

THE TRIPLEDEMIC: WHAT'S NEW (REVISED)

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So you think that you have had it bad with **Covid-19**, well now we have a **Tripledemic**, meaning a triple epidemic. The current Tripledemic, which stands for triple epidemic, is the combination of 3 respiratory viruses surging together simultaneously this autumn and winter. The viruses are: (1) the SARS-CoV- 2 (which is the cause of the Covid-19 pandemic); (2) the normal winter season flu virus; and (3) the normal winter respiratory-syncytial virus (RSV), which has always caused a children's winter nose and chest colds surge. I keep hearing: "Everyone is sick." This is the reason.

Although the **Covid pandemic** is receding, it is far from over; nationally we are still seeing about 450 deaths daily. Variant BA.5 is still hanging around while we are seeing a few new sub-variants coming up quickly. Globally, there are over 500 sub-variants, and none are peeking. Covid infection is spreading in **China** faster than ever with 800 million infections expected this winter. Many **European countries** are already experiencing surges in Covid cases, and we usually follow them by a few weeks. Our **waste-water viral testing** supports the proposition that we will likely follow Europe with a new Covid surge soon. Covid-19 admissions are up in 32 of our states and Covid hospitalizations have increased 25% recently. Less than 1 in 3 American seniors have taken the new bivalent Covid vaccine booster. Colder weather, indoor holiday gatherings, the anti-vax movement, overburdened medical systems, and abandonment of mitigation measures, are all responsible for this surge.

The floodgates have opened as cases of severe **flu** hit our overstretched hospitals. This season, flu case testing shows that we have 76% H3N2 and 24% H1N1, both of which may cause serious disease. This year the severe flu cases came early, before many people got their flu shot, rather than the usual flu peak in January-February. **Tamiflu**, the medicine effective against flu, is in short supply. Flu hospitalizations have resulted in about 150,000 hospitalizations and 12,000 deaths so far in 2022 and flu cases will continue.

R.S.V. normally causes cold-like symptoms in young children. This year the symptoms have gone below the nose and throat into the lungs. R.S.V. is causing severe disease and filling hospital beds and is resulting in

more than historic ER visits and work-days lost by parents. This disease has also spread to older adults causing serious disease.

We have no medical prevention for R.S.V., but Covid and Flu are **preventable by vaccine**. More about Vaccines later, but the data is in showing that these **vaccines prevent serious disease** (e.g., debilitating Covid and long Covid), hospitalizations and death. Yet Americans continue to refuse these vaccines. **Masks do work** in preventing airborne spread viral infections (all 3 here). Recent studies show when 2 people are masked, the preventive value is better than when only 1 is masked, but still 1 mask does work. The N95 mask does give better protection than the regular surgical mask for the small droplets that carry these viruses. Hand washing, avoiding crowds, indoor ventilation and thinking ahead will also lower your risk of contracting any of these diseases. Unfortunately, medicine and health have become politicized.

On the back of these 3 simultaneous viral illnesses, **strep throat** (called scarlet fever when accompanied with the rough red rash) is surging globally. The UK has reported 94 deaths (73 in adults) through the middle of December from strep infections. The shortage of penicillin antibiotic products adds to this problem, as do the staffing cuts in hospital and other medical services. 49% of NYS hospitals report these cuts.

Superdodger is the name given to people who have not gotten Covid-19 even though they have been exposed many times during the 3 years of this pandemic. (Another name is 'never Coviders'.) Harvard researchers have suggested that 94% of Americans have had Covid at least once. Researchers have been working hard to understand why the remaining 6% of the patients have not had Covid. Could it just be luck? Possibly, but not likely.

- Since my days as an Intern at Kings county hospital in Brooklyn back in 1950s, we have known that people with sickle cell anemia did not get malaria, even if they lived in the malaria belt.
- Searching for the **reason why some people seem to be immune** to a disease, in 1995, French researchers demonstrated that some percentage of the test population can be infected with the parasite [but not show symptoms of the correlated [?] disease.
- Next, in 1996, HIV researchers, working with gay men who never got HIV, discovered the way that the HIV virus enters our cells and soon found the gene on which this mechanism sits. Shortly thereafter they began gene-editing for a cure.

For the SARS-CoV-2 virus, researchers have found the entrance way into the cell. Then there is a complex genetic interaction with this virus. These researchers are seeking the final steps to prevent this virus from causing human disease.

Paxlovid is an oral combination of 2 anti-viral medications, which is effective against Covid-19. Taken properly and timely, it decreases hospitalization and death rates in those over 65 years old and in certain high-risk patients by 50%. (Israeli study has 73% reduction). Still data show that Paxlovid is **totally underused** because of **fear of rebound**. The fact is that **rebound** occurs in many Covid patients, whether they are Paxlovid treated or not Paxlovid treated. Increasing the length of the course of the Paxlovid treatment does not reduce the risk of rebound. (The regular course is 2 Paxlovid 500mg pills daily for 5 days.) Among the non-treated, viral rebound (positive testing) was 12%, while symptom rebound was 27%. (Bothersome, but not serious.) In the treated group, viral rebound was 14%, while symptom rebound was 20% or 1 in 5 patients taking Paxlovid. (Bothersome, but not serious). Unfortunately, the rebound in the treated population has been much played up in the media, often when the famous rebound. Although these numbers are from separate, small studies, the trending data are similar. Paxlovid also reduces the risk of long Covid and may work to treat long covid. This drug is safe for pregnant women. Paxlovid can **interfere with certain heart medications**; so if you take heart medication, you should check with your physician or pharmacist before taking Paxlovid. Balancing the risk (rebound) -effectiveness ratio, Paxlovid should be used as a treatment. (Future larger study results will soon follow.)

Long haul Covid is keeping **4 million people out of work** in the USA. About 16 million working-age Americans (18 to 65) have long Covid now (This has caused or contributed at least 3,500 deaths in the USA, according to CDC). The economic burden of **lost wages is almost \$200 billion** annually. CDC estimates that **long Covid effects 7.7 to 23 million Americans** (several studies point to the 22-23 million range) and the overall cost to the US economy is estimated at **\$3.7 trillion**. Surveys vary as to the percentage of regular Covid infections that turn into long Covid, but an estimate is in the range of 5% to 40%. (This skew is too large, most probably will be in the range of 20-30%. Time will tell.) The symptoms of long Covid number in the hundreds. The diagnosis is often difficult to make because the symptoms are so varied and mimic many other diseases.

Studies show that when symptoms are present at 12 months, they will often persist to 18 months. It seems that the effects of the newer strains tend to linger longer than earlier variants, resulting in increasing cases of long Covid. The W.H.O. says that the more times you get Covid-19, the more likely you are to get long Covid. Kids do get long Covid, but less frequently than adults. In a large review of 38 studies, cardiopulmonary **exercise testing** shows a significant reduction in exercise capacity in people with long Covid. This may prove to be a method of testing to make this diagnosis. Amid lack of guidance, long haulers are spending thousands of dollars on unproven treatments, many of which probably are like snake oil. There are 3 **ways to avoid getting long Covid**: (1) never getting Covid is 100% effective; (2) getting vaccinated and fully boosted is 30-50% effective; and (3) timely taking Paxlovid. A Veterans Administration study found that a timely course of Paxlovid reduced the risk of long Covid by 26%. (I maintain that these are worth it; best to avoid long Covid if you can.)

We finally have enough data about **myocarditis in teen age boys** to reach a conclusion about vaccinating young males. Both Covid disease and the vaccines may very rarely cause chest pain from myocarditis and pericarditis. In males under 40 years of age, typically after the second dose of the Pfizer/BioNTech mRNA vaccine, myocarditis may (rarely) occur up to 7 or 21 days after the shot. A large collaborative study demonstrated that the incidence of myocarditis in males under 40 is 1 in 200,000 doses after the first shot in the primary series, 1 in 30,000 doses after the second shot in the primary series, and 1 in 50,000 doses after the first booster. The incidence of this is higher with the Moderna mRNA vaccine. Almost all of the patients in this population have fully recovered, and these cases will be followed for 5 years. Also note that the J & J and the Novavax vaccine have no cardiac complications.” Recently, researchers from the UK and Hong Kong, in a retrospective study of almost 1000 myocarditis patients followed for 6 months, found 1 death of 104 post-vaccine myocarditis and 84 deaths of the post-viral infection patients. (1% vs 11%). These findings suggest largely favorable outcomes for males under 40 who develop Myocarditis following a vaccination shot or a booster. The vaccine is **worth taking**. It is safer than the disease.

The effectiveness and safety of the fourth Pfizer dose has been demonstrated in an Israeli study published on 11/30/22. Recently there has been lots of other vaccine news. In 1 year, between 12/20 to 12/21, it is estimated that **Covid vaccines prevented 14.4 million deaths** in 185

countries. The pediatric age group and the elderly are the largest groups under-utilizing these vaccines. Many articles have been published showing that vaccines **prevent serious disease**, including the Omicron BA.1 and BA.2 variants. Vaccinated people are 80% less likely to develop long Covid. 68% of Americans are fully vaccinated, but less than 50% of those are boosted. Not only due to conspiracy theories which help nobody, but the anti-vaccine movement is killing people. **Novavax** is a non-mRNA vaccine which claims that it was not developed or tested using fetal tissue and was produced with old technology. However, Novavax is difficult to find and is underused. A bivalent Covid vaccine was introduced in August-September 2022, effective against the Omicron sub-variants, BQ.1.1 and BA.2.75.2. This bivalent booster is 76% more effective for those **immunocompromised people** than the original boosters against the Omicron sub-variants. According to the Wall Street Journal, the reason that Americans are not taking this bivalent vaccine is a lack of trust, which lack of trust is stoked by the anti-vaccine movement.

University of Pennsylvania scientists have developed an experimental universal **flu vaccine**, which uses the Covid mRNA technology and may target 20 different flu viruses. Early trials are underway. This will take us 1 step closer to developing a universal Covid vaccine. Some vaccine researchers have developed a single shot **combination flu-Covid** virus vaccine. This also is in early trials. Real world data showed that our new mRNA **bivalent Covid vaccines** provide “significant additional protection” against symptomatic Covid in people who had received 2, 3, or 4 previous monovalent doses (the older shots). For low-risk people it is best to wait 6-8 months after their last booster because this bivalent shot is more effective the longer the waiting period. For high-risk people it is important to get the added protection as soon as possible. Interestingly, data shows that people who have **vaccine-hesitancy** are more prone to develop side effects from the vaccine. (This is called the **nocebo** effect.)

The **first intra-nasal vaccine**, iNCOVACC (from India), has received approval both for primary series as well as boosters. Nasal antibody levels drop off severely after 9 months and do not increase again with subsequent vaccination. China already has a nasal sniff vaccine used for boosters. (A nasal or oral vaccine works on the thin mucous membranes where the virus enters our bodies and so may be able to destroy the virus at point of entry. Over 100 pharmaceutical companies globally are working to develop these.) The first American test of a University of Oxford - Astra-Zeneca

modified existing formulation of an intra-muscular adenoviral vaccine **to be used intra-nasally in humans** was cancelled midstream because it was unsuccessful (reported 12/3/22). A successful intra-nasal spray vaccine may be the only way to beat this viral disease.

The Omicron **variant** of Covid remains and has splintered into many distinct sub-variants. (Remember that as long as a virus exists, it mutates.) Omicron emerged about a year ago around Thanksgiving 2021 and recent data suggests that it may have originated in rodents and jumped to cats and then to humans. **BA.5** has mutated to **BQ.1** and its descendent **BQ.1.1, the “escape variants”** make up almost half of the cases in the USA. They will be responsible for our winter surge and already are filling our hospitals.

Data show that **BA.2.75.2, (centaurus)**, present on our West Coast, in India and in Asia is more resistant to the anti-viral drug, Evushield. In Beijing now, the main spreading variant **BF.7**, another one of the Omicron BA.5 mutations, is more transmissible and has a shorter incubation period than other sub-variants. Another monster virus, **XBB**, which comes from a fusion of BA.2.10 and BA.2.75, has devastated Asia and is now surging in the USA, making up over 25% of our cases. **XXB** is rapidly moving through NY state and has evolved into **XXB1.5** with even more sub-mutations. (This is getting crazy). The **bivalent booster is effective** against these sub-variants, but we must keep our guard up and be careful.

Too many people think that this pandemic is over; that the vaccines have done their work and that the medications are effective; are questioning the safety of the vaccines; believe the conspiracy theories concerning everything about the pandemic; and do not trust our government. Two-thirds of US adults do not plan on getting Covid boosters. Together, these considerations and others have made the USA complacent, lazy, and open to a new surge. The **new underutilized bivalent boosters are 2 busy** against the new variants and are safe for immunocompromised people. Covid boosters reduce symptom severity and duration. Data is suggesting that boosters may be necessary on a repeated schedule, making the development of a nasal vaccine very important. **It is time to move forward, not backward, and to redouble and refocus our efforts to fight Covid.**

When you go to a super-spreader, overcrowded, poorly ventilated, indoor event, why not wear a well-fitting mask over your nose and mouth.

Whenever you return from errands, why not wash your hands for 20 seconds. If you got through the holiday season without getting sick, you are over the hill. In the 2 years that covid vaccines are available, it is estimated that they have saved 3 million American lives. Different strains of this virus have different transmissions, different strengths, and different incubation periods; so, basically, they cause different diseases. Whether this is a pandemic, an epidemic or merely an illness, as Yogi Berra said **“It ain’t over till it’s over”**.

Quick facts

- **Bus and urban transit workers have the highest Covid risk.** The California Department of Public Health has reported that between 1/20 and 5/22, these workers had 5 times more outbreaks and these were almost twice as deadly as in any other industry.
- According to a recent Israeli study, **natural immunity** gives better protection against re-infection than artificial vaccines.
- **Twitter**, since the Elon Musk era, withdrew its policy against misleading facts about Covid in November.
- **Antisemitism** has increased during or because of Covid. This may not be cause-and-effect. It may have just moved into the open during the pandemic era. According to Professor Peter Hotez, antisemitism is somehow related, in the minds of these activists, to the anti-vax movement, because many of the vaccine researchers are Jewish. At any rate this open increase in antisemitism is disgusting, frightening, and pathetic.
- People with **A.D.H.D.** have been shown to be more susceptible to Covid and more likely to get complications.
- **Covid-19 vaccination during pregnancy has NOT been** associated with increased risk to the baby or mother. **These vaccines also are safe** during breast feeding and give the baby some immunity. **Maternal covid infection may provide passive protection** to baby.
- 2021 was a **baby-boom**-year, perhaps due to remote working.
- Covid disease was responsible for 25% of **maternal deaths** in 2020.
- 10.5 million children globally **lost a parent** or caregiver to Covid illness.
- The **man in UK**, who **tested positive for Covid for 411 days** was finally cured by infusion of genetically sequenced antibodies to the B.1.177.18 mutation. (Whew!)
- **CoQ-10** oral therapy (co-enzyme Q10 a common chemical compound supplement frequently used for heart health, blood sugar levels, energy,

and blood pressure.) has **not been** shown to be successful in preventing Covid.

- The **death rate** for Covid is dependent on the rate of vaccine-takers by different ethnic groups, different political groups, different geographic groups, different age groups, and remains higher for those with medical complications. Overcrowded, poor neighborhoods have higher Covid death rates.
- Reorganizing the **NIH and CDC** is in the planning stage. The goal is to release scientific findings faster and make them easier to understand among other items. This is a result of the failure on their part to respond effectively to the Covid-19 pandemic.
- When our government decides to stop full payment for prevention, testing, and treatment, the cost will fall on the population and the insurance industry. Meanwhile, **fraudsters** probably stole \$45.6 billion from US Covid stimulus programs. (The US DOJ has opened investigations into cheaters in those Covid programs.)
- Covid-19 **infects fat tissue**, possibly explaining obesity as a risk factor.
- An excellent randomized clinical study has shown that **wearing eye-glasses does not** lower the risk of Covid.
- **“Died Suddenly”** is a recent movie about the old disinformation conspiracy theory that vaccines cause sudden death. (This film is NOT based on science.)
- The cause of **brain fog**, which occurs in 40% of long Covid patients, has recently been found to be caused by the dissolution of the nerve synapses (interconnections of brain nerve cells) through a complex chain of events resulting in **brain fog**. (Brain fog is described as confusion, disorganization or fuzziness of thinking).
- **POTS (Postural Orthostatic Tachycardia Syndrome)** are big words for rapid heart rate occurring when quickly standing up causing dizziness, loss of balance and possibly falling. This has been shown to occur after **5 times more after covid infection** than after vaccination.
- Covid vaccination is associated with a temporary small increase in **menstrual cycle** length and/or bleeding, which resolves. There has been an increase in women passing triangular shaped blood clot-tissue-uterine lining pieces during their period. Anecdotal data reports many cases of temporary loss of periods. There is **no evidence that this vaccine effects fertility**.
- **1 in 5 medical personnel quit** during the pandemic.
- Florida led the US in **deaths** in August '22 for the third month in a row.
- Increasing ventilation reduces transmission of Covid.

- We have long known that diabetes is a disease which increases the risk for severe Covid disease and death. A new mega study reviewing 853 case studies demonstrated that severe Covid disease can actually cause diabetes.
- The **military is now exempt** from compulsory covid vaccinations