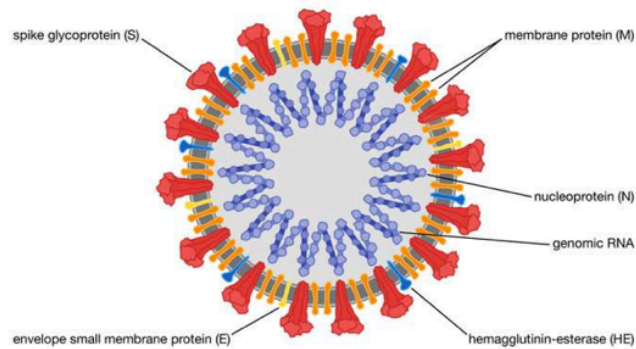


# Introduction to Virus Epidemiology Models and Data

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)



and the  
Wuhan Pandemic

**Bernie McCune**  
**Presentation to CASF**  
**September 19, 2020**

## Introduction

This started out as a modest overview of the Corona virus that struck the world around March of 2020 and is officially known as (SARS CoV-2 or Severe acute respiratory syndrome coronavirus 2). Because the Chinese Communist Party (CCP) neglected to control the many thousands of infected carriers out of Wuhan, China early this year, we had a global pandemic. I decided to call it the Wuhan virus since this city and the CCP were clearly the source and the cause of the severity of this contagion.

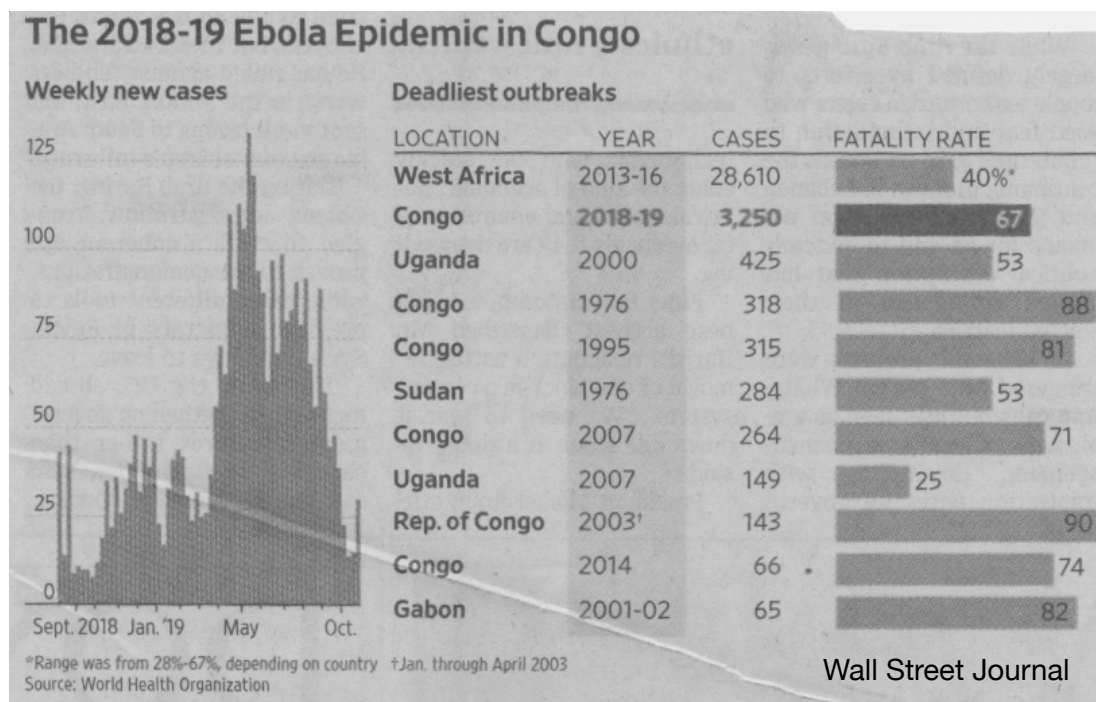
Our Cruces Atmospheric Science Forum (CASF) could not meet until recently so I had lots of time to gather information which in the beginning (in January and February) seemed to be fairly sparse. There were lots of questions about contagions in general but viruses in particular.

## History of Viruses

So let's look at a little viral history. One of the big viral killers even far back in time was smallpox. It was very notable in its ability to kill without any way of stopping it. Then in colonial times an inoculation process was found in Turkey and was used in the American colonies. A variation of inoculating a victim using the Cowpox virus such that antibodies were developed in the body to immunize a person from the actual smallpox virus. Vaca is cow in Spanish/Latin thus the origin of the word vaccination which is used for all viral infections.

## Ebola and HIV

In recent times the Ebola and HIV viruses have run through smaller populations but have still struck terror into much of the world. No good vaccines have been developed for these infections until apparently recently when a vaccine for Ebola was released in December 2019.



The Ebola virus originated in fruit bats in Africa and was transmitted to humans and then from human to human by body fluids. This is less scary in some ways than corona and flu viruses that can be transmitted by simple contact or over short air gaps especially in sneezes or coughs.

Four of the five strains of Ebola cause Ebola virus disease (EVD). It, as many of the other nasty viruses, is classified as Biosafety Level 4 (BSL-4). Ebola is considered to be 50% fatal but depending on the strain it varies from 25-90%. Some flu like symptoms occur early on but quickly a process of multiple organ failure occurs with bleeding from all the insides of the body

There are no air or water borne components of this disease and a number of folks are spared, due to the strength of the immune response and the health of the gut biome. Until the recent release of the new Ebola vaccine, there were therapies and supportive care that were used to help some patients.

### **Marburg Virus**

A virus that is considered Ebola's cousin is the Marburg virus. It was first contracted from African green monkeys in 1967 in a Marburg (Germany) lab. This is also a hemorrhagic fever virus with a 23% to 90% fatality rate. The monkeys were imported in the process of working on a polio vaccine. It is spread through human to human contact. Its effects are similar to Ebola in the massive organ failure and internal bleeding and is also a very dangerous BSL-4 virus. The CDC outbreak table for Marburg virus cases indicate that there have been fewer than 500 cases since 1967.

### **Hantavirus**

Another dangerous virus that is familiar to us in New Mexico is Hantavirus. There are two airborne strains of the virus that originate from rodents and one, hemorrhagic fever with renal syndrome (HFRS) was discovered in the Korean war. Severe cases of HFRS cause acute kidney failure and mortality rates are from 1% to 15%. The other strain is Hantavirus pulmonary syndrome (HPS) that emerged in 1997 in the southwestern United States. It fills the lungs with fluid (pulmonary edema) and has a mortality rate of 38%. HPS in New Mexico is generally caused by dust from deer mice feces. The latest outbreak was at Yosemite National Park in late 2012.



Deer Mouse

## Lassa Virus

Lassa Virus is another Biosafety Level-4 virus originating in the African rat. It is spread from animal to human by airborne fecal matter but human to human spread is via bodily fluids. Mortality rate in the general population is 1% but it is 15% to 50% for folks who become hospitalized. About 5000 West Africans (Sierra Leone and Liberia) die each year from this disease. If you survive, deafness is the most likely symptom that remains. Antiviral drugs do offer some success in treating this disease

## Rabies

Rabies has a long history dating back to 2300 BCE in records of Babylonians who went mad and died after being bitten by dogs. Fortunately these days, if quickly treated by vaccines, the sickness is preventable. Louis Pasteur developed the vaccine with the classic multiple shots to the gut from a giant syringe. The virus attacks the central nervous system with symptoms of delirium, raging and violent behavior in the end similar to zombification. If the virus ever becomes airborne there is a real concern that it might lead to the zombie apocalypse!

## Smallpox Revisited

The Smallpox causing Variola Virus is a human borne virus that over thousands of years has killed millions of people all over the world. There are several types of smallpox disease resulting from infection ranging from mild to fatal marked by a fever, rash and blistering oozing pustules that develop on the skin. A successful vaccine was developed and over a period of time was used globally to finally completely eradicate the virus in 1979.



A child with smallpox in [Bangladesh](#) in 1973. The bumps filled with thick fluid and a depression or dimple in the center are characteristic.

## Dengue

With Dengue virus the bad news is that it is the leading cause of death in the tropics and subtropics (up to 25,000 deaths per year), there is no vaccine and one can get the disease from an infected mosquito bite. It causes high fever, severe headache and in the worst cases hemorrhaging and 3 billion people are at risk. The good news is that this virus is treatable and not contagious and can be controlled by eliminating the mosquitos carrying it. There are 400 million cases of dengue infection with 100 million cases who have symptoms each year.

## Malaria

Malaria, mal aire or “bad air” was thought to be the cause in the beginning. It actually was a mosquito borne killer of many workers who were building the Panama Canal. US Army Dr. William Beaumont discovered the vector and the swamps were drained, mosquitoes killed and the Canal was finished without the further loss of life. Old Fort Bliss near Hart’s Mill below UTEP with a multiple channel, meandering, swampy Rio Grande was a source of malaria. The river was straightened removing most of the loopy side channels and the swamp.

## Influenza/Spanish Flu

The Influenza Virus or Flu viruses cause more pandemics and outbreaks than all other viruses. The “Spanish Flu” (was actually the Kansas flu) of 1918 is the worst pandemic in history infecting 20 to 40% of the world’s population and killing from 30 to 50 million people in 2 years. The H1N1 swine flu pandemic of 2009 may have killed 100,000 to 200,000 people in its first year. About 12,000 died from this flu in the US.

There was some evidence of a returning H1N1 strain this year. Effective flu vaccines exist and most people survive infections but the highly infectious respiratory virus is constantly mutating and creating new strains. Thousands of strains exist at any one time, most harmless and vaccines available in the US cover only 40% of the strains each year.



Soldiers from [Fort Riley, Kansas](#), ill with Spanish flu at a hospital ward at [Camp Funston](#)

The 1918 Flu Pandemic apparently started in Kansas and spread widely due to WW1 conditions of packed - training camps, hospitals, ships and battlefields. Very little information on this pandemic was shared with the public during wartime. Spain did share information and all the news was about the “Spanish Influenza”. It was an H1N1 type flu pandemic that killed about 30 (up to 50) million people (675,000 in US) in four waves. There were two in 1918 and two in 1919-20. There were high death rates in the age range of 20 to 40 years of age. Many patients died from a bacterial superinfection that followed the initial virus infection.

The virus was reconstructed from the frozen lungs of a disinterred 28 year old Alaskan Inuit female body in 1997. This was unsuccessfully attempted first in 1951. Keeping the tissue samples frozen and isolated with the lack of special gear and poor transportation connections caused the failure. There were issues of using native American remains as well. The same village was the target for both of these attempts because the bodies were frozen in the tundra for the whole period clear back to 1918.

Using this strain as an example there was a hypothesis that these young adults in the 1918-20 pandemic suffered a cytokine storm due to a strong immune response to a fairly mild H1N1 flu.

<https://www.cdc.gov/flu/pandemic-resources/reconstruction-1918-virus.html>

## **Polio - A Brief History**

Polio which causes paralysis and death can be traced back to Egypt about 1400 BC but became more recognized in the US in the 1800s with some multiple outbreaks noted in the 1840s. All through the 1900s there were more serious outbreaks until in 1952 a very serious epidemic occurred affecting over 57,000 with many of those in the 5-9 year old group and almost 1/3 in persons over 15 years of age. Before that time it affected mostly children under 5 yrs of age and in spite of an effective vaccine (in 1955) there were 350,000 cases in 1988 (still today a handful of cases occur each year)

## **Polio - The Virus**

Fecal matter, airborne droplets or food ingestion were methods of transmission and it was highly contagious. Sanitation in the 1900s in the US improved a lot so that by mid century many people were not gaining an immunity so that in the late 1940s and early 50s a wider range of ages and a large number of people were no longer immune. With the large increase in cases and deaths, the population became very fearful of this disease (only nuclear annihilation was more feared). By 1952 polio hysteria had blossomed and there was a large outbreak in Texas ( "social distancing" was tried).

## **Polio - The Vaccine**

Basically the virus attacked the brain and spinal cord nerves and was prevalent in the spring and summer each year. Even in the mid-1900s there were fly and mosquito theories of the disease infection (also associations with dirt and poverty). By 1955 the fly and mosquito theories were gone and Dr. Jonas Salk had developed a "killed virus" vaccine (versus most researchers that felt only a live virus could work). In fact Albert Sabin eventually developed an oral "live virus" polio vaccine in 1961 but recent live virus vaccines have caused about a dozen cases a year. In 1955 an early batch of the contaminated vaccine from Cutter Labs in California produced 200 cases of which most patients were paralyzed and 11 of the cases died.

## **Viruses - Villian or Hero**

Viruses consist of nucleic acid encased in a protein shell and are parasites of host organisms and our knowledge of them has only recently begun to grow. These studies suggest that there are viruses that are beneficial to the biological function and/or



evolution of their hosts. Some virus infections in childhood may promote protection against some cancers later in life. Retroviruses are found in almost all mammals and approximately 8% of the human genome is composed of retroviruses (proviruses endogenised millions of years ago) that block infection and replication of other viruses.

Villains or heroes? The raison d'être of viruses

Tokiko Watanabe Yoshihiro Kawaoka 1st published:19 February 2020 <https://doi.org/10.1002/>

## Beginning of the Wuhan Search

Without knowing anything about what Corona viruses were, I went looking for information. There was a lot of junk and hype in the news and on the web but I started finding information on the Wuhan situation directly from sources in Wuhan. Some of the information seemed to be credible.

On March 3, I found the CDC site where previous year's viral flu data could be found and I noticed that the 2016-17 flu season and some previous to that were showing modest numbers of deaths in the 30,000 to 40,000/year region of total deaths for that year's seasonal flu activity.

Table 1: Estimated influenza disease burden, by age group — United States, 2016–2017 influenza season

Age group	Symptomatic Illnesses		Medical Visits		Hospitalizations		Deaths	
	Estimate	95% Cr I	Estimate	95% Cr I	Estimate	95% Cr I	Estimate	95% Cr I
0-4 yrs	2,381,218	(1,390,236, 12,601,859)	1,595,416	(924,357, 8,525,518)	16,601	(9,692, 87,855)	126	(0, 300)
5-17 yrs	6,452,110	(4,260,828, 13,196,404)	3,355,097	(2,191,820, 6,869,053)	17,691	(11,683, 36,183)	125	(0, 418)
18-49 yrs	9,292,804	(6,652,894, 15,421,148)	3,438,338	(2,370,723, 5,813,710)	52,161	(37,343, 86,559)	1,365	(858, 2,020)
50-64 yrs	7,448,184	(5,301,910, 13,098,914)	3,202,719	(2,224,600, 5,618,648)	78,986	(56,225, 138,910)	3,780	(2,880, 4,913)
65+ yrs	3,646,206	(2,367,196, 7,315,271)	2,041,876	(1,297,567, 4,155,698)	331,473	(215,200, 665,025)	32,833	(23,243, 55,297)
All ages	29,220,523	(24,730,258, 44,863,689)	13,633,446	(11,367,031, 22,513,028)	496,912	(383,061, 857,458)	38,230	(28,582, 60,686)

It was still a lot more deaths, illnesses and hospitalizations than I expected. Until I found data on the CDC site about total weekly deaths in the US from all causes and found that on average, weekly deaths cycle around 60,000 deaths.

The table below shows an unusually larger annual death rate than the one on the previous page. The values on the previous page are more an average for most years. The one below is another seasonal flu season that peaked near 70,000 deaths/week for a couple of weeks (2017-2018).

Table 1: Estimated influenza disease burden, by age group — United States, 2017-2018 influenza season

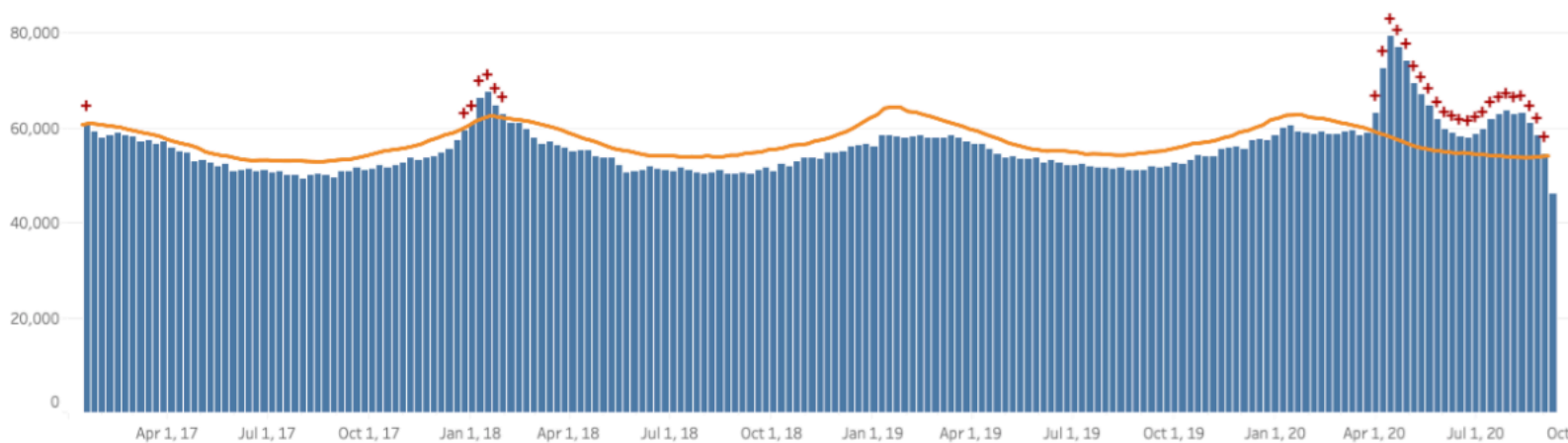
	Symptomatic Illnesses		Medical Visits		Hospitalizations		Deaths	
Age group	Estimate	95% Cr UI	Estimate	95% Cr UI	Estimate	95% Cr UI	Estimate	95% Cr UI
0-4 yrs	3,678,342	(2,563,438 – 7,272,693)	2,464,489	(1,695,054 – 4,904,296)	25,644	(17,871 – 50,702)	115	(0 – 367)
5-17 yrs	7,512,601	(5,899,989 – 10,199,144)	3,906,553	(3,002,375 – 5,356,724)	20,599	(16,177 – 27,965)	528	(205 – 1,392)
18-49 yrs	14,428,065	(12,258,820 – 19,396,710)	5,338,384	(4,262,260 – 7,333,716)	80,985	(68,809 – 108,874)	2,803	(1,610 – 6,936)
50-64 yrs	13,237,932	(9,400,614 – 23,062,957)	5,692,311	(3,895,925 – 10,028,080)	140,385	(99,691 – 244,576)	6,751	(4,244 – 15,863)
65+ yrs	5,945,690	(3,907,025 – 11,786,777)	3,329,586	(2,139,716 – 6,623,717)	540,517	(355,184 – 1,071,525)	50,903	(35,989 – 83,230)
All ages	44,802,629	(39,322,959 – 57,928,172)	20,731,323	(17,978,392 – 27,248,302)	808,129	(620,768 – 1,357,043)	61,099	(46,404 – 94,987)

\* Uncertainty interval

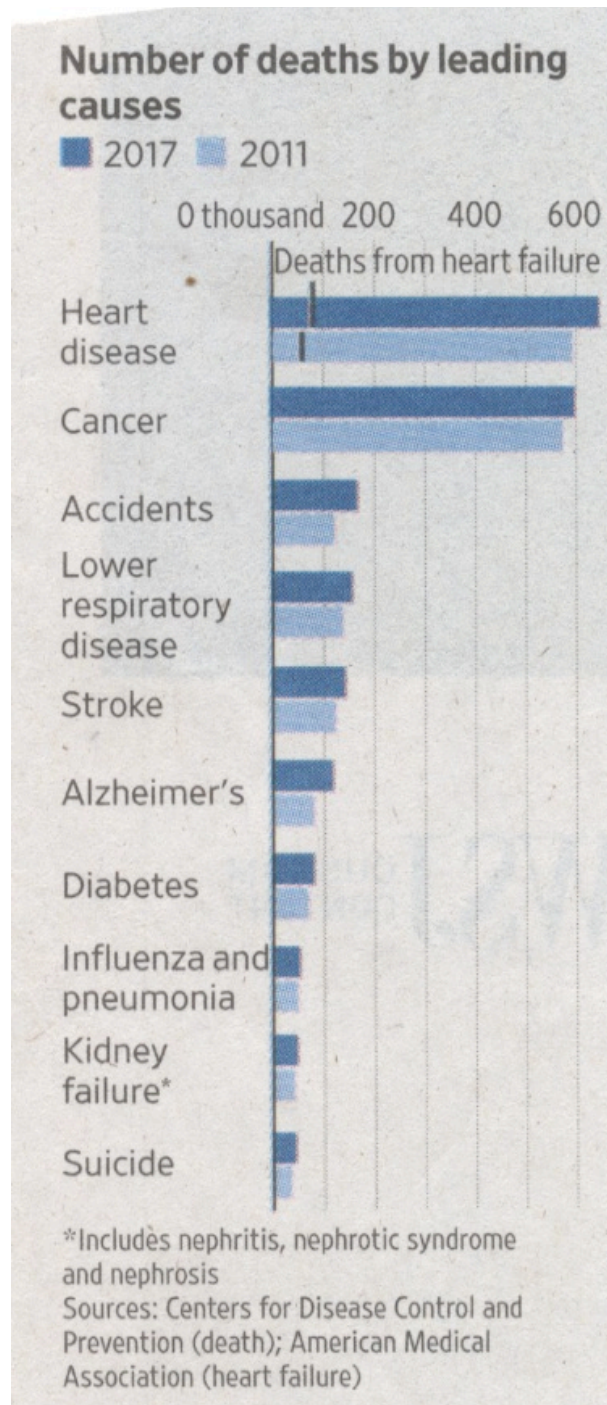


The next bar chart was recently collected from the CDC site that show several year's deaths from all causes. The so-called excess deaths which for most years are related to limited viral outbreaks which rise briefly above the orange expected death line that cycles near the 60,000 deaths/week. For a very short time in the 2016-17 seasonal flu season at the far left of the chart for one week went above the line. Then 6 weeks of limited excess deaths in the 2017-18. Both of these seasons are detailed in the tables above. There was no unusual activity in the 2018-19 flu season. And to the right of the chart is shown very large amount of excess deaths from late April until the 1st week in September of the recent Wuhan season (about 24 weeks). Depending on the year those weekly deaths may reach 70,000 deaths for several weeks.

Weekly number of deaths (from all causes)



The following chart gives some regular year annual death numbers for diseases with more significant mortality values. The years 2011 and 2017 were similar in each case.



## The Plot Thickens

I watched from early March while world and US cases and deaths slowly grew at first and then just began to blossom. I found a NY Times data base that showed how the exodus from Wuhan, China began to fling disease carriers to all corners of the globe. Taiwan had sent a team to Wuhan to observe the results of a mystery virus in December 2019. They were not able to talk to very many folks or gather much actual data but were very observant and very alarmed at the conditions in Wuhan. On December 31, 2019 the Taiwanese authorities alerted the World Health Organization that there was an outbreak. Taiwan is not a member of the WHO due to China blocking their membership. As soon as this team returned to Taiwan they instigated measures to keep the island safe which had been developed due to an earlier corona virus (SARS Cov 1) that occurred in China in 2002.

Meanwhile in Wuhan a city of 11 million people, life seemed to go on. January was a time to celebrate the Chinese New Year. There are a number of reasons why containment of the disease within Wuhan didn't happen. Wuhan is a very large city in central China. It is a major international transport hub with an international airport and large railway station. It is also a major port on the Yangtse River. A significant portion of the Chinese population engages in outward travel. Wuhan has many residential areas with high population densities. Large numbers of people are bunched together commuting to work and in their workplaces every day.

When the virus was initially detected there were a number of failures at the local level. The Mayor of Wuhan gave permission for a massive Chinese New Year banquet of 40,000 people to be held just days before a lockdown was implemented (January 23, 2020). In an attempt to beat the impending lockdown, approximately 5 million people left Wuhan in the days before and immediately after the lockdown was declared. The infectious period for COVID 19 is different to that for SARS. Individuals infected with SARS were only infectious when they were showing the symptoms of the disease. This made the identification and isolation of infectious individuals and their contacts relatively easy. In the case of COVID 19, infected but asymptomatic individuals can infect other people. Research data has shown that there can be a significant level of transmission. Isolation of infected individuals showing the symptoms of COVID 19, while prudent, is not wholly effective as many people may have already been infected by then.

In epidemiology, the primary measure of infectiousness or transmissibility of a disease is  $R_0$ . This is the average number of secondary infections caused by infected individuals in a susceptible population. The value of  $R_0$  varies according to the disease and the health of the population and how closely people associate with each other. Estimation of the value of  $R_0$  is problematic, but it is thought that SARS-COV2 does have a high  $R_0$  value - significantly higher than that for non-corona SARS. A value of  $R_0$  above 1 means that the number of infected individuals will grow. A value less than 1 means that the number will decline. One estimate of the initial value of  $R_0$  for SARS is

2.9 but it declined to 0.4 before its eradication. Estimates of  $R_0$  for COVID 19 put it at around 2–2.5.

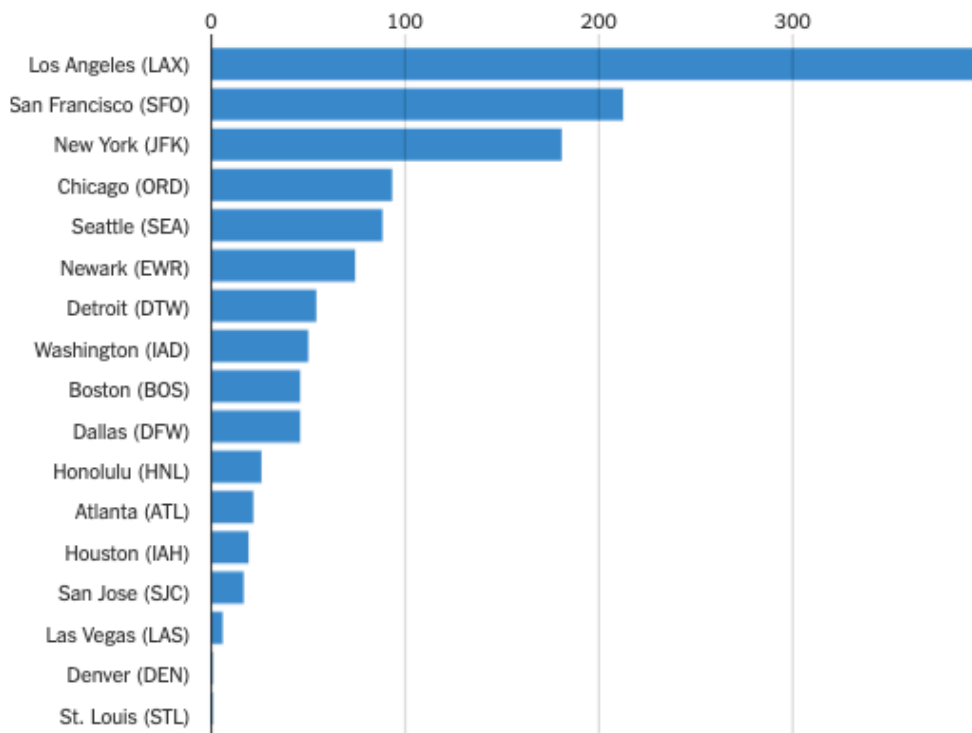
Another difference between the non corona SARS and COVID 19 is the community spread of the two diseases. SARS was propagated mainly by and to people in hospitals. COVID 19 has spread and continues to spread in the community at large. Despite the differences between SARS and COVID 19, several useful lessons were drawn from the SARS epidemic and have been applied to the COVID 19 pandemic.

The time interval between the first case description of COVID 19, its genetic sequencing and the production of a working diagnostic test was quite short (2 weeks). Based on the earlier experience with SARS, worldwide data collection was much more effective.

Even with this additional information and with some parts of the Wuhan medical and research organizations feeding the world some information, the local and party political organizations were generally successful in eventually blocking much of this basic information from getting out. And the numerous newly infected Wuhan residents were trying to escape the impending Wuhan city lockdown that stopped all travel out (Jan 23). The following graphic shows all flights from China, but by mid January people were leaving Wuhan for other parts of China and the world (5 million in total).

### **In January, more than 1,300 flights from China arrived at 17 U.S. airports**

That month, about 381,000 passengers arrived from China, according to U.S. Department of Commerce data.





## WORLD NEWS

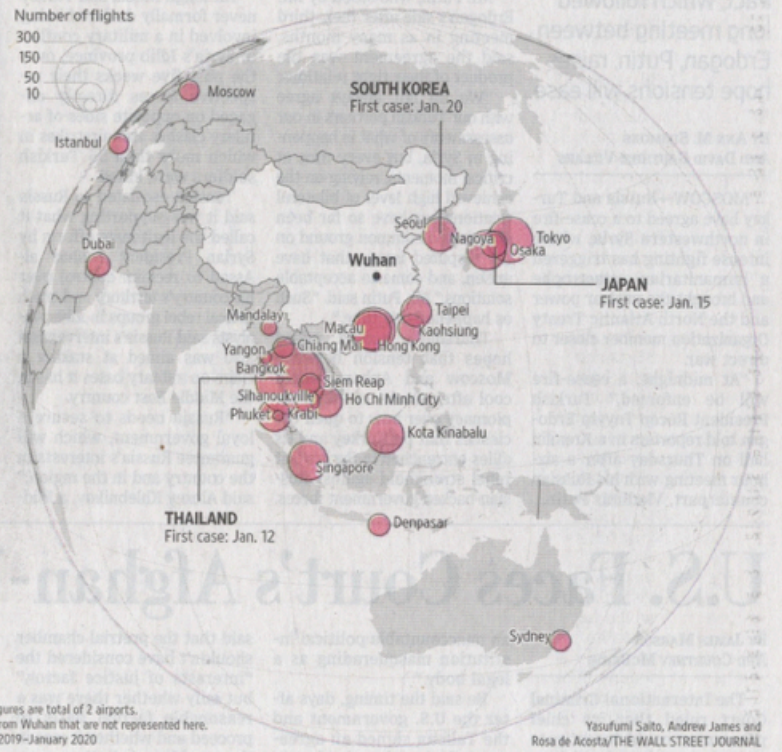
## How the Coronavirus Spread by Air

Wuhan has been a major beneficiary of China's transportation-infrastructure expansion—and so has the new coronavirus. International flights from this central Chinese city didn't begin until 2000. By January, Wuhan was connected with the globe. Once the virus appeared around a Wuhan seafood market, it didn't have to travel far to reach much of the world.

**Wuhan Tianhe International Airport: 24.5 million passengers, 30-plus international destinations**



**Thailand and Japan—the most popular destinations—and South Korea saw the first coronavirus cases outside mainland China**



## Widespread travel during Chinese New Year was the cause of domestic and foreign infection

And flights to all parts of the globe were rapidly spreading the virus far and wide. The above graphic was in the March 6 issue of the Wall Street Journal and noted that the virus was originally found in the Wuhan seafood market that was right next to the Wuhan Institute of Virology which is actually the more likely source of the virus.

Clearly by the time President Trump stopped all flights from China on January 31, 2020, the US was not alone in being inundated with Wuhan virus carriers. China and the WHO both had over a month to tell the world what was going on. And China had at least several weeks to stop the outflow of infected people from Wuhan and the rest of China.

By January the rest of Asia was monitoring Chinese carriers out of all points in China and Taiwan caught their first one flying from China to Taipei in early January. That passenger was immediately isolated and quarantined and Taiwan went on high alert. South Korea, Japan, Singapore and other Chinese neighbors became much more

vigilant. Flights from China were also going to Australia, the Middle East, Africa and Europe.

All these non-Asian bound flights were monitored in some fashion but clearly lots of carriers quickly entered all of these countries with the result that a Pandemic finally was declared by the WHO on March 11, 2020. What happened in February? Apparently the Wuhan virus gained some major global footholds while most of the non-Asian world was in a daze for a couple of months.

## **SARS CoV2, COVID19 or Wuhan**

At the beginning of February what did we know? A novel Corona virus or what? Where did it come from? When did it first appear in China? At what location? How contagious was it? How deadly? Infectious period? How was it transmitted? What did China know? What did NIH, CDC and FDA know? Who are they? Is there any data and where is it? What are these Fed government health guys trying to tell us? And more and more questions. Any answers? China and many in Asia knew much of this from what we have already discussed. In fact, from January 24 to February 6 two complete hospitals were built in Wuhan to deal with the COVID19 outbreak.

We know that the NIH is the US National Institute of Health, the CDC is the Center for Disease Control and most of us knew that the FDA is the Food and Drug Administration. And I still don't know exactly what these folks knew in January. Even the famous Dr. Fauci has changed his story so many times that I think he probably knew most of the answers to the above questions. Why were they and the WHO so clueless and seem to remain somewhat clueless? It all sounds fishy to me.

One of the early answers which turned out to be completely wrong was - not to worry! We have it under control! Trump probably really did know in January that this was a dangerous virus. I would not expect him to know any details or what they meant. I would expect a lot more from his staff especially the Fed Medical team. This corona virus was not so novel and there was a SARS CoV1 (severe acute respiratory syndrome coronavirus 1) and there was a small epidemic in 2002-4 from that virus (it had mutated by 2004). Both these viruses came from China and in fact the latest one apparently came from a market in downtown Wuhan, China. Well, later we found that it was a bat virus and came from a cave about 1000 miles from Wuhan and that it may have come from the Wuhan Virus Lab next door to the market (or maybe even from the US Army). Too many wrong answers!

## Seven year coronavirus trail from bat cave via Wuhan lab

George Arbuthnott

Jonathan Calvert and Philip Sherwell Sat July 04 2020, The Sunday Times

Briefly - in August 2012 a small team in hazmat suits visited a bat cave 1000 miles to the north of their lab (Wuhan Institute of Virology) to investigate why 6 men had been struck down by illness and 3 of them died just weeks before. The team collected samples of bat feces that contained the COVID19 strain (actually RaTG13 with a 96.2% genomic match). From there it looks to me to be clear that something happened in the WIV that may have mutated the virus. It was allowed to escape (that had nothing to do with the Wuhan market)

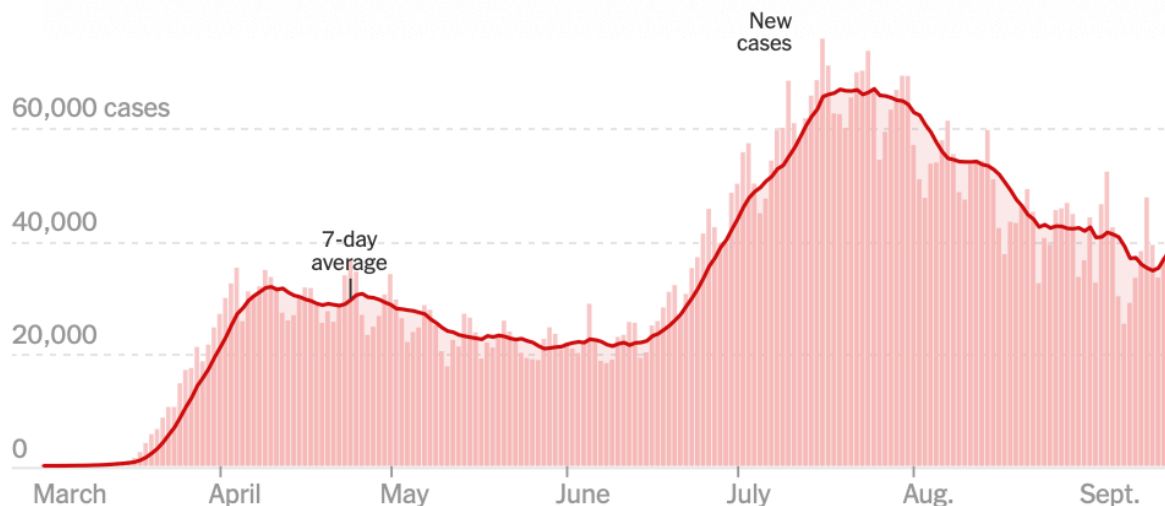
There is a summary discussion of the Chinese Corona virus 1 and 2 in a NEJM editorial published Jan 24 titled "Another Decade, Another Corona Virus" for a more historical approach to origins.

### Misguided Efforts

There were a lot of guesses on human to human transmission, origins, how contagious, how deadly, conditions of infectiousness, asymptomatic conditions and so on. China knew all this early on but were not sharing.

American specialists seemed late in gaining basic knowledge of this virus and they, for unknown reasons, used an unproven technique tried by China to control and flatten the curve. US government "epidemiologists" were trying to limit carriers by Jan and trying to flatten the curve by Feb. Too late! Wrong Technique!? Flattening the curve is only useful in assuring that medical facilities are not filled beyond capacity or that staff were not over-run. There were some short periods of overload but this was not actually a real problem in the US except for poor local and regional management.

### New reported cases by day in the United States

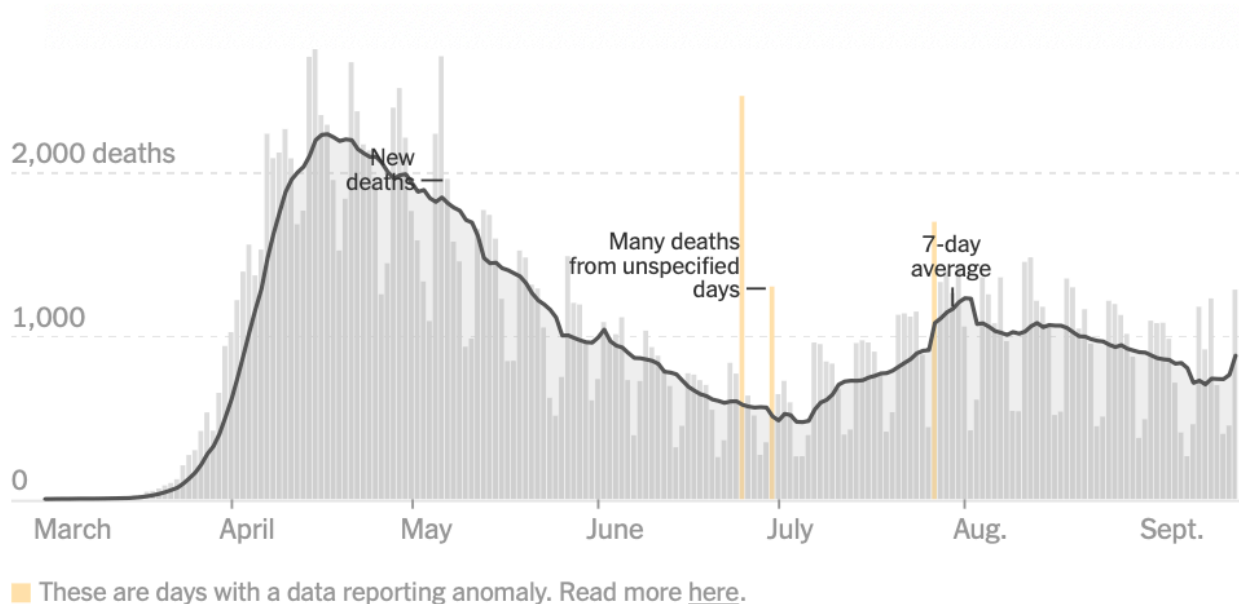


Note: The seven-day average is the average of a day and the previous six days of data.



The US did flatten the curve in April and May (see above) but most likely artificially pushed a greater infection activity into the summer. This probably had the effect of increasing US mortality numbers especially among more delicate older people.

### New reported deaths by day in the United States



Instead of a quick sharp spike in April, there is a prolonged pattern in the death curve.

Early in the pandemic there were some attempts to model the Wuhan virus using the University of Washington models and then later the UK Oxford model. Both were woefully inadequate and in fact the UK model predicted several million deaths. I think it was a bit of “garbage in - garbage out” due to lack of information. But smaller models without broad predictions were able to help define the Wuhan virus and begin to understand it. The  $R_0$  calculations for the virus indicating that there was an initial value of 2.5 seem to be confirmed by those same early values in the US. NM very early on showed a starting value for  $R_0 = 2.4$  and those early values in the US quickly dropped below 2 and after most peaks in cases/deaths down to 1.2.

Testing, immunity and conspiracy are issues that pop up everywhere during the last 6 months. A supposed premier site for propaganda that suggests they are combating propaganda is the Swiss Policy Research organization. Several articles claiming them to be a complete fraud says at the outset that they are not even based in Switzerland. I have not looked much beyond their discussion of COVID19 issues and in particular their extensive “Facts about Covid-19”. Most of what I find there seems very compelling and from looking at their facts from a bunch of other angles and sources, they seem to on target and well referenced. The powers that be in the US seem to always point their fingers at people claiming that they not the powers that be are the culprits. And in my opinion It is probably worth at least a quick look at what the SPR is telling us so that we

gain a wider perspective than the so called facts that are found on the web or in the media. In my opinion most of the material out in everyday view has little to back it up which is not the case for the SPR document "Covid 19: The Facts".

<https://swprs.org/facts-about-covid-19/>

Issues of masks, testing, contact tracing, social distancing, even infection rates are probably moot points if the US were to abandon the Chinese method of lockdown and viral control.

Studies of hydroxychloroquine (HCQ) treatment were first encountered from work done in China. Weaponizing Wuhan and manufactured virus from the Wuhan Institute of Virology sound like conspiracy theories but Fauci has been shown to have funded that laboratory and one story with a conspiracy twist is that he was not allowed by US rules to do the work in his US lab that the Chinese were contracted to do in their lab. The Dr. Judy Mikovits' /Fauci connection sounds very conspiratorial. However she does sound convincing and apparently is not lying about her past work in laboratories and on viral material. Fauci is at times pro-HCQ and at other times absolutely against HCQ. He claims that the results, of some of the HCQ studies that have proven to be at the very least very effective, are "anecdotal". Dr. Didier Raoult, Dr. Vladimir Zelenko, Dr. Harvey Risch and Dr. Richard Bartlett are claimed to be frauds but no good evidence is offered and all my evidence on them seems to mostly completely back up their claims. Anyway let's get on with the body of evidence and the discussion that refutes a lot of the propaganda.

Continuing to look at the increasing data flow, I tabulated my own table on March 27.

In search of death rates . . . to date ( late 3-27-2020 ):

	COVID-19 cases	deaths	rates est	65+ deaths*
China has had	81,897	3,296	4%	2,801
Italy has had	86,498	9,134	10%	7,764
USA has had	101,657	1,581	1.55%	1,312
Spain has had	64,285	4,940	7.7%	4,100

Using the Johns Hopkins website

\*these estimates based on US stats that show between 80% and 85% of regular annual flu season deaths were over 65 years old.

It was becoming clear that there was a definite risk population that was at least 55 years old. Then I stumbled on Dr. Knut Wittkowski (details later).

## Wuhan Data Websites

<https://www.worldometers.info/coronavirus/country/us/>

[https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html?campaign\\_id=9&emc=edit\\_nn\\_20200405&instance\\_id=17362&nl=morning-briefing&regi\\_id=109112658&segment\\_id=23916&te=1&user\\_id=b0ff0d4ce91862ddd6988dbc169d34b1#cases](https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html?campaign_id=9&emc=edit_nn_20200405&instance_id=17362&nl=morning-briefing&regi_id=109112658&segment_id=23916&te=1&user_id=b0ff0d4ce91862ddd6988dbc169d34b1#cases)

<https://coronavirus.jhu.edu/map.html>

### **A Quick Summary at about this point in time**

From the beginning there was a political/media exercise to point fingers concerning responsibility. Almost never was China called out on this. Also most players with media support wanted to gain control of the outbreak using unproven and, in the end, ineffective techniques (testing, contact tracing, whole population quarantine [lockdown]) and so on. Attempts at using unsophisticated US and UK epidemiological models proved to be quite useless and scary. The US government health establishment (as well as the WHO) appeared to be amateurs from the start and were completely unprepared. Taiwan's health officials by comparison were professional and well prepared. The US state governors and their health organizations were mostly flat foot unprepared for Wuhan. And treatment for Wuhan was "go home, take an aspirin and wait two weeks. If you aren't dead come back to the ICU and we will hospitalize you, put you on a ventilator and shortly there after bury you." Most frontline doctors were appalled and were looking and finding "off label" therapies. The western world is still struggling with our approach to Wuhan while the far east is mostly back to normal.

### **Now Awash in Data but Early on Awash in Hype**

Somewhere here though I have briefly discussed it earlier, I need to talk about the early lack of solid data but at the same time almost everything about this pandemic was painted in hysterical terms usually based on hearsay and opinion. This was especially true in March and April in NY City and northern NJ. And in mid-March there truly was a lack of everything especially Fed support when the case load/deaths were ramping up. No beds, no ICU spots, no equipment or protective apparel, no drugs, and mostly no common sense. Quick mobilization at all levels exposed mostly poor planning at all levels. Supplies of stuff, hospital slots and even therapies were mostly found (eg. respirators really never ran short). NYC was supplied with a hospital ship and a "MASH" encampment in Central park that were not used. See the large impact of the 2017-18 flu season that I showed in the second CDC table above that had no hype associated with it. It wasn't until the end of April 2020 that apparent deaths surpassed those of the flu of that year. That was just after the overall peak of US Wuhan deaths occurred.

In early March in spite of some serious push back from all levels of government and from most of the media and many politicians, frontline doctors were starting to find ways to save their patients. They were actually sharing information with other doctors, medical organizations and the general public (mostly on the web). This continues to this day. And still to this day many elements of the global medical system are either unaware or skeptical of these life saving methods. Mostly in the name of safety due to the risk from these therapies. I will discuss this in more detail later but frankly this so-called risk aversion to save lives is a very very weak argument. Simply put every one of these drugs that are being discussed are FDA approved and doctors are safely prescribing them “off label” which is a common global practice when doctors are more interested in saving lives than being politically correct.

## **What the non-Asian world got wrong**

By the end of January most of the globe had already lost control of the viral spread. It was among us and was ready to start a very large and rapid assault on the globe’s old people. The levels of contagion were already very high and the pockets were already just about everywhere. Almost no non-Asian country had even rudimentary plans to protect those of us over 55 years old.

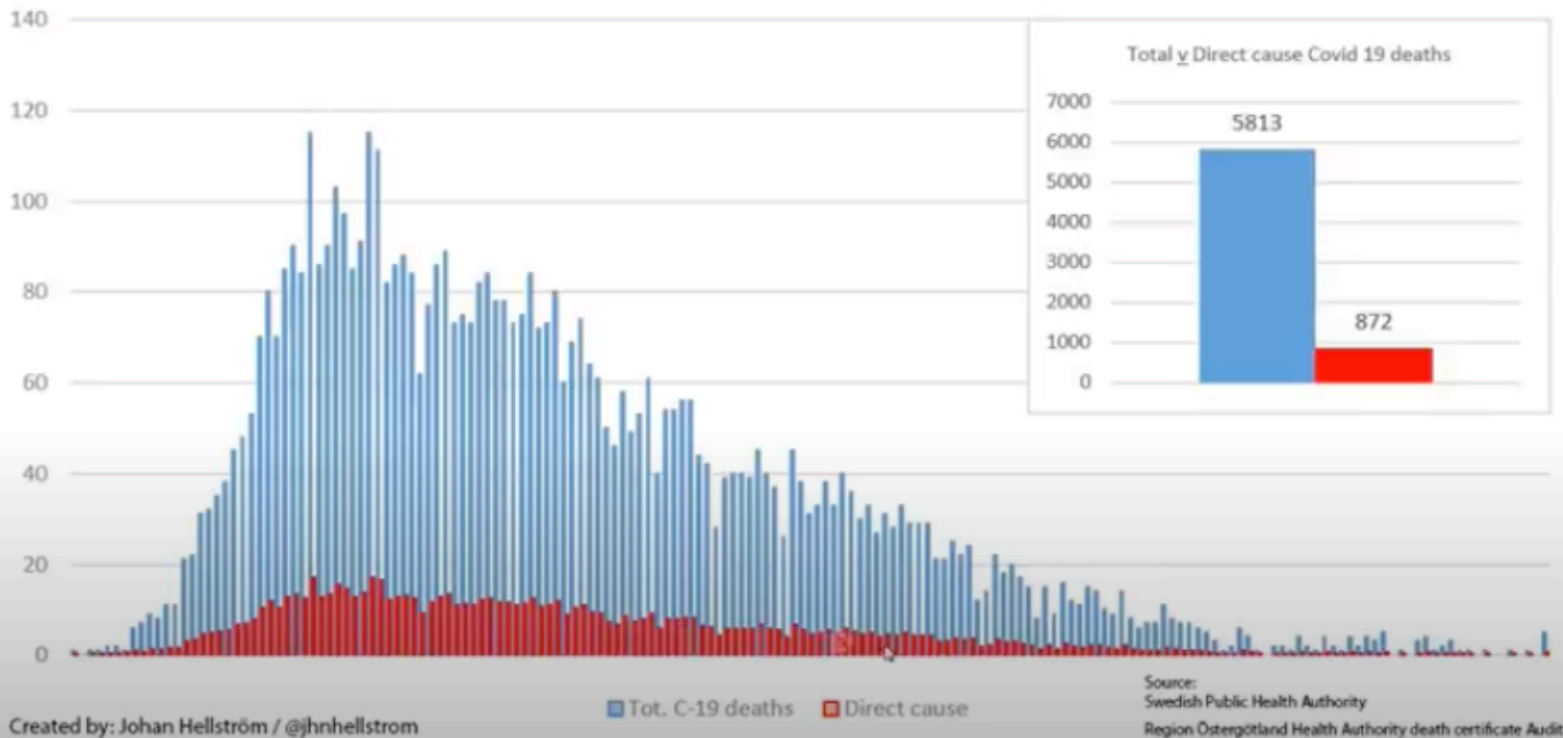
Even though by then at least faint ideas of the Wuhan effects were starting to be known. We had a number of epidemic specialists who were keying on the basics and could have easily guided us to a much better plan than curve flattening and general lockdown. Even with the so-called lock down, it had basically zero effect on suppressing the Wuhan’s penchant for killing large numbers of old folks. And we could have easily listened to a number of Asian countries for good advice especially Taiwan (certainly not China) who were completely aware of the danger facing the world. Apparently the WHO, the US NIH and CDC and several modelers did not have a clue much less a good plan.

From the lessons of this disaster it behooves the individual US states and cities to look at lessons learned and begin to make future plans for the next pandemic. And the Feds need to prepare in their own way and help coordinate these other plans.

Work on the emerging therapies should proceed even now as Wuhan is winding down. And the following discussion of Dr. Wittkowski’s method and simple drug therapy bears a lot of attention for the next time this sort of challenge faces us.

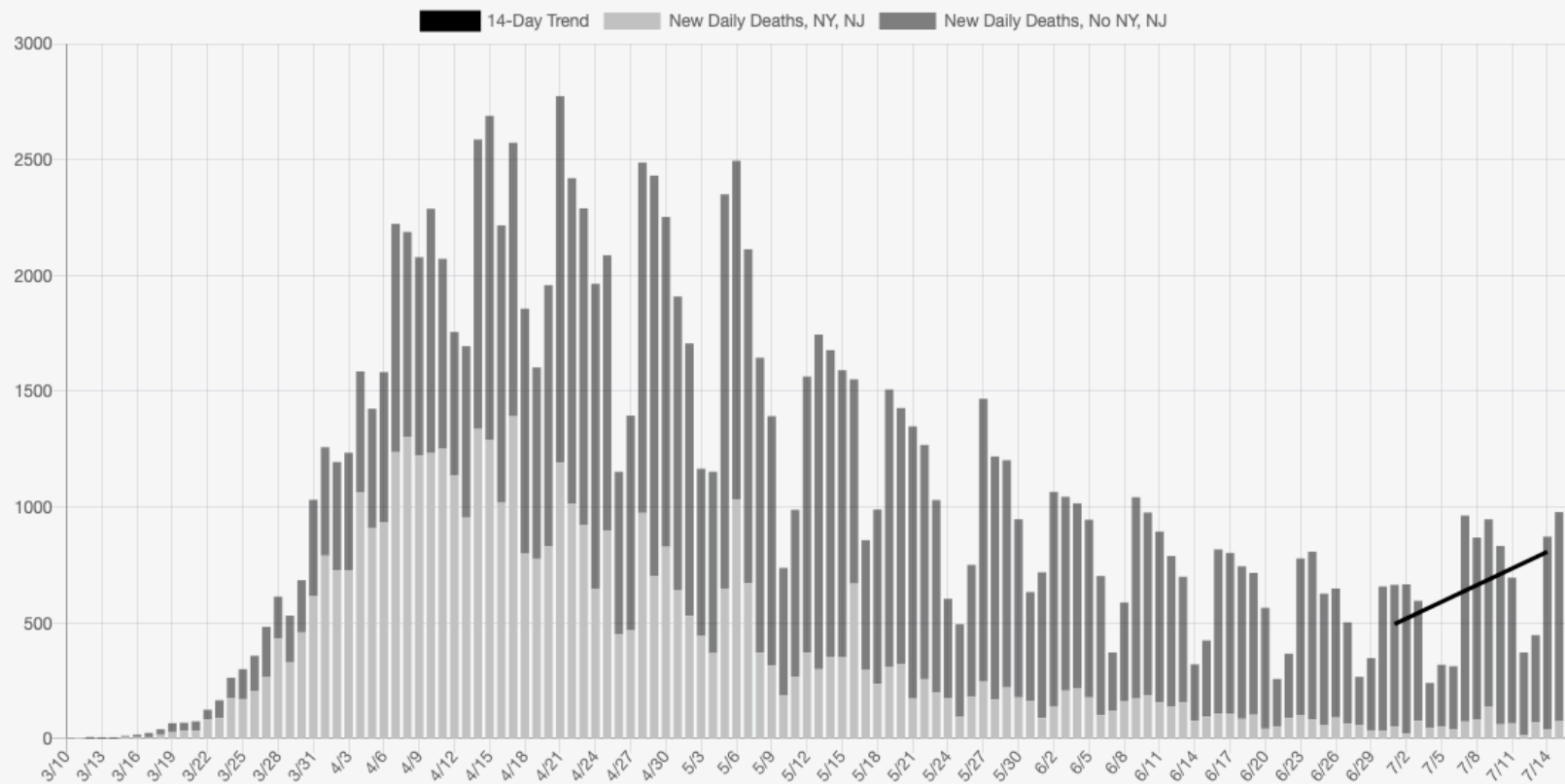
Sweden did not lock down, so had few of the economic or social problems of isolation. Kids went to school but authorities admitted that they did not handle the quarantine of the older folks very well and more of them than should have died. On the other hand, as seen by the following graphic, comorbidities apparently were still the lion’s share of the deaths. Direct cause from Wuhan was tiny.

## Sweden Total Covid-19 Deaths y Direct cause



An example of emerging data occurred in the NY/NJ region where a large mis-step by local authorities by sending infected patients back to nursing homes accelerated the death rate and increased deaths among older patients. But there were other factors too. See how US deaths are dominated by those in the NY/NJ area.

## Deaths



## **Consequences of Lockdown**

We all know the emotional side of these ongoing lockdowns with only an appeal to fear to support them. They have isolated us and made some of us much more vulnerable to mental problems. It is hard to get good numbers on suicides and bankruptcies but it is well known that both of these numbers are up already well above numbers for all of last year. In fact NM in the first quarter of 2020 apparently has surpassed its normal annual number of suicides and if this trend continues it will outstrip the Wuhan deaths in the state. Wuhan deaths to date in NM stand at just over 850 deaths and suicides in 2017 were 491. A private company noted that 1st quarter 2020 NM suicides were apparently around 550. NM seasonal flu deaths last year were 368. It will be awhile since properly reported numbers on both bankruptcy and suicide will be available.

Old people are even more isolated than the rest of the population and with them unable to go to gyms and swimming pools they are starting to lose muscle tone to the point there are growing numbers that are also losing mobility.

Medical problems in the early days of the lockdown made taking care of ongoing heart and other issues less viable. There have been cases of heart failure and other issues that must increase weekly death rates. None of this will be sorted out very soon if ever.

Children have also been isolated from their friends and from school. Sweden and Japan both showed that this kind of isolation is unnecessary and will especially in the US harm their education as well.

What if all this was done for nothing? What if there were already therapies that would make this all unnecessary? And even a way to bypass the lockdown in the first place? That would be Dr. Knut Wittkowski's idea.

### **Dr. Wittkowski's Model**

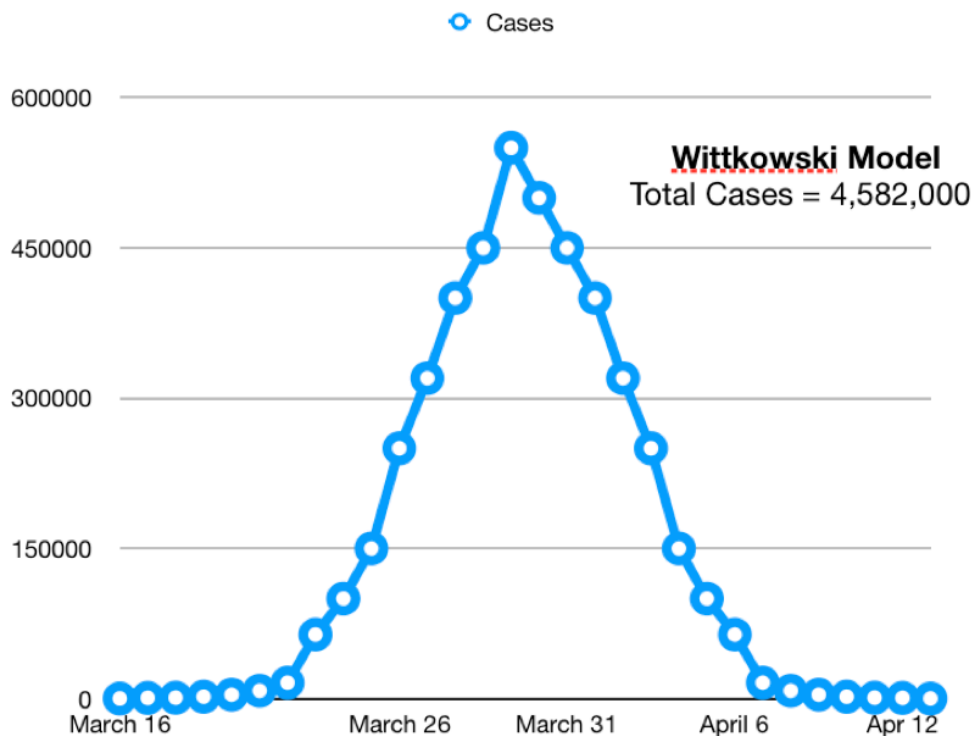
So who is Dr. Knut Wittkowski? He is not a medical Dr., he is a numbers guy (statistician). But he is very experienced with respiratory diseases and especially respiratory viruses. His very matter of fact approach to the Wuhan issue was quite simple.

He suggested that Wuhan was a fairly typical respiratory virus that in this case was very lethal to people over 60 years of age. He insisted that the above risk population (and certain other younger folks with lung issues and co-morbidities) be very carefully and fully isolated and protected from the virus at almost any cost (perhaps a few billions of \$). The rest of the population just goes on about their normal business for the next 5 weeks such that many will rapidly catch the virus, a few may be hospitalized and a very few will die (2% of those infected - a reliable estimate from his

experience with past respiratory viruses). For the record - the mortality rate was actually probably about 1%.

I developed a simple spreadsheet model of his concept and used US data that was available at the time to plot a case plot of expected numbers and an expected timeline.

## Bernie builds the Model - Known Cases



### Model Discussion

Depending on the final US case count (presently about 5.5 mil) and the death rate = 2% (Knut's #) or maybe less (based on data), deaths should have been between 70K to 100K. That the actual US death number at the time of writing this, somewhere around 173K, makes you wonder what the real numbers are. It can never be known what the total case numbers are since a only small percentage of people are tested and it is well known that there are a large number of either immune and/or asymptomatic cases (hard to know which is which w/o testing). There have been clear cases of fraud in both case numbers and death numbers even though some experts claim that both of these number sets are under counted.



Wittkowski's method relies on all those under 55 to become quickly and thoroughly exposed to Wuhan. The Wuhan pandemic was from the beginning completely out of control for most of the world. In fact when viral spread and viral spread rates reach these levels, the government health organizations need to be prepared to follow his simple guidelines. From what I can tell, I don't think this idea was on anyone's radar.

The idea supported in Asia of controlling the spread generally did not work for the rest of us, with the early and the wide spread of Wuhan to all the other parts of the globe. Viral spread for Wuhan is more generally group sensitive so that airborne droplets with high viral loads to close by victims indicates that moderate distancing can reduce spread but with this Wittkowski method, that becomes a non issue. For the younger population it requires no social distancing and every way you can to encourage infection.

Removing older (60+) and other younger folks with certain co-morbidities from the rapidly spreading virus environment and allowing the rest of the population to contract or shed the virus so that "herd immunity" is gained as rapidly as possible is the best way to keep deaths and daily life disruptions to a minimum. Use or non-use of masks, going out to bars, keeping away from other people becomes moot.

In fact for Wittkowski's method to work, all the lower risk folks should rapidly spread the virus so that within a few weeks that whole younger and low risk population has been quickly exposed. Definitely go about your regular business so that economic impact is very small. Any of the low risk population that gets sick can be quickly helped in special clinics (no dangerous 2 week waiting period) by using cheap and simple therapies that will be discussed later in this paper.

All the issues of case counting, contact tracing and testing are also moot. Testing of people in contact with the high risk population for the 5 to 6 weeks that they are quarantined would be extensive and often. Testing of sick folks may be useful for verifying the sickness and for monitoring activities such as determining  $R_0$ . The short period of risk should lower the death rate especially among old folks to perhaps lower than a regular flu season and health costs for all of this might be 10s of billions of \$ (or probably similar to seasonal flu).

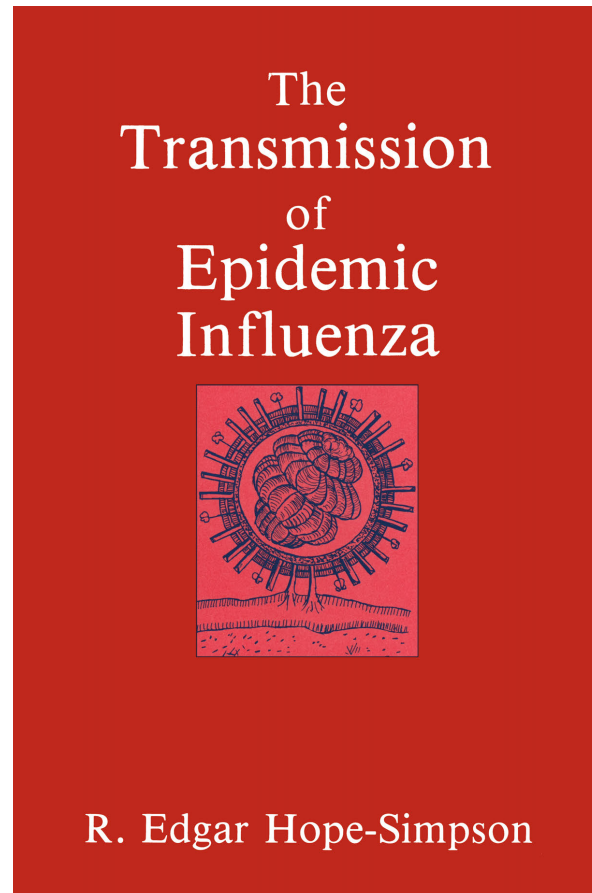
Within the past week or so another interesting idea showed up when a friend sent me a video by Ivor Cummins:

[https://www.youtube.com/watch?feature=youtu.be&v=8UvFhIFzaac&app=desktop&fbclid=IwAR1gTcH9aa42RA\\_s7\\_HHRGoGWU0KyfReHznMrpd6RIAZ3j43v0dPk9FDkSs](https://www.youtube.com/watch?feature=youtu.be&v=8UvFhIFzaac&app=desktop&fbclid=IwAR1gTcH9aa42RA_s7_HHRGoGWU0KyfReHznMrpd6RIAZ3j43v0dPk9FDkSs)

Some of his material is covered next.

## New Information Concerning Regional Wuhan Virus Progression

There are some standard characteristics of respiratory viral infections that seem to have been lost in all the noise. For one, Dr. Wittkowski's well known and well studied characteristics of these mostly non-novel diseases. Then there are seasonal and regional characteristics that were shown by R. Edgar Hope-Simpson that were described in a book written in 1992. The title is "The Transmission of Epidemic Influenza" which also applies to Covid19. Or Wuhan.



There are historical accounts of numerous viral diseases and their characteristics. He describes how spread of influenzas occur and how active they can be in various regions. The seasonal progression of the respiratory viruses are particularly interesting.

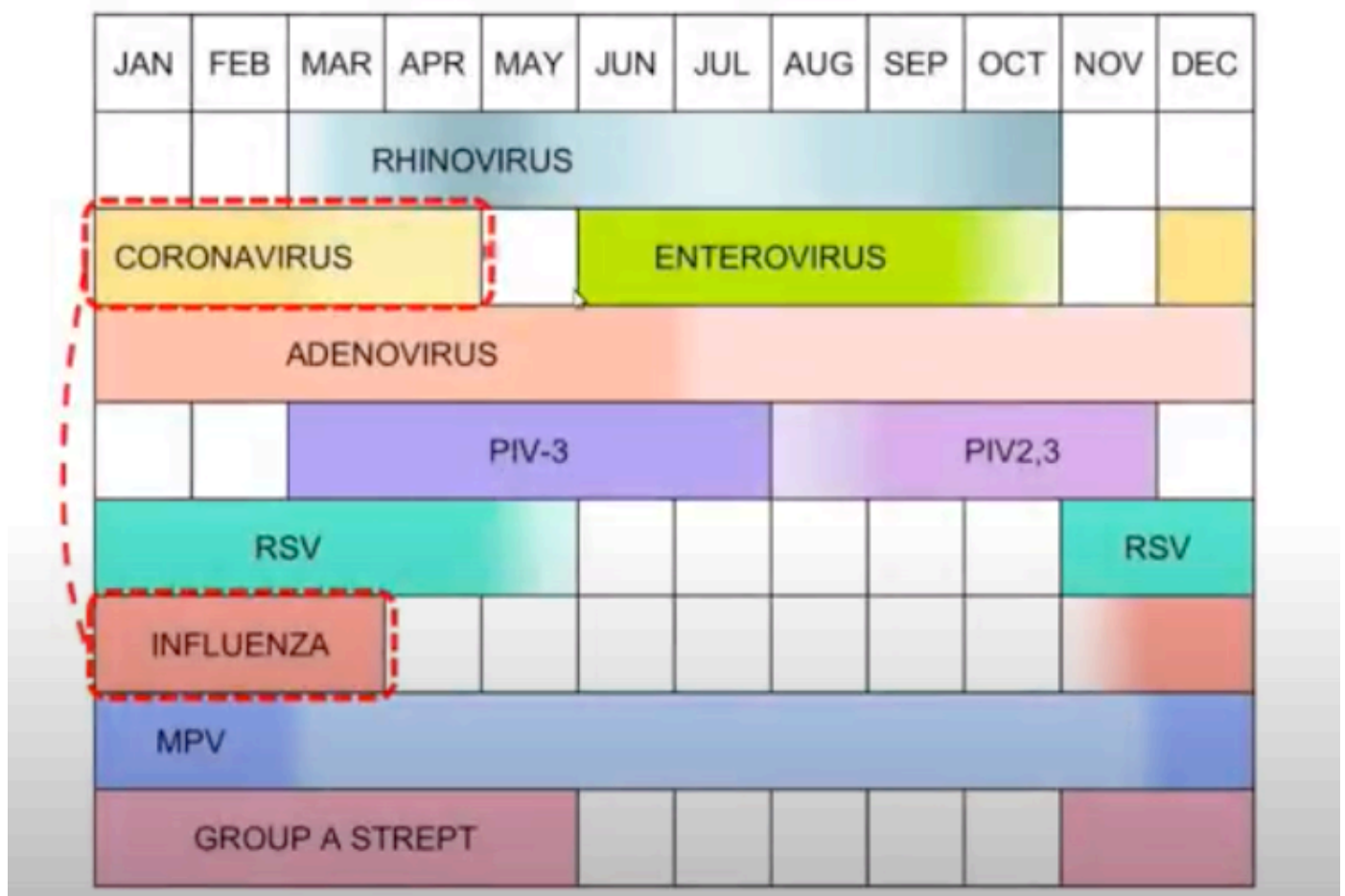
This is Wuhan's climate connection since it is based on solar effects on the virus and location of various regions and how the seasonal sun angles affect those regions. I am sure this will be a very controversial idea but for now it looks pretty compelling.

So much of the 2nd wave hype where zones that countries reside in are not clearly strictly in N temperate or S temperate regions may not be from shifting viral load but

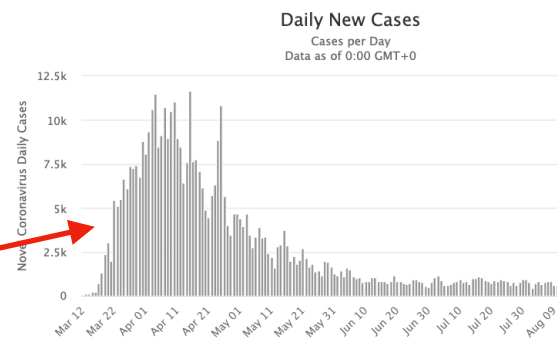
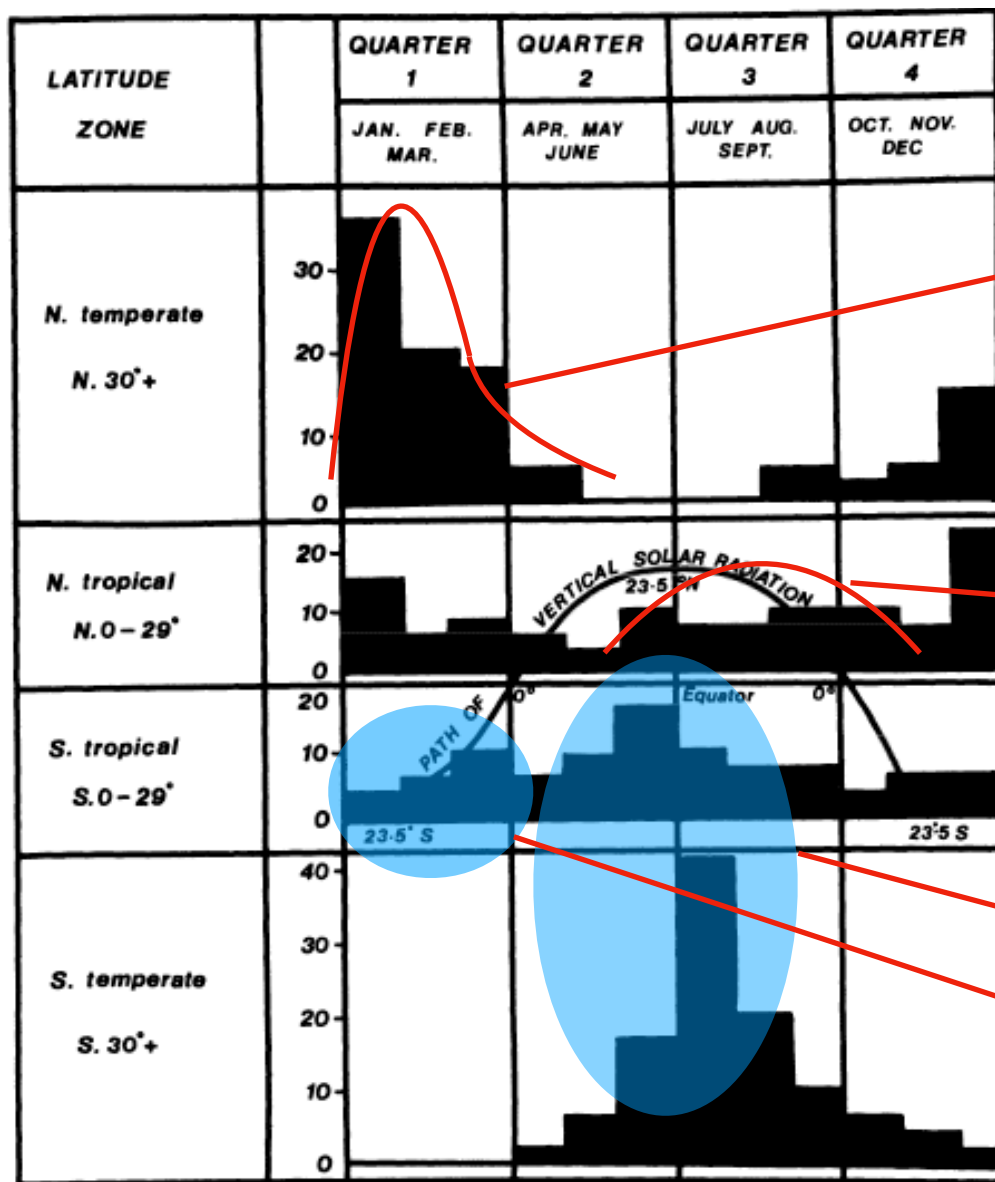
actually are driven by natural seasonal and regional virus activity patterns. Somehow I suspect these dramatic global patterns are not seen very often even by seasoned epidemiologists (maybe once in 100 years) due to the rarity of global pandemics of this magnitude. Let's hope we don't see it again anytime soon.

It is well known that these viruses are seasonal and the basic pattern is shown in this graphic.

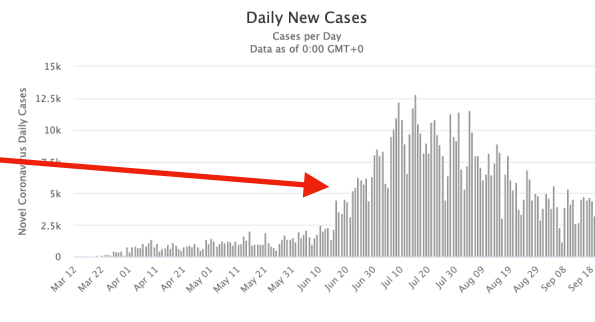
# Seasonality...



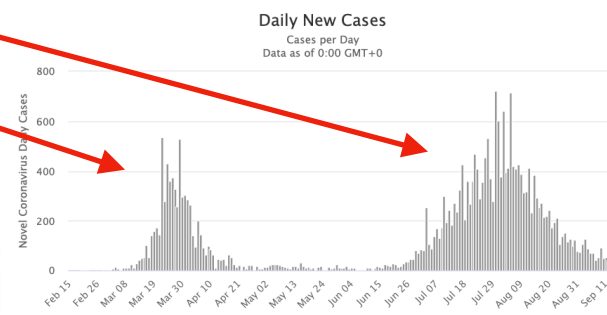
But the book has a very detailed account of the viral activity in time and in regions of the globe and a much more tuned bar graph to give a feel for magnitude and timing. And our recent pandemic can be superimposed on his graphic by looking at first New York, then Texas and finally in the southern hemisphere, Australia. He seems to predict the Wuhan pattern in a global fashion that has nothing to do with what we as humans might do to change it.



Daily New Cases in Texas



Daily New Cases in Australia

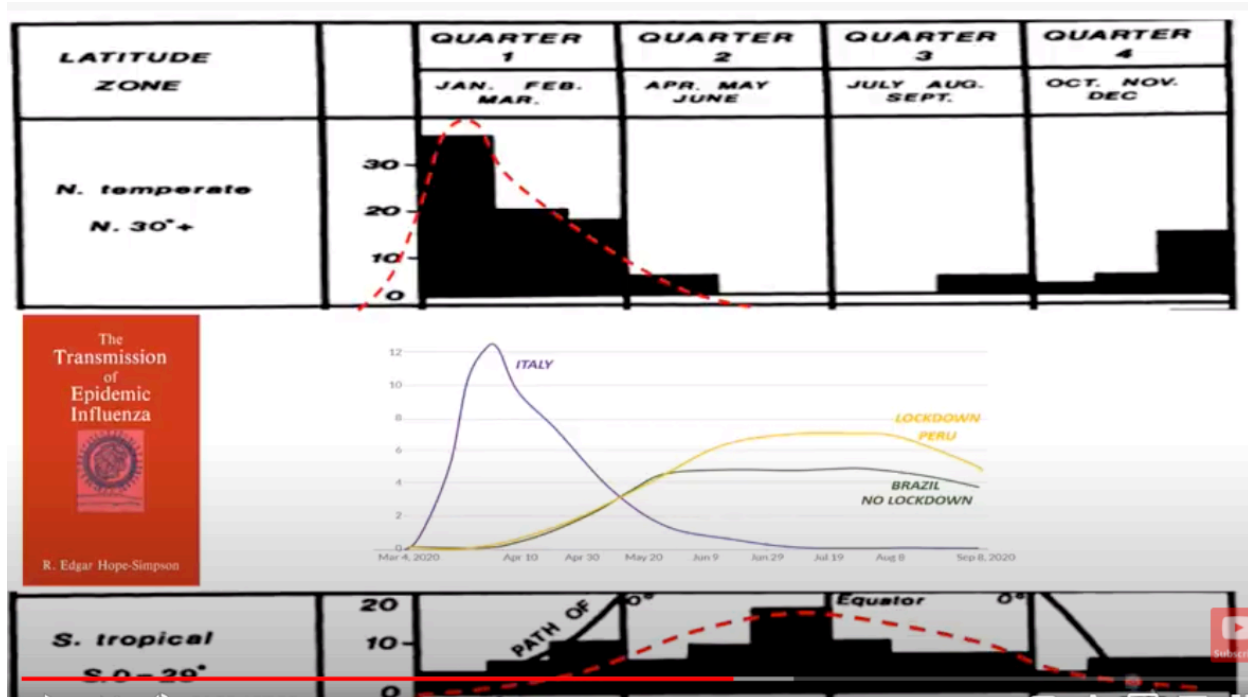


**FIGURE 8.4.** The distribution of world epidemic influenza 1964 to 1975 in four major zones of latitude. In each zone the percentage of the zone's epidemic months is shown monthly. The epidemic months cluster around local midwinter in both temperate zones whereas in both tropical zones they show a transition, each approaching the distribution in its own temperate zone. See also Table 8.1 (data extracted from the *Weekly Epidemiological Record* of WHO; Hope-Simpson,<sup>4</sup> p. 39, Fig. 2: reproduced with permission from *Epidemiology and Infection*).

See Hope-Simpson's various zones and timelines in the N. 30+ latitude upper left for NY state (red spike shape). Then Texas in the N tropical N 0-29 deg (flat red shape). And Australia in S. tropical 0-29 deg S and S. temperate S 30 deg in two sections (in blue).

Here is another look at the regional pattern of deaths for other countries in the world. Italy follows the north temperate pattern while Peru and Brazil follow the south tropical pattern. Look at the lockdown effects for Peru and Brazil (no lockdown). Apparently even with Peru's very strict military lockdown, Brazil did much better without any lockdown at all. Brazil's leader was widely criticized for not locking his country down.

Both of these tropical countries follow the flat death curve pattern in the 2nd and 3rd quarter while Italy has a more spiked pattern in the first quarter.



## The Grand Finale - Some Medical Answers

There is a tragic story of overkill in this Pandemic and of poor treatment. Clearly from very early in the pandemic, US and NM mortality data show that over 90% of the deaths are folks over 55 years of age (155,700 in US). Recent CDC estimates indicate that only 6% of deaths were below 55 years of age. There are no deaths in NM from 0-19 and only a total of 246 deaths in all of the US in the age group 0-24. The weekly US death numbers aged 24 to 54 went above 1000/week for only 3 weeks and peaked the week of April 11 at 1255 total for that week. So far the total number of deaths in that age group is just short of 9200. Clearly many older folks are dying especially those with co-morbidities. Folks over 65 make up 14% of the total population and folks from 1-55 make up 72% of the total US population.

Basically the media, many politicians and Fed health care organizations do not recognize any approved Wuhan treatments. Their only semi-proven drug was Remdesivir which was not entirely tested and had questionable safety issues. Dr. Zelenko used Remdesivir for very advanced Wuhan cases that were near death with

some success but it was never proven to effectively treat Wuhan. The two day treatment level cost \$3700 while the full course treatment was \$5400. He finally gave up on it when he was unable to locate any supplies of the drug after a few weeks.

So enter the frontline doctors with a cheap (a few \$100s for complete treatment), very safe and effective set of drugs. Early on, Chinese doctors discussed a treatment of hydroxychloroquine (HCQ) and a French doctor developed full treatment protocol that was tested on several dozen patients and then later with over 1000 patients with well over 90% recovery rates. When President Trump suggested that someone look into this treatment, the few US tests that were done did not follow the French protocol (HCQ, zinc and azithromycin) and failed. Reports on these studies were later found to be flawed.

A number of US doctors began using the French (Dr. Didier Raoult) protocol and had miraculous results (again over 90% recovery rates). The Japanese used an asthma drug they use to treat respiratory diseases in general and US doctors use it only for asthma. US doctors have now started to use a nebulizer with budesonide vaporized and introduced directly into the lungs to treat advanced cases of Wuhan. Reported results are astonishing. Some doctors are using Pulmi-cort and even though steroids are frowned upon since they tend to reduce immunity activity, this nebulized drug is not injected and goes to upper lung tissue directly to the site of the infection and is not loaded into the blood stream. All these drugs are FDA approved and used in standard practice for in the case of HCQ malaria, rheumatoid arthritis, and lupus and in the case of Pulmi-cort asthma. Pulmi-cort is used for weeks old babies. In all cases side effects when used in modest doses are minor. Some US tests were using 1 gram or more doses of HCQ. Dr. Raoult's protocol used on the first day 200 mg HCQ in the morning and 200 mg HCQ at night and then 200 mg each day for 9 more days. Zinc was 50 or 100 mg with each dose of HCQ and standard antibiotic dosage of azithromycin. Some of the other US tests did not use any azithromycin or zinc at all. Zinc is key to destroying the Wuhan virus. Later two Florida Doctors began using Ivermectin an anti-parasite drug with good results.

Dr. Raoult interview (in French) <https://www.youtube.com/watch?v=Xhoi1JKjClk>

<https://www.paulcraigroberts.org/2020/04/11/professor-didier-raoult-releases-the-results-of-a-new-hydroxychloroquine-treatment-study-on-1061-patients/>

Dr. Vladimir Zelenko interview with Dr. Drew

<https://www.bing.com/videos/search?q=dr.+vladimir+zev+zelenko&docid=608055408091597565&mid=2EB57AC8ADB5364F630F2EB57AC8ADB5364F630F&view=detail&FORM=VIRE>



Dr. Richard Bartlett (on Bill Stills Blog - other HCQ videos)

<https://www.youtube.com/watch?v=6wNgjXdGH00>

Dr. Jean-Jacques Rajter and Dr. Juliana Rajter

<https://www.bing.com/videos/search?q=Interview+Dr.+Jean-Jacques+Rajter&docid=607995042346894918&mid=DC47DB235E0F722DE18CDC47DB235E0F722DE18C&view=detail&FORM=VIRE>

There are lots more videos of these and others out there.

This whole issue of drug therapy and of these people are being treated poorly, is a classic conspiracy that goes well beyond theory. It is great that there are these good people out there in the face of what I consider evil in its most base terms.

The media, some politicians and the NIH, CDC and FDA have gone to great lengths to block these successful treatments. Those using the treatments have also gone to great lengths to get their results out to the public. Media and web based sites are actively blocking this effort by the front line doctors by taking down this type of content. The FDA, governors and some medical institutions have told local pharmacies to not fill valid doctor's prescriptions in this effort. Some governor's and state medical boards have warned the pharmacies not to interfere with the doctor/patient relationship under threat of loss of state certification.

## **Honor Roll**

Dr. Didier Raoult Marseille Institute-Hospital-University Mediterranean Infection (called "barking mad" on web and a major NYTimes article disparaged him - Dr. Risch gave him support)

Dr. Vladimir Zelenko NY Physician

Dr. Robert Hamilton

Dr. Richard Bartlett Odessa, Texas Physician

Dr. Anthony Cardillo Calif Physician

Dr. Ivette Lozano

Dr. Simone Gold Calif Physician

Dr. Scott Atlas

Dr. Stella Immaneul Houston Physician

Dr. John Ioannidis Stanford University Medical Faculty

Dr. Michael Levitt Stanford University Phd.



Dr. Harvey Risch Yale University Epidemiologist and many many more

## Asians and the Wuhan virus 7-8-2020

There was mentioned in Dr. Bartlett's video several Asian countries and their numbers. Here is a comparison.

	# of Cases	# of Deaths	# of Recovered	Deaths/Million	Number of Tests
<b>United States</b>	3 million +	133,274	1.325 mill	9233/million	38.3 million
<b>Japan</b>	20,000	977	17,000	8/million	500,000
<b>South Korea</b>	13,181	285	12,000	15/million	1.346 million
<b>Singapore</b>	45,140	26	41,002	4/million	758,000
<b>Taiwan</b>	449	7	438	7/million	77,700
<b>China</b>	83,563	4634	78,500	58/million	90.4 million

It is hard to tell strictly from the numbers what is going on. There have been lots of comments on the lack of tests in the US but look at Japan and Taiwan.

My take on the low numbers of cases and deaths in Asia has partly to do with how old people are treated in general and specifically especially in Japan how the doctors treated the cases. Another part of the issue is that without extensive testing, there is no way to know what the actual value of total case numbers is and it is simply a guess. All the Asian countries except China and South Korea did very limited testing.

It was reported in some areas of the US press about how Japan was not testing much early in the pandemic but were doing X-rays for people complaining of lung problems. The Japanese are known for their special care of old folks with lung problems so they basically treated cases of visibly fogged lungs very early with good outcomes. And apparently they did not worry too much about the cause of lung fogging being Corona or not.

I also think that early and focused treatment that Dr. Bartlett is advocating is key to a good outcome. We can see how NY, Italy, Spain, the US in general and numerous other countries did not seem to follow that sort of

protocol. He noted that patients who tested positive especially in the US were told to go home and treat it like a cold and call the ER for guidance if they developed more serious symptoms.

Of the countries shown in the table only China and the US went into lockdown and only the US continues to use it or continues to contemplate its use. Clearly lockdown in the US was a double whammy (high mortality and serious economic outcomes). And seeing the huge US mortality numbers versus the much smaller Asian ones is more than heartbreaking.

And shame on the CCP (China) for their early secrecy which did not help.

### **Some Final Comments on New Mexico, the rest of the World and Their Mis-steps**

Our Governor Michelle Lujan-Grisham apparently thought we were New York city. Her plan for the state was based on tracking cases and ignored death rates. It is basic to understanding where you stand with a respiratory virus to use death rates since case numbers can vary wildly according to the level of the testing program. She used worst case cities and regions to lock down the whole state. A more creative and fair approach would be to focus on hot spots and not necessarily lock down any of them.

In fact she at first claimed to lock down the state to flatten a curve that was never a threat to NM hospital capacity nor medical personnel. She used her 30 day emergency powers 7 times (we are still under the last one). Unfortunately the Legislature allowed her to run wild but in spite of this mistake I think it is high time she discusses the next period of “emergency” with the Legislature.

She built a gating criteria which was heavily weighted for testing volume, turnaround time of test results, contact tracing, case numbers and infection rates. We met them all, long ago even though most of them were completely unrealistic. She doesn't seem to understand  $R_0$  (infection rate). Our  $R_0$  has been below 1 for weeks now.

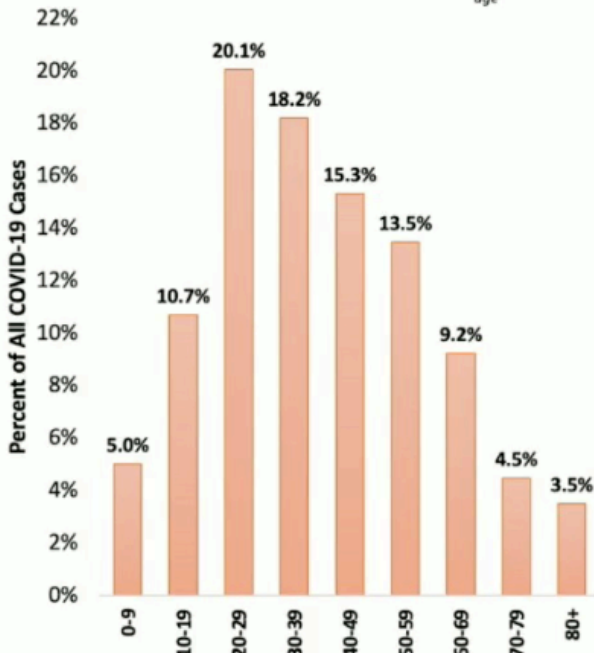
## New reported cases by day in New Mexico



Note: The seven-day average is the average of a day and the previous six days of data.

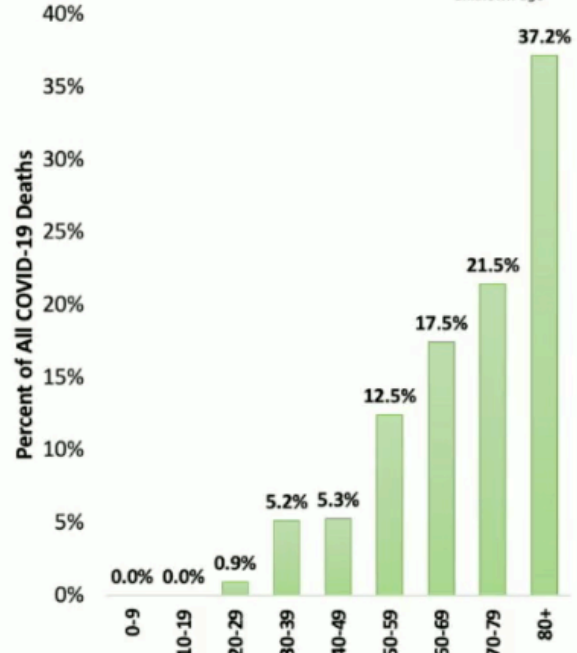
### NM COVID-19 Confirmed Cases by Age as of 8/26/20 (%)

Source: NM Department of Health  
Excludes unknown age



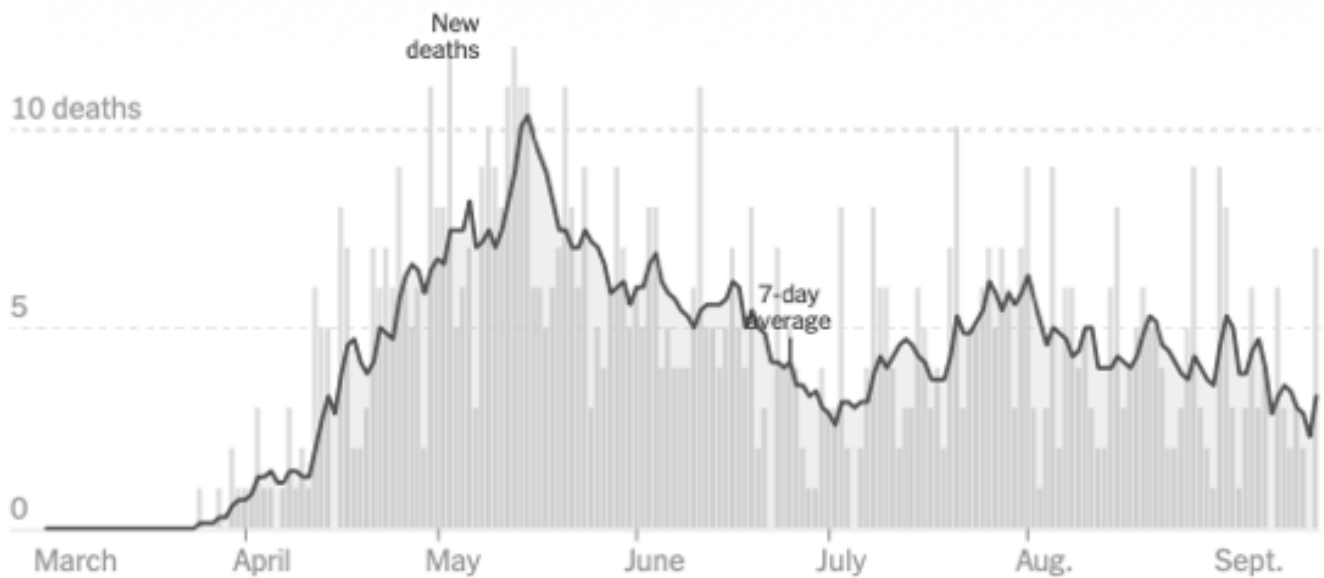
### NM COVID-19 Deaths by Age as of 8/26/20 (%)

Source: NM Department of Health  
Excludes unknown age

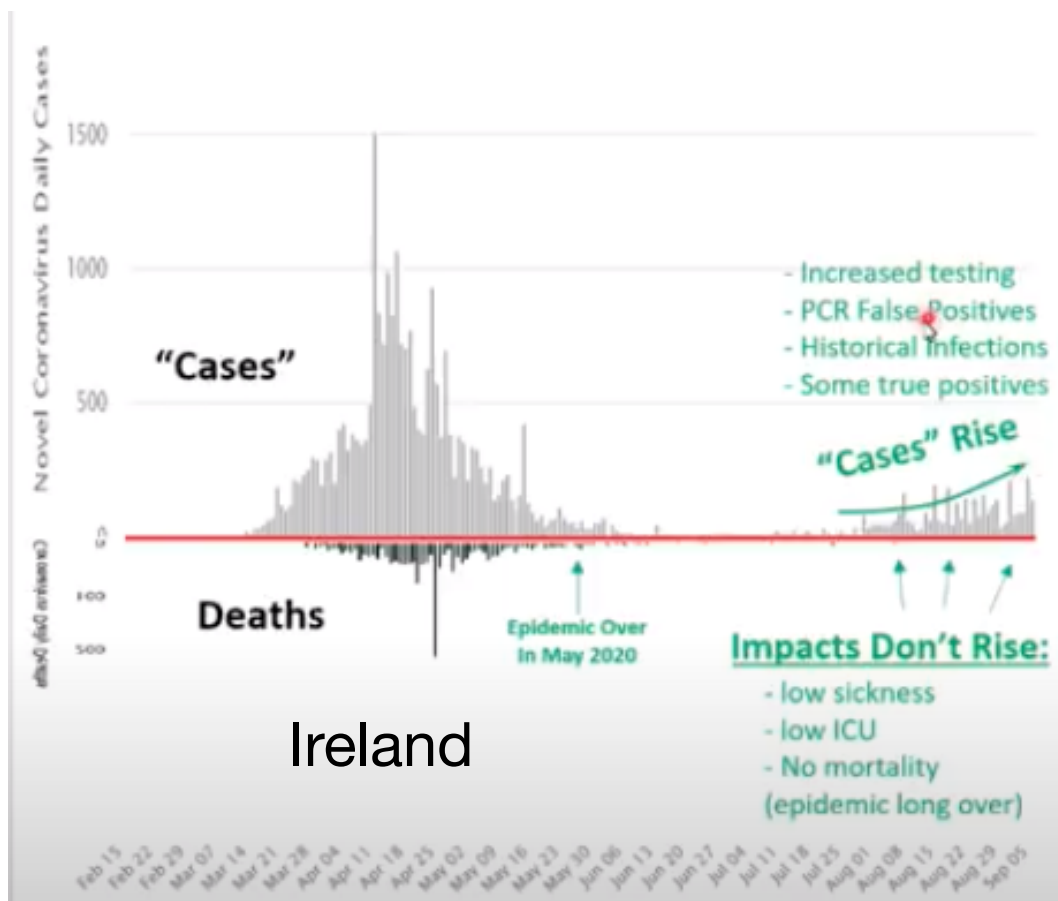


The 3 green bars on the right demonstrate the failure of using cases on the left (red) as a guideline for NM's success plan

## New reported deaths by day in New Mexico



## One Last “Ghost” issue



## Ireland

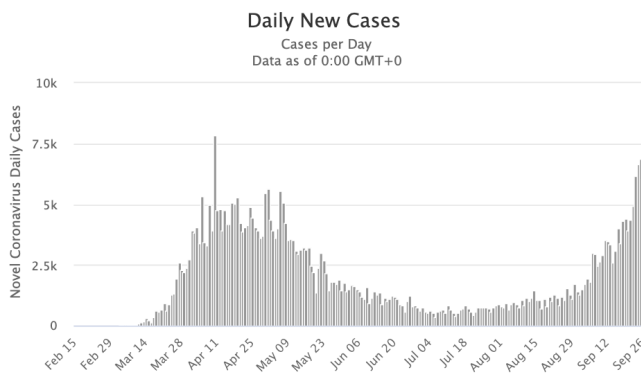
There is a discussion in Ivor Cummins’ video on the reliability of testing and how testing late in the game can find viral fragments and old viruses. These can produce a lot of cases that are really false positives and produce “casedemics” or what I call “testemics”. Lots of positive cases with no deaths from them.

## Testemic Examples

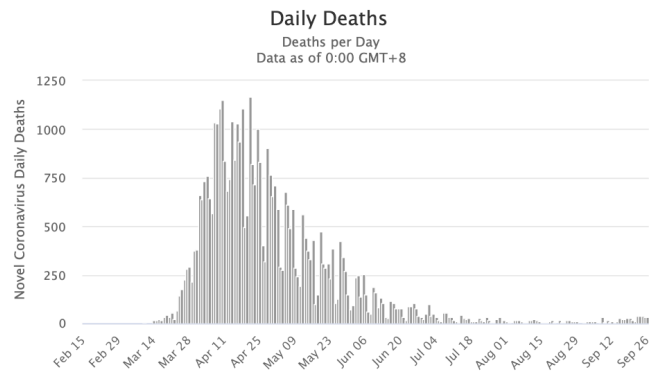
Sept 27, 2020

When I sent out my Wuhan narrative, I was only able to quickly show one testemic or “casetemic” example. It was for Ireland. Since then I have collected a couple more. The news stories today keyed on some increasing cases in the UK but when I looked at resulting deaths, I could not find much. It is the reason that I noted that number of or increasing cases should not be used for developing policy or responses to Wuhan. These UK and German examples seem to graphically show that extensive testing after the pandemic was already over are showing positives for viral fragments or viruses that are probably not even capable of infection. I would question the value of testing at this point.

Daily New Cases in the United Kingdom

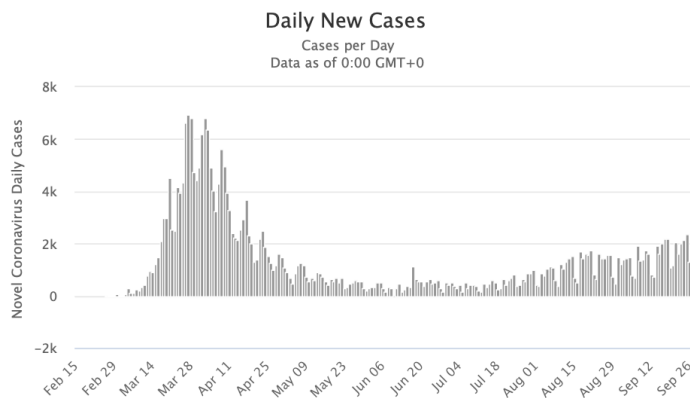


Daily New Deaths in the United Kingdom

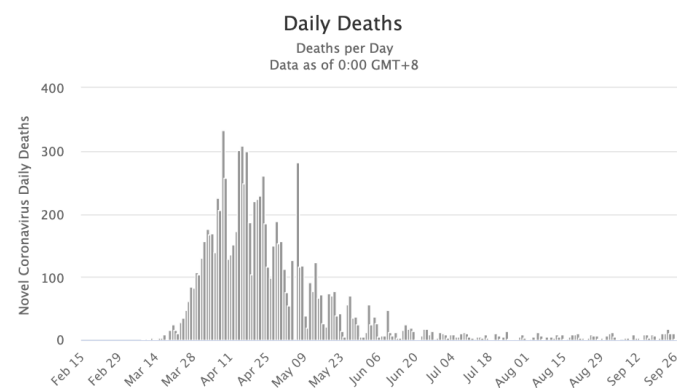


In the case of the UK, the increase in cases versus the deaths is dramatic. It indicates lots of testing and positive results with almost no likelihood of any new infections. A little less dramatic with the German case numbers but with almost no deaths

Daily New Cases in Germany



Daily New Deaths in Germany



Above data from <https://www.worldometers.info/coronavirus/country/us/>

## A sort of conclusion:

Too many US politicians, medical experts and uninformed media pundits claiming to use science as a guide led us into a huge disaster. Fear and misinformation caused a sort of mass hysteria.

NM's leadership was not alone . . . .

. . . but Governor Lujan Grisham, even though she insisted that she was being guided "by the science" . . . .

. . . had nothing in her "comprehensive" COVID19 plan that effectively supported NM's older population by protecting them from dying, providing older folks with safe forms of socializing and exercise, allowed the younger population to freely participate in sports and education, sustained economic stability and business activity or actively supported new/effective/cheap therapies that would have dramatically reduced the high death numbers.

## Post Mortem

Here in late September is a classic two wave pattern of the deaths throughout the world. The northern spike drop-off pattern from March to May and the more tropical "hump" pattern from June to October.

# Wuhan World Mortality

