



COVID-19. Is it Still Pandemic or Endemic? What is its Future in 2022?

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The SARS-CoV2 or severe respiratory syndrome Cov2 or COVID-19, since its origin in the wet seafood market in Wuhan, China, in late 2019, has taken the world by storm affecting almost 467 million people globally, with 6,089,773 people being succumbed to this disease worldwide [1]. In 2020, scientists focused on antiviral therapy, vaccines, and the role of repurposing medications. The vaccine came as a winner, hands down, with the Pfizer vaccine for COVID-19 making its way in late 2020. This was followed by several vaccines such as Moderna, AstraZeneca, Sinovac, Sputnik, Sinopharm, to name a few. As the vaccine supply was emerging, so was the disparity. In the initial phase, the developed country vaccination rate was far higher than the developing countries [2].

2021 was marked by the race for vaccine inoculation globally to create herd immunity, to be countered by multiple variants such as Alpha variant, Epsilon Variant, beta variant, kappa Variant, and others, as shown in figure 1.

The surge of Delta Variant in India and then affecting the population in North America resulted in higher mortality, forcing the healthcare and scientist to consider the Booster dose starting with Pfizer and Moderna, to be followed by other Vaccine makers. The mortality with delta virus was especially high among unvaccinated patients. Recently, in South Korea and China, there was a 25% upsurge in cases, and a 27% rise in deaths was reported. Moreover, there was a 12% ascent in new cases and 14% in deaths in Africa, and a 2% rise in cases in Europe [3]. Studies have shown that the antibodies proportion begins to decline within months after the booster shot. Therefore, early takers of the shots might be turning out to be progressively vulnerable to infection. The booster uptake rate by the European countries was higher than the United States, being the reason why the U.S. experienced an enormous spike in deaths and hospitalizations along with increased cases than European countries [4].

Near the end of the last year (2021), there was a rapid and dramatic increase in cases owing to Omicron. The Omicron variant (B.1.1.529) was first reported in November 2021. Omicron had a much higher transmissibility rate than the Delta Variant. The good news is it carried was 51% less hospitalization rate and 91% less fatal than the Delta variant. United States saw a very high rate of COVID-19 surge due to Omicron. Due to the lower rate of severe illness even among non-vaccinated individuals compared to the Delta variant, it likely helped in achieving significant herd immunity due to a combination of vaccination and infection mainly among non-vaccinated individuals. The third dose (booster) of mRNA was effective in preventing serious illness. This increases the effectiveness against disease by 75% and hospitalization by 88%.

PANGO lineage	COVID-19 Variants	WHO labeling
B.1.1.7		A
B.1.427		Alpha
B.1.429		Epsilon
B.1.351		Beta
B.1.617.1		Kappa
B.1.617.2		Delta
P.1		Gamma
B.1.525		H
B.1.1.7		Eta
E484K		—
C.37		—
BA.1, BA.1.1, BA.2, BA.3		—
BA.1 x AY.4		—
B.1.640.2		—
		Lambda
		Omicron
		Under monitoring (No name yet)

Figure 1: COVID Variants.

While the cases in the United States were declining, the BA.1 variant and its considerably more transmissible sister virus BA.2 started emerging in Europe and the Asian countries. BA.2 appears to be 30% more virulent than the other Omicron Variants. The infection due to the Omicron variants has caused an 8% increase in the global infection rate accounting for 11 million new infections and 45,000 deaths between March 7th-13th. 2022. The most significant jump was seen in South Korea and China, where the infection increased by 25% and mortality increased by 27%. The cases per 100k have also risen significantly in Hong Kong and the United Kingdom. Historically, in the past two years of the pandemic, Europe has spiked before the spike in the USA. The USA frequently surges four weeks behind the U.K. With the decline in infection in the USA, most of the states have gone away from the mask mandates. With booster immunization rate among the U.S. population being much lower than the U.K., the decline in COVID-19 funding, eliminating mask mandate, and no vaccines available for children under the age of 5 makes the USA vulnerable again.

Foreseeing this, both the mRNA vaccine makers (Pfizer Biontech and Moderna) have requested emergency use authorization for the 4th dose (2nd booster) even not having enough data on the effectiveness against the BA.2 variant. So far, 25% of the cases currently in the USA are due to B.A.2 [5]. Is the herd immunity with Omicron infection and immunization would prevent against another infection remains the question?

Lately, also Deltacron has been recognized as a variant by World Health Organization. It has not been labeled as a variant of concern yet. It was initially described by the laboratory in Cyprus in January 2022 and was felt by other researchers as a laboratory contaminant. Since that more labs have seen that variant, making it a real variant rather than contaminant. It has been named Deltacron (Nickname), and WHO has designated this variant as a variant under monitoring on March 8th. 2022. It is BA.1 X AY.4 [6]. This variant has the features of both the delta and Omicron variants, giving the possibility of having both transmissibility of Omicron and the lethality of the Delta variant. This variant has been now found in Netherland, Germany, France, Belgium, and 2 cases in Massachusetts, USA [6].

Another variant under monitoring is IHU Mediterranee (B.1.640.2) which has 46 mutations and is related to the original Wuhan strain of SARS-Co-V2 and has been in circulation since September of 2021 [6].

With the surge of Omicron and BA.2, the question really is if we are transitioning towards endemicity? Would the COVID-19 become endemic like Influenza A&B with yearly vaccines to cover the circulating variant? Would the vaccines for children under the age of 5 be approved? Would the new variants continue to emerge, and would they be more transmissible and lethal, or would they compromise and learn to live with the human society as the Influenza virus? Would the world act as a global health community where it would be one for all and all for one to fight the common enemy, or it remains self-centered and take the global crisis in a self-centered manner? [7]. How would the long covid fare?

We clearly have seen the challenge of not having a plan for global vaccination and politicization of this illness where the evidence-based medicine was placed in the backburner and was dominated by political rhetoric's and media sound bites. The results are clear that still, after two years of fighting with COVID and spending trillions of dollars, the developed countries are still fighting with repeated surges from new variants. Even in the USA, where they are easing the mask and travel mandates, the new surge appears on the horizon. The question is yet to be answered if they will need another booster and if that would keep the serious illness, hospitalization, and mortality under control?

The COVID-19 will continue to be in the news in 2022 for the foreseeable future, and the world needs to prepare in unity to fight this common global enemy, as COVID-19 is not the last virus to attack humans, but it is one of the many to come. ONE FOR ALL AND ALL FOR ONE. With unity and global plans, we can have a better defense [7].

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