

COVID-19 Update

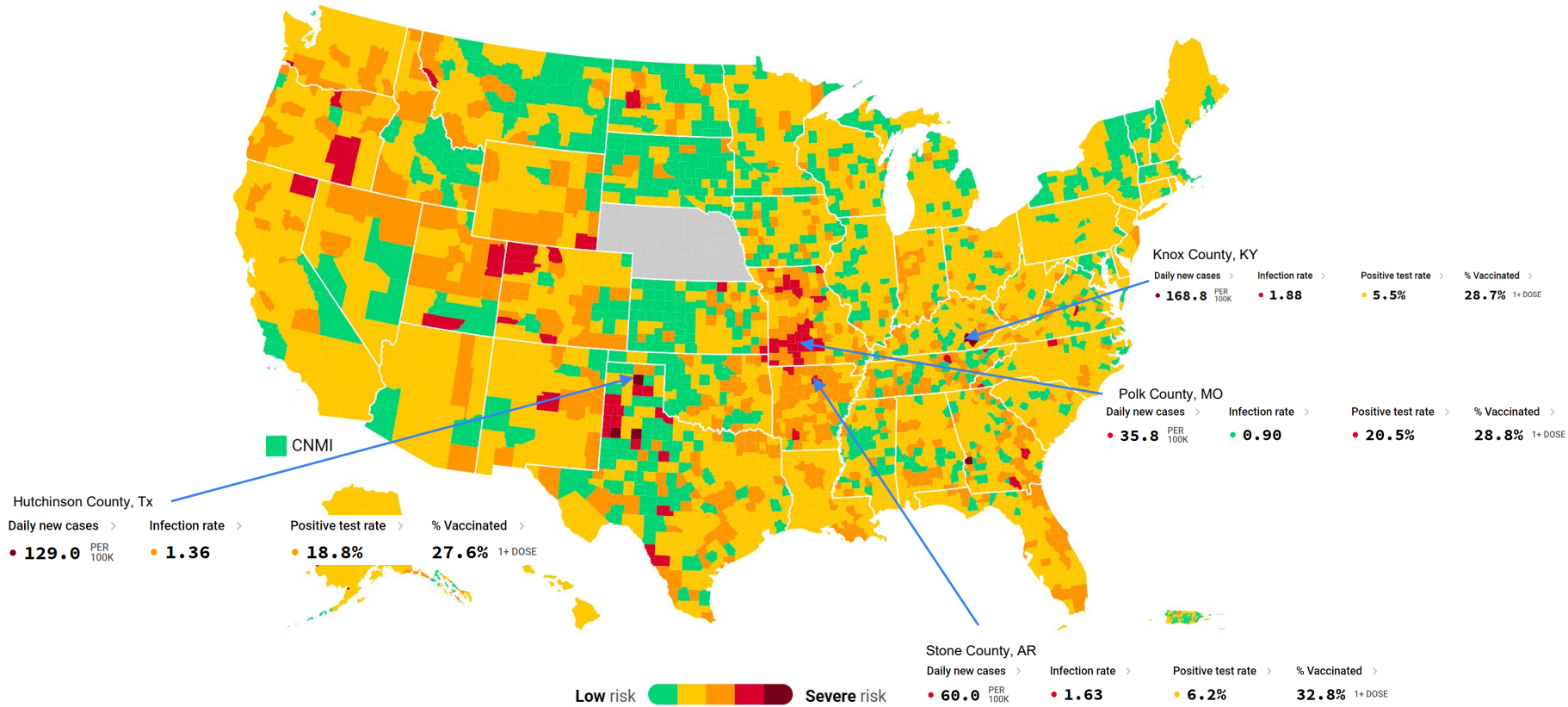
Dr Mark Cunningham-Hill
Medical Director NEBGH

Monday June 21st, 2021

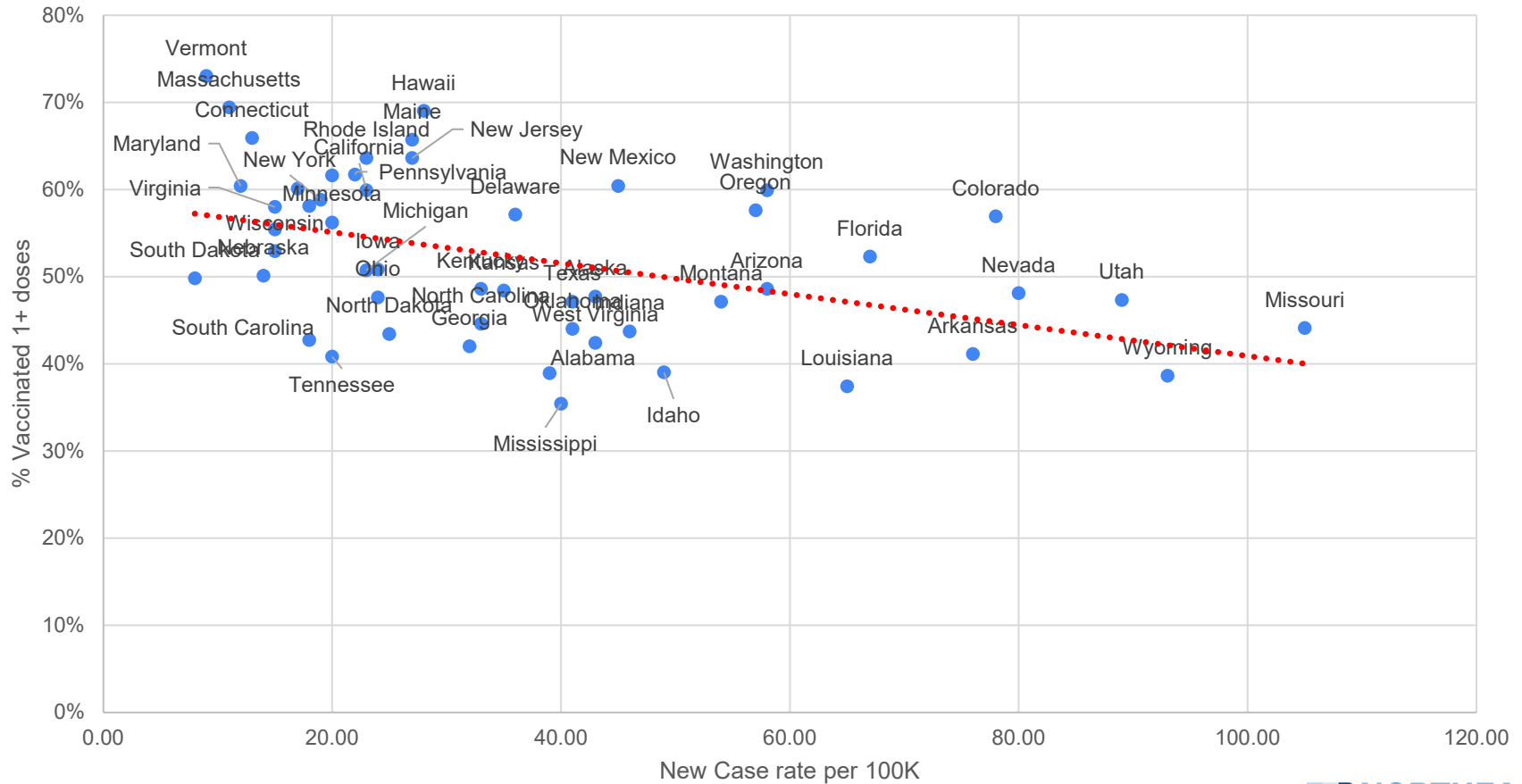
Daily new confirmed COVID-19 cases per million people

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.



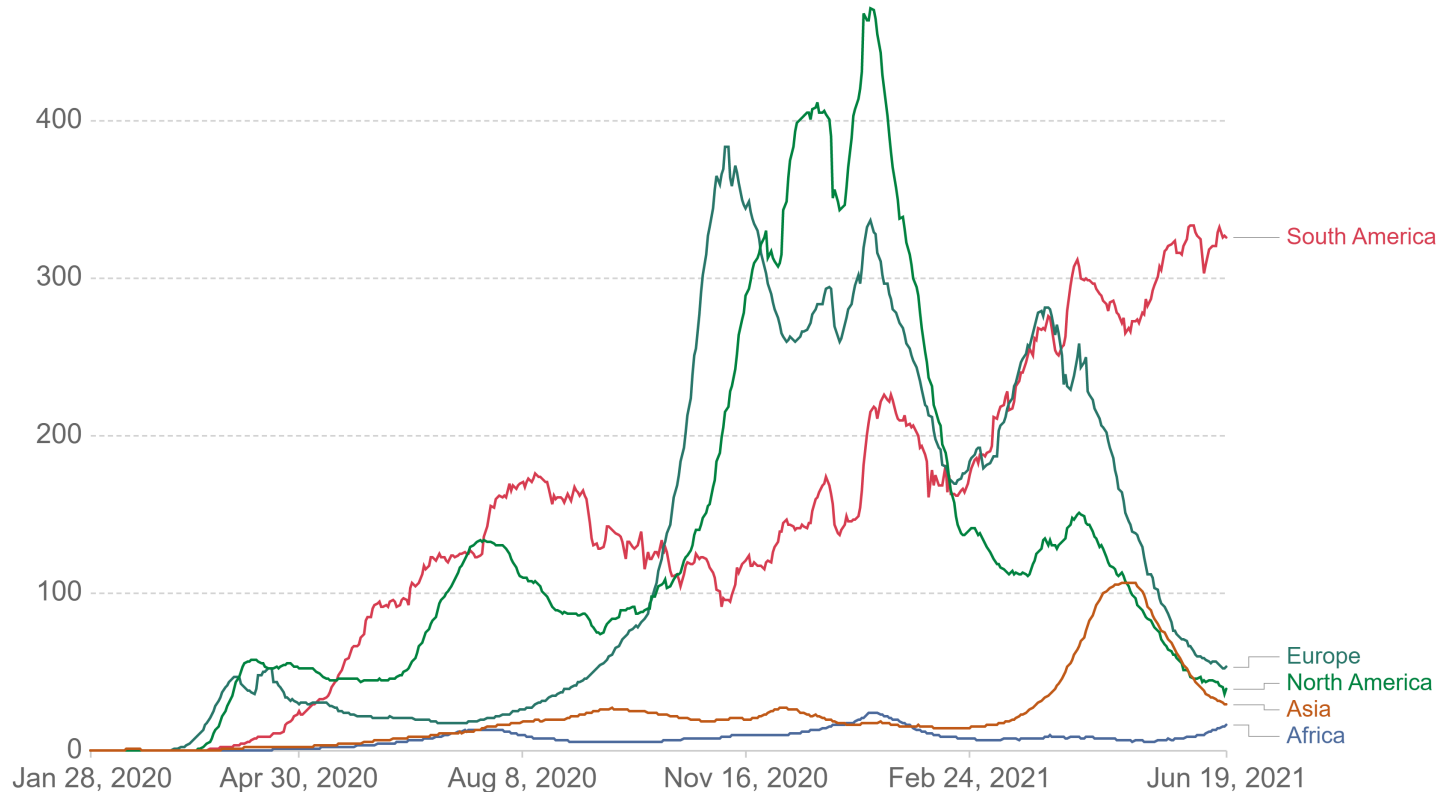


States - Case rates vs. Vaccinated 1st Dose



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Source: Johns Hopkins University CSSE COVID-19 Data

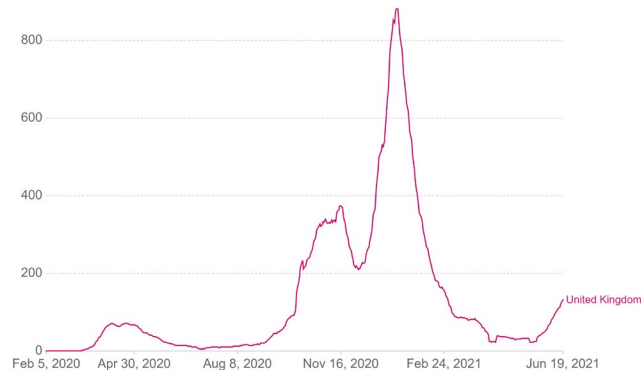
Delta Variant

Delta variant:

- Driving a surge in the UK
- More infectious
- ? More harmful
- Mostly un or partially vaccinated people getting ill
- Delta variant 10% of US cases – up from 2.5% 3 weeks ago
- Vaccines – once fully vaccinated people are protective against the Delta variant

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Our World
in Data



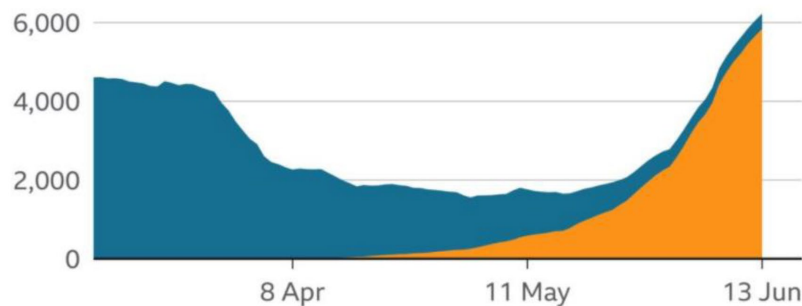
Source: Johns Hopkins University CSSE COVID-19 Data

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Delta variant now dominant in England

Rolling 7 day average of daily cases in England

■ Other ■ Delta variant (B.1.617.2 - first detected in India)



Variant cases estimated using proportion found in sequences analysed by COG UK

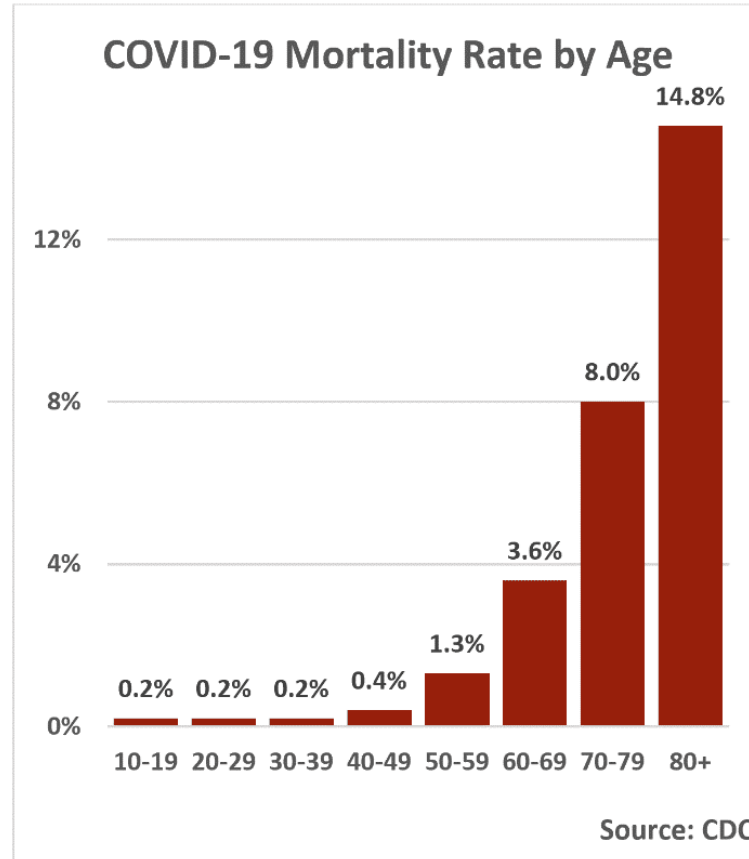
Source: BBC analysis of COG-UK and gov.uk data

BBC

BUSINESS GROUP ON HEALTH



Why did SARS-CoV-2 kill so many old people?



Novelty = Severity

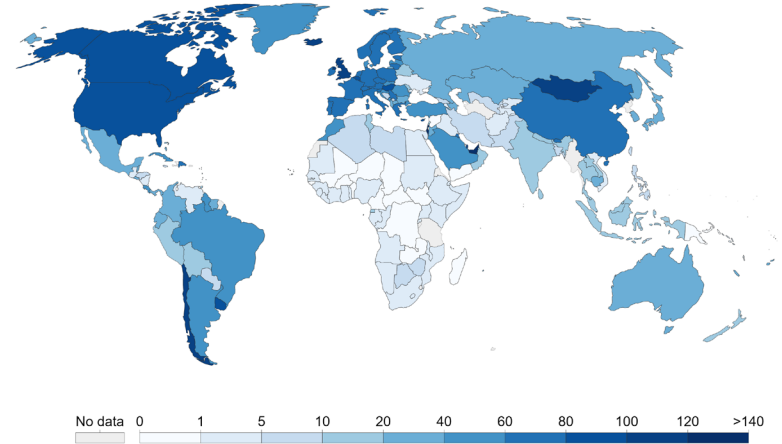
- When a virus is new, nobody possesses acquired immune protection against it
- Conventional wisdom was that influenza hit children and the elderly hardest, while sparing younger adults. Why was SARS-CoV-2 different?
- Severity is related to the age a person first meets a new virus: Look at virus severity not by age but by **age of first infection**
 - Children encounter many viruses to which they have no prior immunity. They compensate with robust innate immune responses that allow them to handle novel infections fairly well – Note: Robust doesn't equal invincible
 - As you get older you get less good at handling new viruses
 - When elderly you get less good at handling new and familiar viruses
 - Chickenpox - benign in most children, but it's often severe in unlucky adults who make it to adulthood without being infected or vaccinated
 - OC43 – one of the 'common cold' viruses – generally mild but OC43 is thought to be the cause of the 1889/90 epidemic ("Russian Flu") that killed 1+M people – it was novel then but now probably everyone exposed during childhood

Transmissibility vs. Immune Dodging

- Alpha vs Beta?
- "More transmissible" is not benign when a virus is new; it's deadly
- More transmissible variants like Alpha, Gamma, and Delta are harder to control with PH measures
- The "Seychelles phenomenon"
- Global vaccine equity is not just a moral duty for wealthy countries like the USA; it's an emergency

COVID-19 vaccine doses administered per 100 people

Total number of vaccination doses administered per 100 people in the total population. This is counted as a single dose, and may not equal the total number of people vaccinated, depending on the specific dose regime (e.g. people receive multiple doses).

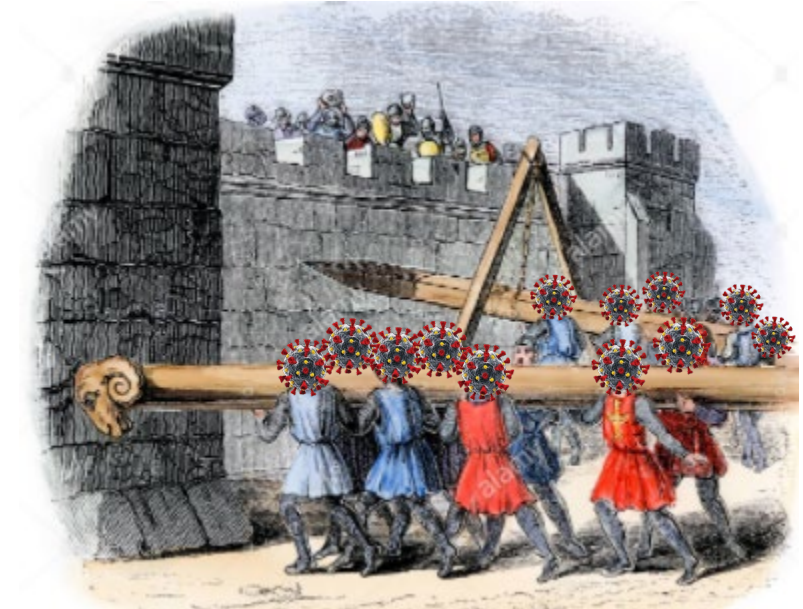


Source: Official data collated by Our World in Data – Last updated 21 June, 12:40 (London time)

OurWorldInData.org/coronavirus • CC BY

Immunity is not an On/Off Switch

- Seasonal coronaviruses evolve over time - "antigenic evolution"
- People suffer many influenza and Coronavirus infections over their lifetime - But until immunosenescence, these reinfections rarely cause severe to critical illness, even when the virus has evolved partial immune escape
- Immune escape is rarely rapid and complete; it's more often gradual



WIRTSCHAFTSBLATT

Abendblatt Nr. 433 — Seite

... Kaschau-Oderberger Eisenbahn
... durch Kapitalauszahlung abgefunden

... setzblatt II Seite 322 (Nr. 34) vom 20 August ist
... zwischen dem Deutschen Reich, der Slowa-
... k und dem Königreich Ungarn über die Aktien-
... Kaschau-Oderberger Eisenbahn“ veröffentlicht, die
... Tage ist die

... Kaschau-Oder-
... von

Berliner Börse

... ziemlich schwach und im Verlauf nicht erholt

... 26. Aug. Die Börse war heute ausgesprochen schwach.
... gestern angedeutet, sind Maßnahmen abzubringen. Advor-
... Materialmangel an der Börse etwas ab auf 4750 / Wiesan
... von, daß der jüdische Aktienbesitzer, Brenz, Langgasse 4,
... gerade 1. Witten, Straße 31,
... kommt das Material gerade 1. Silber, 16. 31,
... Markt, aber die Meinung, Silber, 1. 16. 31,
... an den Markt, aber die Meinung, Silber, 1. 16. 31,
... doch weitgehend beeinflusst. Markt 12, Kurs 200 21,
... Gerade bei den bevorz. 2. W. S. Engelhardt, Hermann-
... uhlbaren Abschlüssen von 1. W. S. Engelhardt, Hermann-
... u. a. bei Salzdettfurth, 1. W. S. Engelhardt, Hermann-
... Rheinmetall u. a.

Charlottenb. W. 129 1/2 - 9

419.7

246 1/2 - 7 1/2 - 7

10 Vienna

Mixed Vaccines

- Data from recent trials suggests mix and match COVID vaccine schedules may give higher antibody levels than two doses of a single vaccine.
- AZ/Oxford followed by a second shot with Pfizer
- Other studies ongoing with AZ/Oxford and Sputnik V
- Canada approved second dose with Pfizer vaccine after 1st dose with AZ/Oxford
- Several European countries are giving Pfizer or Moderna as second doses to AstraZeneca recipients



Antiviral Treatment

- Only antiviral drug approved for treating COVID-19 is Remdesivir
- Merck has a new drug in phase II trials – molnupiravir
 - Was not effective in hospitalized patients
 - Potential benefit if given within first 5 days of symptoms:
 - Lower rate of hospitalization and death than placebo
 - Among 202 treated participants:
 - Virus isolation was significantly lower in participants receiving 800 mg molnupiravir (1.9%) versus placebo (16.7%) at Day 3 ($p = 0.02$)
 - At Day 5, virus was not isolated from any participants receiving 400 or 800 mg molnupiravir, versus 11.1% of those receiving placebo ($p = 0.03$)
 - Time to viral RNA clearance was decreased and a greater proportion overall achieved clearance in participants administered 800 mg molnupiravir versus placebo ($p = 0.01$).
 - Generally well tolerated, with similar numbers of adverse events across all groups
 - U.S. government commits to purchase approximately 1.7 million courses of Molnupiravir upon issuance of Emergency Use Authorization or approval by the U.S. Food and Drug Administration





Questions