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Economic Policy for a Pandemic Age: Chronic Pandemics

Why Chronic Pandemics?

Epidemiologists, Infectious Disease Experts, many warnings over the past several decades.

1. SARS-CoV-2 is a novel virus that is still adapting to humans. While the capacity to mutate is not infinite, SARS-CoV-2  VOCs
2. Other novel zoonotic viruses may emerge, particularly with human encroachment on natural habitats that may harbor viral repositories.
3. The ever-present threat of avian flu.

Global Preparedness/Cooperation

Lack: Spread of Pandemics

Existence/Robustness: Risk management and reduction

- Lack of global preparedness/cooperation
 - Communication and Transparency
 - NPIs and social/political adhesion
 - Genomic Surveillance
 - Vaccine distribution
- One year ago: About 132k cases of COVID-19, 5k deaths worldwide.
- Today: About 125 million cases, 3 million deaths worldwide.

Viruses 101

- As a virus replicates it will mutate. Within the same host, no mature virion is exactly like any other.
- Mutations are completely random:
 - Many will be neutral from the virus' perspective
 - Some may be deleterious to the virus
 - Some may be advantageous to the virus
- When a virus finds a new host it will adapt/evolve. Over time, this will lead to greater viral "fitness". "Fitness" is not synonymous with pathogenicity.

What are they?

VOCs: Variants of Concern

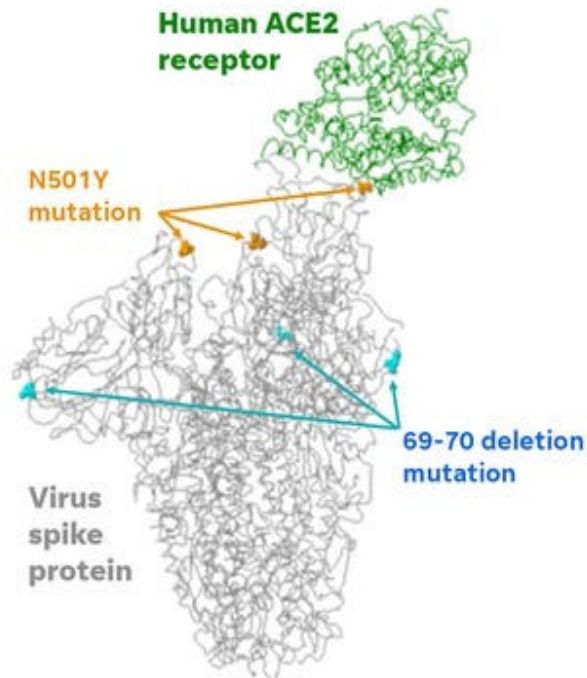
- When viruses mutate, new variants will emerge.
- Variants that have accumulated mutations that may be more “advantageous” to the virus are called *variants of concern (VOCs)*.
 - VOCs may be more transmissible, capable of immune evasion, ...
- SARS-CoV-2: Tend to classify VOCs according to the presence of mutations in the Spike protein.

There are others.

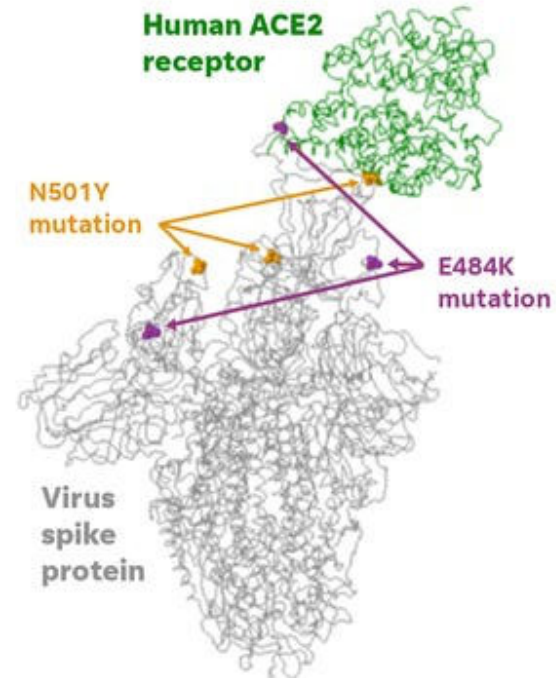
VOCs: The Noteworthy

- B.1.1.7 (UK, end of 2020): Present in over 100 countries. More transmissible, more dangerous.
- B.1.351 (South Africa, end of 2020): Not as widely disseminated, capable of immune escape.
- P.1 (Brazil, end of 2020): Not as widely disseminated, more transmissible.

To Visualize



The U.K. variant



The South Africa variant

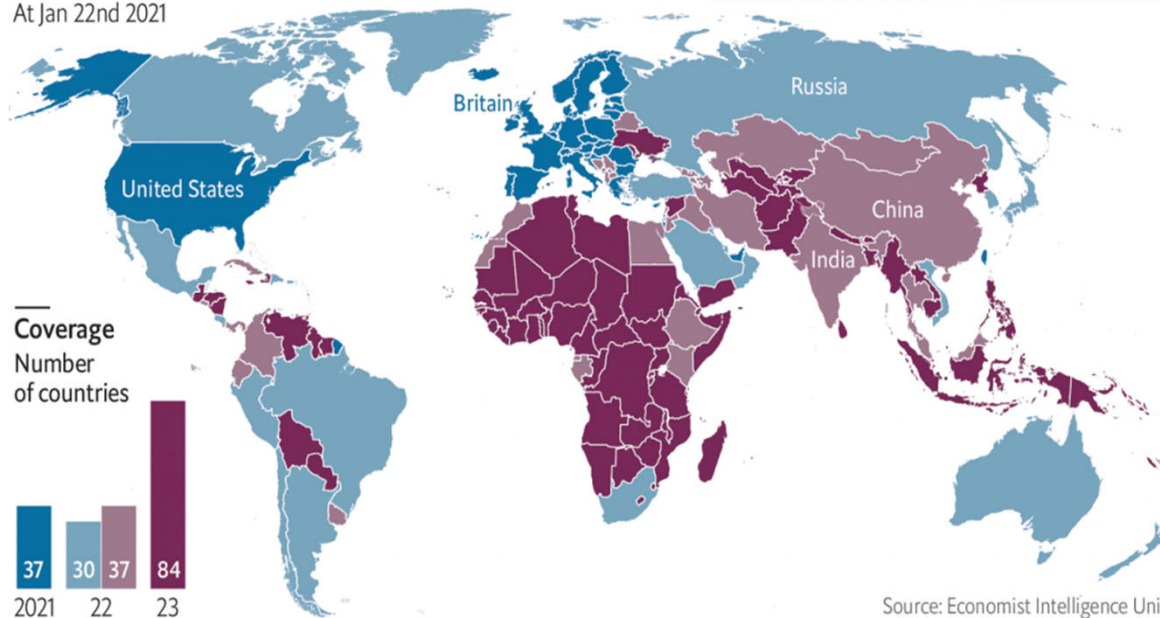
Vaccines, VOCs, Global Cooperation

Where we stand

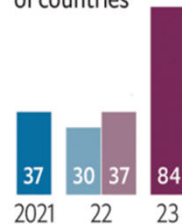
Waiting game

Covid-19, when will widespread vaccination coverage be achieved?
At Jan 22nd 2021

Late 2021 Mid 2022 Late 2022 from early 2023



Coverage
Number
of countries



The Economist

Source: Economist Intelligence Unit

What we need to control the COVID-19 Pandemic

Vaccines are key to economic recoveries

- Faster and better coordinated global vaccinations.
- Availability of highly effective vaccines in low and middle income countries.
- Genomic surveillance.
- A Global Treaty (Bown and Bollyky, Chapter 10).