew an hour after The Lancet withdrew its fraudulent HCQ paper at the author's request, see Simone Gold's video, above, op. cit.. See also: https://www.statnews.com/2020/06/04/lancet-retracts-major-covid-19-paper-that-raised-safety-concerns-about-malaria-drugs/.

For a perceptive commentary about the implications of these withdrawn studies, see: "High-profile coronavirus retractions raise concerns about data oversight," Heidi Ledford and Richard Van Noorden, Nature Magazine, June 5, 2020.

For information about the Journal of the American Medical Association (JAMA) article that described the results of a Brazilian trial testing HCQ effectiveness, see this piece in The Guardian. The trial was halted early after high, toxic doses were administered to 40 elderly patients with advanced stage, resulting in the death of 6. JAMA has yet to retract this publication, despite its ethical improprieties. See Simone Gold's critique.

For a thorough critique of the article, "Hydroxychloroquine in Nonhospitalized Adults with Earl COVID-19, A Randomized Trial," published on July 16, 2020 in the Annals of Internal Medicine, see https://defyccc.com/anti-hcq-scientific-fraud-boulware-skipper-part-2/.

Another trial, "A Randomized Trial of Hydroxychloroquine as Postexposure Prophylaxis for Covid-19" was advertised as the "gold standard" randomized

placebo controlled clinical trial that Dr.Fauci has demanded (published by the New England Journal of Medicine on June, 3, 2020). It concluded that HCQ could not prevent or treat COVID-19 any better than a placebo. This finding was touted as the clincher against HCQ. The University of Minnesota's David Boulware, who problematically changed the methodology twice during the trial and did not use either zinc or azithromycin, headed the investigation. He administered a near toxic dose of HCQ over the first 24 hours. Nevertheless, as critics have pointed out, considering the trial's problematic design, it ironically "confirmed HCQ's effectiveness of prophylaxis and early treatment." See this reexamination of the data published on July 21 by Marcio Watanable: "Efficacy of Hydroxychloroquine as Prophylaxis for Covid-19." Quote: "We conclude their randomized, double-blind, placebo-controlled trial presents statistical evidence, at 99% confidence level, that the treatment of Covid-19 patients with hydroxychloroquine is effective in reducing the appearance of symptoms if used before or right after exposure to the virus."

Another Boulware University of Minnesota "randomized HCQ trial published on July 16 in the Annals of Internal Medicine, a companion to that published in the NEMJ, found no clinical benefit with HCQ, this time in outpatients with early mild symptoms. Boulware did not administer either azithromycin or doxycycline. The study prompted headlines like this: "HCQ Flops in Third Randomized COVID Trial; 'Time to Move On." See again, this critique.

Finally, the result of a trial at 55 hospitals in Brazil was published by the NEJM on July 23, "Hydroxychloroquine with or without Azithromycin in Mild-to-Moderate Covid-19" by Alexander Cavalcanti. Dosage: HCQ (400 mg twice daily) plus azithromycin (500 mg daily) for seven days. But no zinc. Conclusion: neither HCQ alone nor with azithromycin improved the clinical condition of patients beyond that achieved with standard care. Which inspired more headlines like this: https://www.news18.com/news/world/brazil-study-finds-hcq-ineffective-for-covid-19-after-bolsonaro-pushes-for-widespread-use-of-drug-2731003.html /.

For interesting conjecture about the actual rationale behind HCQ, read this piece. It does address some of the phony studies that brought the drug Remdesivir to the fore as a potential treatment for SarsCov2.

Some may enjoy watching the distinguished epidemiologist, Dr. David Katz, opine on the HCQ controversy in this video presentation: http://covexit.com/the-esteemed-professor-david-katz-weighs-in-on-hydroxychloroquine/. See also his interview with Bill Maher on lockdowns: "If all we do is flatten the curve, you don't prevent deaths, you just change the dates."

MASKS

No scientifically and empirically vetted investigation has ever found mask

coverings wholly effective in filtering out viral infectants. Not even N-95 masks. Nor hospital masks. And certainly not cloth masks. Below is a sampling of the mostly controlled studies that vouch for this assertion, grouped into two categories. The first lists those studies conducted through June 2020 but going back to 2006. Also included are articles that provide good summaries of a range of those studies. The second category identifies some of the claims made since July 2020, along with brief commentary about their limitations.

1. "Disease Mitigation Measures in the Control of Pandemic Influenza," Thomas Inglesby, Donald Henderson, et al. A 2006 study on the futility of masks during pandemics. "But studies have shown that the ordinary surgical mask does little to prevent inhalation of small droplets bearing influenza virus; the pores in the mask become blocked by moisture from breathing, and the air stream simply diverts around the mask."

2. "A Cluster Randomized Trial of Cloth Masks Compared with Medical Masks in Healthcare Workers," C. Raina MacIntyre, et al, 2015. "This study is the first RCT of cloth masks, and the results caution against the use of cloth masks. … Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection. Further research is needed to inform the widespread use of cloth masks globally. However, as a precautionary measure, cloth masks should not be recommended for HCWs, particularly in high-risk situations…."

3. Toronto Nurses grievances re mask wearing, 2015-2018. Court arbitration, after years of hearing expert testimony on the issue, found no evidence that forcing healthy nurses to wear masks during the influenza season did anything to prevent transmission of influenza in hospitals. Further, the ruling found that nurses who have no symptoms are unlikely to be a real source of transmission and that it was not logical to force healthy unvaccinated nurses to mask. Arbitrator Kaplan noted that the only fair words to describe the hospital's evidence in support of masking are "insufficient, inadequate and completely unpersuasive."

4. "Universal Masking in Hospitals in the Covid-19 Era," Michael Klompas, et al, May 21, 2020, New England Journal of Medicine. "We know that wearing a mask outside health care facilities offers little, if any, protection from infection. Public health authorities define a significant exposure to Covid-19 as face-to-face contact within 6 feet with a patient with symptomatic Covid-19 that is sustained for at least a few minutes (and some say more than 10 minutes or even 30 minutes). The chance of catching Covid-19 from a passing interaction in a public space is therefore minimal. In many cases, the desire for widespread masking is a reflexive reaction to anxiety over the pandemic."

5. "Non-pharmaceutical public health measures for mitigating the risk and impact of epidemic and pandemic influenza, World Health Organization, 2019. "There are a number of high-quality randomized controlled trials demonstrating that

personal measures (e.g. hand hygiene and face masks) have at best a small effect on transmission…."

6. A "COMMENTARY: COVID-19 transmission messages should hinge on science," Lisa Brosseau, Center for Infectious Diseases Research and Policy, March 16, 2020. Dr. Brosseau. "Based on research now more than 70 years out of date, the infection control paradigm of contact, droplet, and airborne transmission fails to recognize inhalation of small airborne particles very close to an infectious source—i.e., within 6 feet." Informative charts showing range of transmission of aerosolized transmission.

6.B "COMMENTARY: Masks-for-all for COVID-19 not based on sound data. Follow up clarification, July16, 2020, by Drs. Lisa Brosseau and Margaret Sietsema. Withering commentary about mask ineffectiveness. Note the many references to supporting studies.

7. Nonpharmaceutical Measures for Pandemic Influenza in Nonhealthcare Settings—Personal Protective and Environmental Measures, Centers for Disease Control and Prevention, May 2020, Jingyi Xiao, et al. "Our systematic review found no significant effect of face masks on transmission of laboratory-confirmed influenza."

8. "A Review Of Science Relevant To COVID-19 Social Policy And Why Face Masks Don't Work." Denis G. Rancourt, PhD, June 30, 2020. Review of the medical literature, going back to 1934, discussion of the physics and biology of viruses, and clear explanation about the problems of masking viral infections.

"A Quantitative Assessment of the Total Inward Leakage of NaCl Aerosol Representing Submicron-Size Bioaerosol Through N95 Filtering Facepiece Respirators and Surgical Masks," Samy Rengasamy, et al, Journal of Occupational and Environmental Hygiene, 2014. Excellent discussion of the filtering differences between N-95 and surgical masks and the problem of mask facial sealing. "Submicron aerosols can remain airborne for prolonged periods because of their low settling velocity. Infectious aerosol, when inhaled by susceptible persons, is likely to cause disease."

Summarizing Articles:

1. Good masks summary. "The foregoing data show that masks serve more as instruments of obstruction of normal breathing, rather than as effective barriers to pathogens. Therefore, masks should not be used by the general public, either by adults or children, and their limitations as prophylaxis against pathogens should also be considered in medical settings."
https://www.technocracy.news/masks-are-neither-effective-nor-safe-a-summary-of-the-science/

2. "Masking Lack of Evidence with Politics," John Jefferson and Carl Heneghan, CEBM, July 23, 2020. Useful analysis of the various masking trials of the last 20 years. "Masks alone have no significant effect in interrupting the spread of ILI or influenza in the general population, nor in healthcare workers."

3. https://swprs.org/a-swiss-doctor-on-covid-19/. In one of the many cases of social media censorship, the original link on masks was removed front the Internet. The present link is to the Swiss Policy Research site, which recounts the conclusions of Swiss doctors on the general COVID-19 response, "Facts About COVID-19." Scroll down to read the section on masks: "Are Face Masks Effective? The Evidence," July 30, 2020. Note the list of mask studies and the commentary under "Additional Aspects." "So far, most studies found little to no evidence for the effectiveness of cloth face masks in the general population, neither as personal protective equipment nor as a source control."

4. Just for fun, see Climate Depot's pastiche of commentary and threads on the issue: https://www.climatedepot.com/2020/05/23/physicists-new-study-why-masks-dont-work-how-governments-are-operating-a-science-vacuum/. Excellent summary of masking reports.

Mask Studies Since July 15, 2020

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263814/. Meta analysis on masks, modeling.

https://www.forbes.com/sites/tommybeer/2020/07/15/new-ihme-model-projects-more-than-224000-coronavirus-deaths-in-us-by-nov-1/#527129184a80 Based solely on models.

https://pws.byu.edu/covid-19-and-masks. Recent BYU study conducted by three undergraduates and led by an environmental science researcher.

LOCKDOWNS

The following documents detail the accumulated wisdom of the last 50 years about engaging with epidemics and pandemics. Suggest scrolling through each to show common denominators vis-a-vis masks, lockdowns and economic suppression, and concerns about what severe retrenchment would do to the general health and safety of the larger commonwealth. No one has done this kind of analysis better than the journalist Alex Berenson. Consequently, consider reading the hyperlink provided below (item 5) that provides a digest of just some of the conclusions reached by these reports as he focuses upon Inglesby's and Henderson's 2006 study.

1. "Interim pre-pandemic planning guidance: community strategy for pandemic influenza mitigation in the United States: early, targeted, layered use of nonpharmaceutical interventions," CDC Stacks, February 2007.

2. "Disease Mitigation Measures in the Control of Pandemic Influenza," www.liebertpub.com, Thomas Inglesby and D.A.Henderson, et al, December 2006.

3.Modeling Community Containment for Pandemic Influenza," Institute of Medicine, The National Academies Press, Kathleen Stratton, et al, 2006.

4. "Non-=pharmaceutical public health measures for mitigating the risk and impact of epidemic and pandemic influenza," World Health Organization, 2019.

5. See Alex Berenson's twitter thread commentary as he comments on some of the main conclusions found in the 2006 Inglesby/Henderson report: https://threadreaderapp.com/thread/1280953660877529090.html

On schools: "Closing schools for [more than two weeks] in hopes of mitigating the epidemic by decreasing contacts among students is not warranted unless all other likely points of assembly are closed (e.g., malls, fast-food restaurants, churches, recreation centers, etc.)..." "Such widespread closures, sustained throughout the pandemic, would almost certainly have serious adverse social and economic effects."

On social distancing: "It has been recommended that individuals maintain a distance of 3 feet or more during a pandemic so as to diminish the number of contacts with people who may be infected. The efficacy of this measure is unknown..." "It is difficult to imagine how bus, rail, or air travelers could stay 3 feet apart from each other throughout an epidemic. And such a recommendation would greatly complicate normal daily tasks like grocery shopping, banking, and the like."

On "Prohibition of Social Gatherings": "During [flu] epidemics, public events with an expected large attendance have sometimes been cancelled... There are, however, no certain indications these actions have had any definitive effect on the severity or duration of an epidemic." " Were consideration to be given to doing this on a more extensive scale and for an extended period, questions immediately arise as to how many such events would be affected... Implementing such measures would have seriously disruptive consequences for a community..." "But a policy calling for communitywide cancellation of public events seems inadvisable."

6. "Lockdown 'killed two people for every three who died of coronavirus' at peak of outbreak," https://www.telegraph.co.uk/news/2020/08/07/lockdown-killed-two-three-died-coronavirus/

7. Finally, see Dr. David Katz's interview with Bill Maher on April 24, 2020: "If all we do is flatten the curve, you don't prevent deaths, you just change the dates."

IMMUNITY RESPONSE

For an excellent overview of the human immune system, see Isaac Asimov, op. cit., 678ff. He begins" "Viruses are our most formidable living enemy (except human beings themselves)." He continues on to a brief discussion of antibodies, phagocytes, and antigens. For a brief explanation of T-cells, see this link.

For a brief commentary about the probable interplay among the body's immune system, antibodies, T-cells, and the viral antigen SarsCov-2, see "Coronavirus: Why everyone was wrong: The immune response to the virus is stronger than everyone thought," Beda M. Stadler, medium.com (first published in the Swiss Magazine Weltwoche, June 10, 2020. Stadler is the former director of the Institute for Immunology at the University of Bern, a biologist and professor emeritus. His rhetorical style is reminiscent of Wolfgang Pauli, one of the great pioneers of quantum physics.

See also the July 9 video presentation by Dr. Karl Sikora embedded a short way into this twitter thread from Kulvinder Kaur MD. Note that Sikora's video was banned from YouTube. Sikora is a British oncologist and professor of medicine at the University of Buckingham who has been described as a leading world authority on cancer.

1. "Immune T Cells May Offer Lasting Protection Against COVID-19," NIH Director's Blog, Dr. Frances Collins, July 28, 2020. Good summary of the recent study published in Nature from the lab of Antonio Bertoletti at the Duke-NUS Medical School in Singapore. Bertoletti's team "looked at blood samples from 23 people who had survived SARS. Their studies showed that those individuals still had lasting memory T cells today, 17 years after the outbreak. Those memory T cells, acquired in response to SARS-CoV-1, also recognized parts of SARS-CoV-2. "Finally, Bertoletti's team looked for such T cells in blood samples from 37 healthy individuals with no history of either COVID-19 or SARS. To their surprise, more than half had T cells that recognize one or more of the SARS-CoV-2 proteins under study here."

2. "How bad is covid really? (A Swedish doctor's perspective)," Sebastian Rushworth M.D., August 4, 2020. May be possible to have T-cells that are

specific for COVID-19, which thereby confer immunity to the disease, without having any antibodies.

3. **A fascinating twitter thread** by one of **America's Frontline Doctors**, Dr. James Todarao, on the growing evidence that T-cell immunity may allow populations to reach herd immunity once only 20% are infected with SarsCov-2. For example, if 50 percent of the population had T cell immunity to it prior to the emergence of SARS-CoV-2, then that leaves the other 50% susceptible to infection. In the regions hit hardest by COVID-19, serology tests showed that new cases and deaths peaked at around 10-20 percent of the populace. Consequently, further investigation may well find that this process results in immunity for the 60-70 percent of the overall population necessary to reach the threshold for herd immunity.

4. "What's the Herd Immunity Threshold for the COVID-19 Coronavirus: Estimates Range from 70 to 10 Percent," Ronald Bailey, Reason.com, May 15, 2020. Reasoned essay about what herd immunity is and the various informed scenarios by which it can be achieved for SarsCov-2.

5. "T cell immunity in the elderly," Monash University, Medical X-press, June 5, 2020. Research into why SarsCov-2 mortality disproportionately affects the elderly.

SWEDEN

Sweden, because the nation chose not to suppress much of its social and economic activity, or mandate the wearing of masks, or close its schools for any extended period, offers a point of comparison for evaluating the other modern Western countries that did engage in a variety of suppression policies. Swedish epidemiologists harkened to the policies recommended by the World Health Organization in 2019, as well as virtually every other agency concerned about the mitigation of epidemics/pandemics before March, 20020. Consequently, it used the best evidence case to withstand the initial viral onslaught, realizing the short-term mortality would occur but expecting fewer deaths in the long term, as well as causing much less disruption to the national health and welfare. Its scientists understood this and were able to convince politicians that viral infections would follow Farr's Law as refined by the Gompertz Function—and last about three months, eventually conferring herd immunity. The following documents tell some of the story. In hindsight, **had Sweden protected its sequestered elder population, its coronavirus mortality might have been halved.**

https://mobile.twitter.com/12FreeBeer/status/1288477040753225729 Deaths per million compared with Sweden and other nations that deployed a variety of lockdown strategies. Nothing the latter did affected virus trajectory.

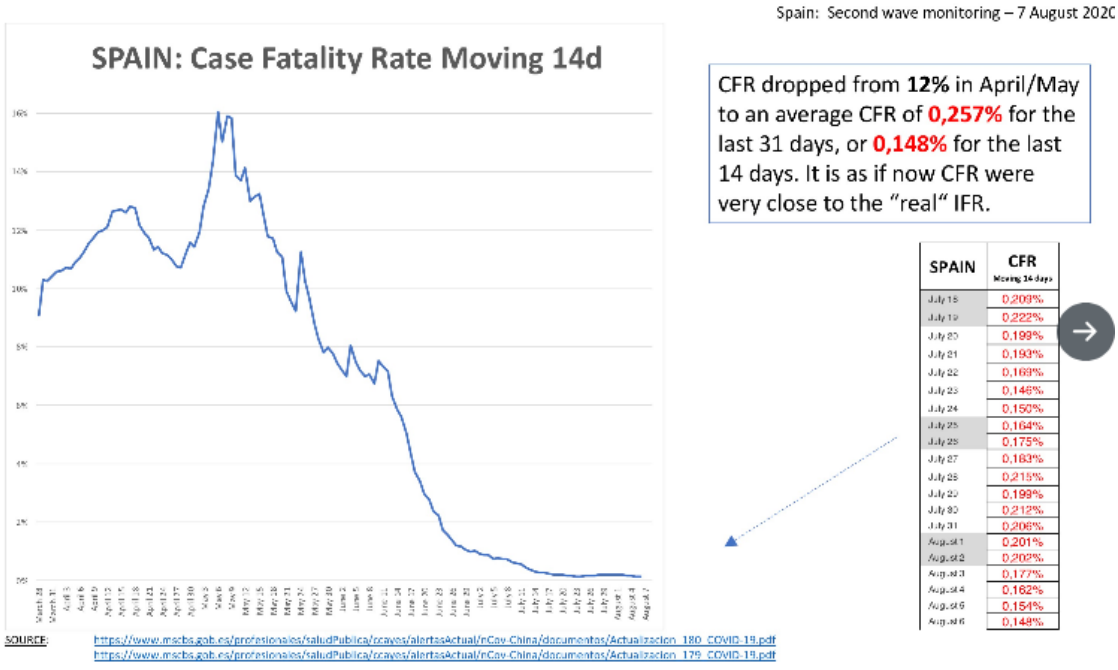
https://www.bloomberg.com/news/articles/2020-07-28/sweden-unveils-promising-covid-19-data-as-new-cases-plunge. Swedish cases and mortality plunge via herd immunity.

https://c19study.com/ An update on Swedish data today, with no masks or lockdowns.

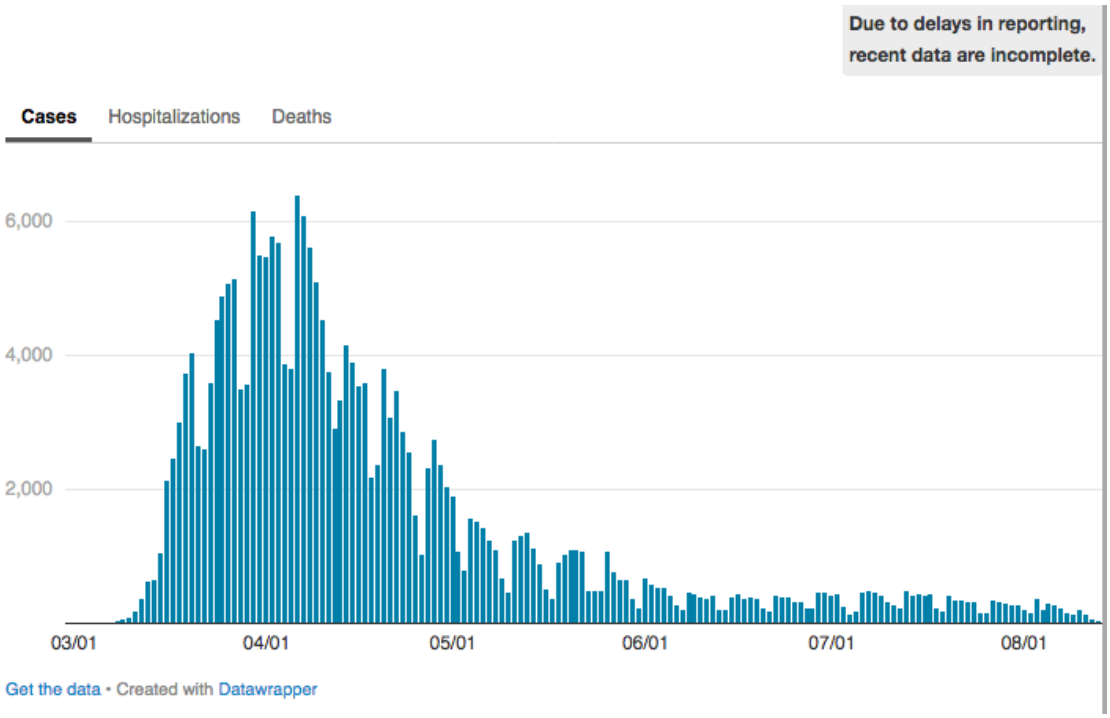
https://www.newsweek.com/sweden-covid-19-death-rate-lower-spain-italy-uk-despite-never-having-lockdown-1522306. Herd immunity seemingly on the way.

https://twitter.com/JamesTodaroMD/status/1291732199952265219?s=20. "The entire country is down to LESS THAN 1 DEATH per day from COVID-19." Good chart, Note the Farr's Curve, followed by the Gompertz mortality glissade.

The evidence is mounting that Sweden has achieved near herd immunity. Its people continue to conduct routine business without fear. Other nations, many states in the USA, and even congested metropolitan areas that have endured widespread infections over several months are now experiencing the same Farr's Curve/Gompertz Function arc of infections/hospitalizations/mortality, followed by rapid declines in mortality. Here's a chart that describes the similar situation in Spain, for example:



See also this screenshot of the current situation in New York City. Note the same Farr's Curve/Gompertz Function.

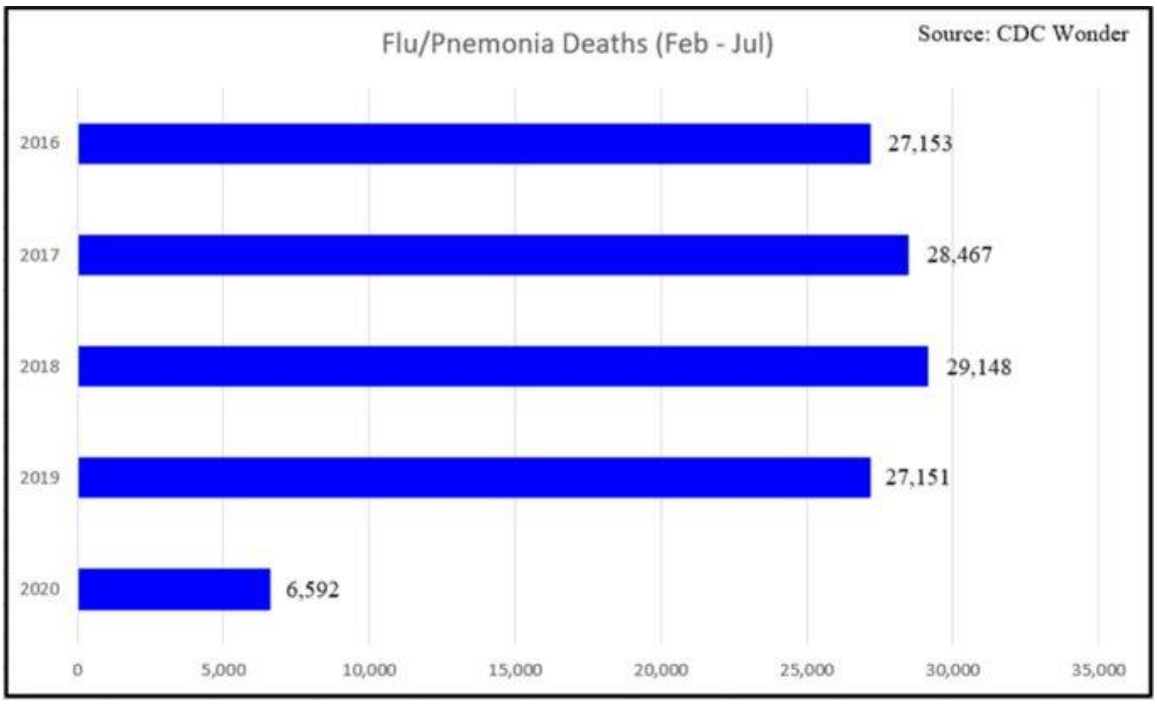


ENDNOTES

1. Jennifer Cabrera (Jennifer Cabrera (@jhaskinscabrera) is the editor of Florida's Alachua Chronicle. She routinely tweets a summary of the state's coronavirus death count. **Here's what she tweeted on August 7**: "Florida reported ***180*** new deaths *today*. Here are the *actua*l dates of death:"
8/6 - 28
8/5 - 37
8/4 - 24
8/3 - 11
8/2 - 17
8/1 - 5
7/31- 10
7/30 - 6
7/29 - 3
7/28 - 5
7/27 - 5
7/26 - 6
7/25 - 5
7/24 - 5
7/23 - 2
7/22 – 2

2. According to CDC's stratified data released recently, there have been 6,592

Influenza fatalities from beginning of Feb to end of July 2020. Which is 1/4 of previous years Flu fatalities during the same time period.
https://mobile.twitter.com/hashtag/RationalGround?src=hashtag_click



3. Dr. Fauci claimed at the time that he had lied when he stated that masks weren't effective. He did so, he explained, in order to prevent a public stampede on the supply of masks, which would have compromised frontline health care workers, who might then be without masks. This is more than disingenuous. Few in the public would have had easy access to N-95 and hospital masks, which are what healthcare practitioners must use; virtually everyone else uses cloth masks or even homemade bandanas. For these, all empirical evidence has found that, for protection against viral infections, they're worse than nothing. As Fauci must have known.

Worth Noting: "The city of Chicago invested nearly $120 million on four separate emergency coronavirus facilities in the spring that ended up treating a total of 38 patients, bringing the effective price tag of the massive project to over $3 million per patient." https://twitter.com/aginnt/status/1294644622459723777. The DC temporary hospital built at its convention center, at a cost of millions, had *no* COVID-19 patients.

New York City spent $52 million on a makeshift hospital facility that served 70 patients.

The U.S. Corps of Engineers spent more than $660 million to build emergency field hospitals around the country; most of those facilities didn't treat a single patient.

No hospitals in the USA were ever *over-extended* with coronavirus patients.