

# THE ALCIVAX

**Alcimed** surveys the impact of the COVID pandemic on income inequality and explores how it will stagnate economic recovery .

[www.alcimed.com](http://www.alcimed.com)



Edition #18 - 2 July 2020

## COVID: The end, the middle, or the start?

Six months into the COVID pandemic, at 10 M cases and 0.5 M deaths globally, the WHO has warned that the worst of the pandemic may still be yet to come. According to WHO head Tedros Adhanom Ghebreyesus "Although many countries have made some progress, globally the pandemic is actually speeding up." Until the virus runs its course, it's important to stay the course and "Test, Trace, Isolate and Quarantine".



### Inequality leads to worse outcomes, ...

Three countries – the United States, Brazil and Mexico – account for nearly half of the world's reported COVID-19 deaths, yet they contain only 8.6% of the world's population. ~60% of Europe's deaths are concentrated in just three countries – Italy, Spain and the United Kingdom. The commonality between them: countries' income and wealth distribution. The U.S (41.4), Brazil (53.5), and Mexico (45.9) have very high income and wealth inequality (Gini scores listed), similar to the hardest hit European countries, which have higher Gini scores than their Central and Northern European counterparts.

Across Latin America, cases have tripled in the space of a month and accounted for about half of global coronavirus-related deaths in the past two weeks. Argentina (41.4), Chile (44.4), Colombia (50.4), Ecuador (45.4), Guatemala (48.3) and Peru (42.8) are each forecast to see more than 10,000 cases. Chile's deaths per capita dramatically surpass those of Brazil and the United States, and its official number of cases eclipses those of Italy and Iran.

As is the case in much of the world, the spread of the virus has disproportionately affected the country's poor and only underscored societal and economic divisions. Latin American cities are highly segregated with a split between First and Third World, with the wealthy elite and the poor who often live in large, overcrowded slums. Experts fear that, as a consequence of shutdowns and slumping economies, tens of millions in the region will be pushed deeper into poverty, erasing multiple generations of social progress achieved in various countries.



### ... a disappearing middle class, and slow recovery.

The coronavirus pandemic has exacerbated income inequality, widening the racial wealth gap in the United States and making the richest wealthier while leaving many of the most vulnerable without jobs. At least 45 million people have filed for unemployment since the pandemic began. Yet between March 18 and June 17, the combined wealth of the 614 U.S. billionaires increased by \$584 billion.

In Africa, COVID is threatening to push as many as 58 million people in the region into extreme poverty, For the last decade, Africa's middle class has been pivotal to the educational, political and economic development across the continent. About 170 million out of Africa's 1.3 billion people are now classified as middle class, but about eight million of them could be thrust into poverty because of the pandemic economic fallout.

Sharp rises in cases are economically felt, as Asian markets fell sharply Monday as the number of coronavirus cases around the world crossed more than 10 million, with at least half a million deaths. Japan's Nikkei 225 (N225) declined 2%. South Korea's Kospi (KOSPI) dropped 1.6%. Hong Kong's Hang Seng Index (HSI) lost 1.2%, while China's Shanghai Composite (SHCOMP) shed 0.8% after trading for the first time since an extended holiday. Therefore, the COVID economic slow down has exposed the economic fragility already in place due to income equality, which according to critical slowing down theory, will mean a long slow recovery with great instability.



## Going Nowhere

In a normal year, 4.2 B passengers will board a flight going somewhere. Neither domestic or international travel has resumed normal volumes as part of the re-emergence from lock down. Domestic travel in the US has returned to 24% of previous volumes, with Europe, similarly at 25% of 2019 levels, with the Paris and Frankfurt airports both seeing less than 400 flights per day.

As of July 1st, Europe is looking to change that, by reopening EU borders to non-essential air travel, but only from 15 countries on the list. Resuming travel to Europe can be seen as a reward to countries, like Australia, New Zealand, and South Korea who have worked hard to get COVID under control. This echos recent sentiments by the WHO on the essential nature of contact tracing to get back to normal life, as many of the countries who have controlled COVID have been successful in contact tracing and firm lock down procedures. WHO head Tedros reemphasized the need for better contract tracing this week, noting that the pandemic was still accelerating. He also warned: "No excuse for contact tracing. If any country is saying contact tracing is difficult, it is a lame excuse." As proof that you can contact trace under almost any conditions, the DRC just contained an outbreak of Ebola by tracing 25,000 contacts a day despite sustained fighting among 20 armed groups.

A lack of international air travel is also bad news for the airline industry. Despite international flights being the minority of those flown by any one carrier, they are the most profitable, makig up 11-17% of annual revenue for many large carriers . For now airlines are remaining afloat financially by flying cargo only flights.

The EU will reexamine the list of countries every two weeks and has expanded the list of exceptions to include students and family members of EU



Image Credit: Mike Luckovich

residents, but is unlikely to send aid to LATAM for which tourism accounts for large fractions of their GDP, as long as the virus continues to take advantage of income disparities there.



## COVID Treatment Pricing

The long awaited price for remdesivir has been released, but not without controversy. Gilead will charge \$2,340 per patient in developed countries with a 33% for patients in the US with private insurance. The Institute for Clinical and Economic Review (ICER) president called the decision "a promising sign for pricing decisions of other treatments for COVID-19 on the horizon," as cost-effectiveness studies place the cost savings at around \$12,000 per patient. The objections to the price are based on the amount of government investment in its development and modest effect on patients. All of the current US remdesivir stockpile has been allocated, but HHS has secured 90% of the doses to be produced in August and September.



## The Antibody Race

The market has once again become hyper reactive to vaccine news, causing Innovio stock prices to fall after releasing positive Phase 1 safety data but not disclosing antibody response data. This is also in spite of most of the vaccine related news being generally positive this week as global funding raising efforts for a universal vaccine topped \$7 B and CanSino's vaccine received approval for military use in China.

The Brazilian government announced an agreement with AstraZeneca to produce coronavirus vaccine. Brazil will pay \$127 M and receive material to produce 30.4 million doses in two batches in December and January. The total deal is for 100 M vaccines for a country of about 210 M residents. It will be produced by local vaccine maker Fiocruz.

Vaccine efficacy expectations are low with US government officials saying they would "settle" for a Covid-19 vaccine that's 70% to 75% effective. Anti-vaxx sentiments around the virus remain high with COVID vaccine protesters throwing blood and issuing death threats at public health officials this week, causing a rash of resignations. This is the latest sign of the dangers of politizing the pandemic.



## COVID on the Brain

To a startling degree, many coronavirus patients are reporting episodes of paranoid hallucinations during their time in the ICU. Called hospital delirium, the phenomenon has previously been seen mostly in a subset of older patients, some of whom already had dementia. However, the condition is now affecting coronavirus patients of all ages with no previous cognitive impairment. Reports from hospitals and researchers suggest that about two-thirds to three-quarters of coronavirus patients in I.C.U.'s have experienced it in various ways. Hospital delirium is not specific to COVID, as it has been seen in critically ill patients in ICUs before and can result in long term cognitive impairment. A 2011 study showed that acute respiratory distress, like that seen in COVID patients, can cause persistent physical and emotional issues, even 5 years out when the patients have returned to normal lung function.

According to a report from the UK's 'Covid Trauma Response Working Group,' a "significant proportion" of people who were hospitalized with coronavirus "will go on to develop symptoms" of post-traumatic stress disorder. Trauma expert, Michael Bloomfield, believes PTSD screening should be "mandatory" for discharged Covid-19 patients. Older patients with delirium can go on to develop early onset dementia and have a shortened life span. A new study in the Lancet describes a range of neurological issues, with the most common being stroke but also a large number of patients showing an altered mental state including "an acute alteration in personality, behavior, cognition or consciousness."

What remains largely unknown, is whether these cognitive issues are directly related to SARS-CoV-2 replication in neural tissue or just the accumulation of other risk factors such as oxygen depletion, accumulation of small blood clots, large scale inflammation, and liver or kidney failure. In summary, this is only going to make the long road to COVID recovery more problematic to navigate.



## Surveillance Success

In addition to contact tracing, large efforts are being made to trace the different mutations that are accumulating in the SARS-CoV-2 circulating in the population. Mutation tracing efforts have been spearheaded by Nextstrain, which has been collecting viral sequences from patient samples since the beginning of the pandemic. Analysis of the data, suggests that the D614G mutation has largely taken over from the original strain as of about March and by June was considered to be the dominant variant. D6146G may be more infectious, but with no change in outcomes to the original variant from China.

Surveillance of animals likely to harbor new viruses with human infection potential has discovered a variant of influenza dubbed G4 in swine that may have the potential to infect humans. 10% of pig farm workers in some Chinese provinces have tested positive for exposure to the G4 swine flu, but active monitoring of the variant can prevent widespread human transmission should the virus become more infectious in humans. Calls for G4 vaccine seed stocks to be produced signal that we are learning how to be more prepared for the next pandemic.



## All Joking Aside

A 1600 ft table was constructed to celebrate the end of the COVID lock down in Prague stretching through the city and over the Charles Bridge. Table cloths and flowers were provided by a local cafe owner but everyone had to bring something to share.



Egypt has reopened the airports and the pyramids of Giza for tourists. If you make the trip, now is your chance to have the place all to yourself. Currently the size of the crowds have been limited to a small few.

If you happen to be in Ireland, Blarney Castle is open again and is once again letting people kiss the Blarney Stone. But don't worry, the Stone is cleaned with disinfectant throughout the day and the guy that holds you up while you kiss the stone has a face shield and gloves. You do have to wait a whole minute to let the disinfectant dry.

## What says lock down creativity more than a COVID ball gown?

A US teen constructed a ball gown out of duct tap that perfectly captures the current pandemic.

