

COVID-19 Update

Dr Mark Cunningham-Hill

Medical Director NEBGH

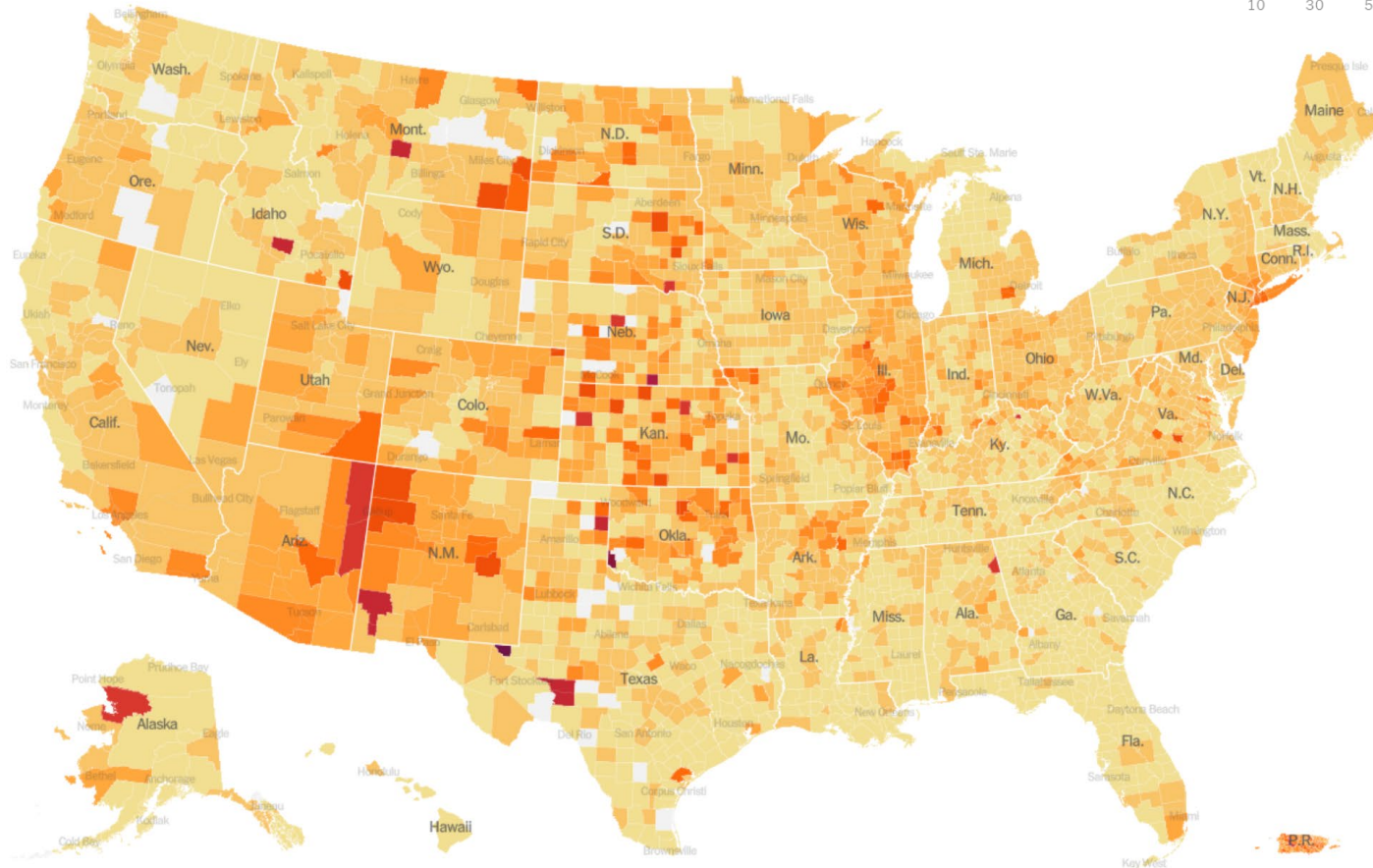
Monday, December 5th, 2022





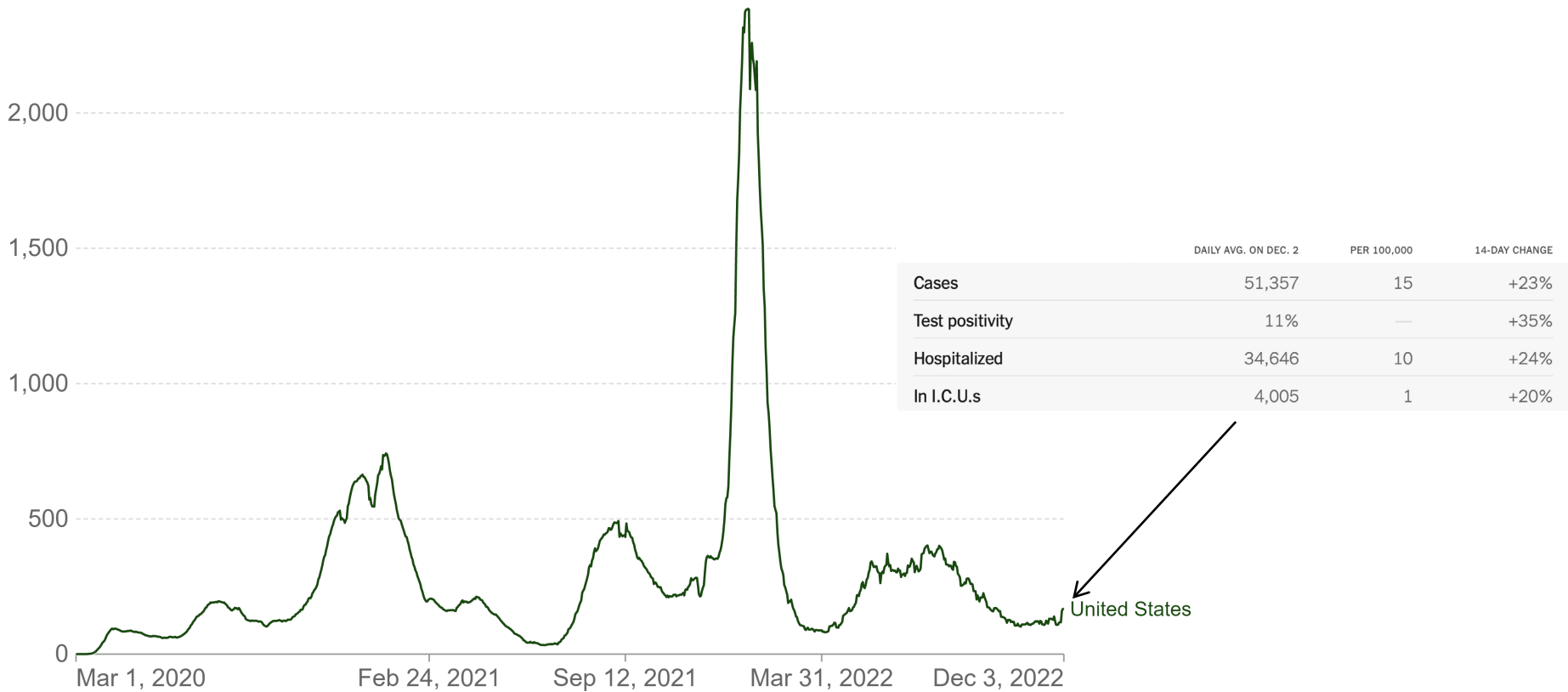
Hot spots

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK

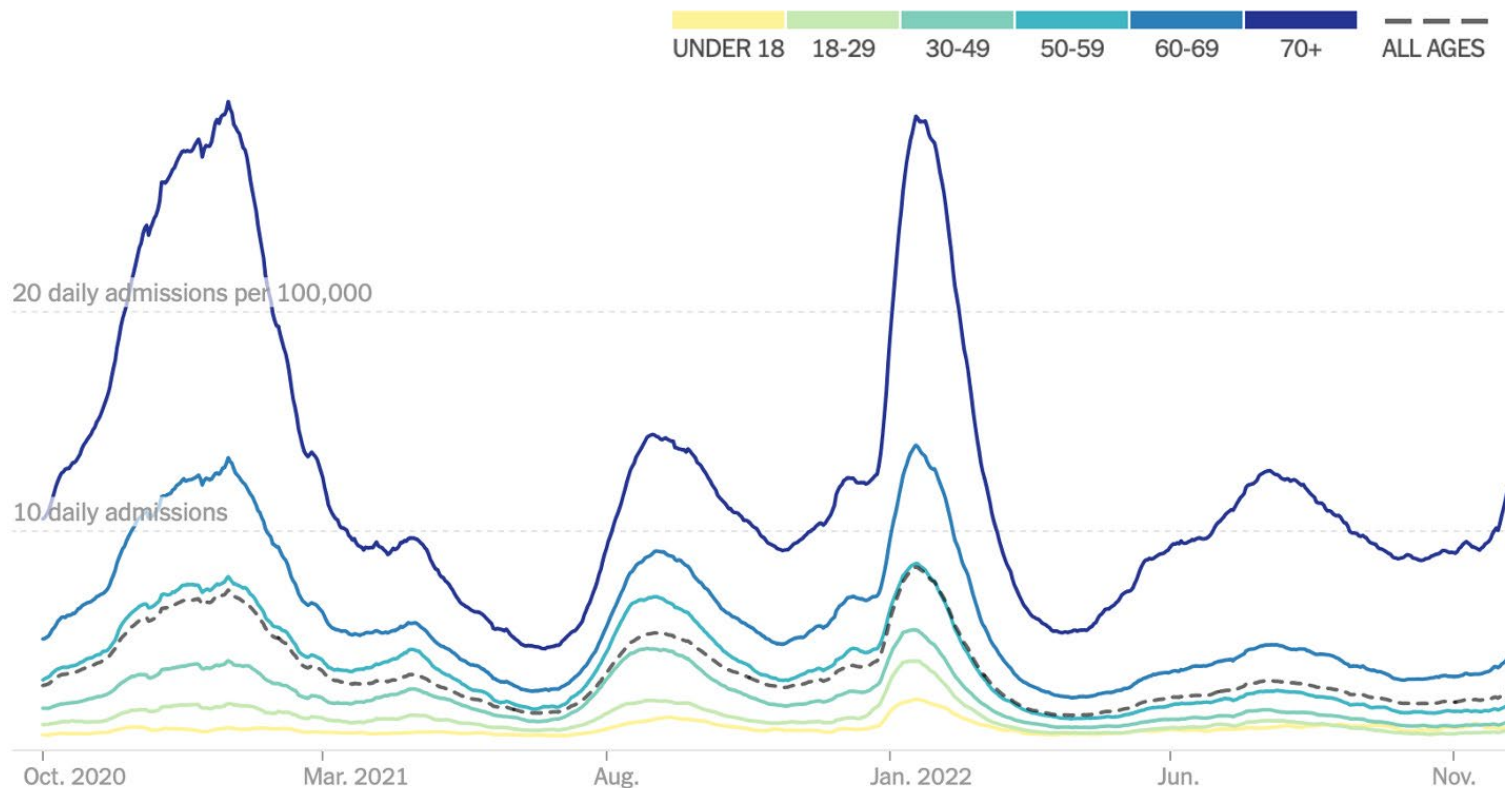


Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.



Daily new hospital admissions by age



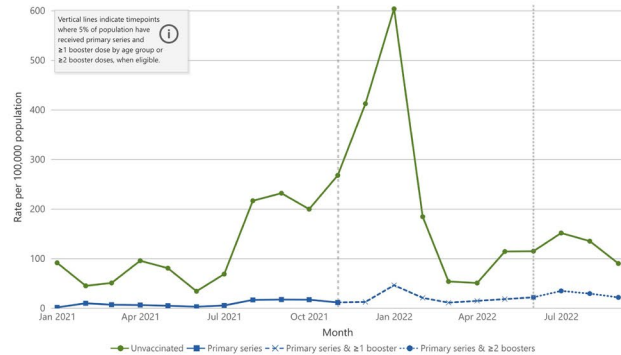
Reasons why this is happening

1. Waning Immunity:

1. The US booster rate is low and ranks lower than 70th in the world's countries.
2. Less than 1 in 3 seniors have had the bivalent booster and less than 15% of Americans have had a recent booster

Ages 18 and Older

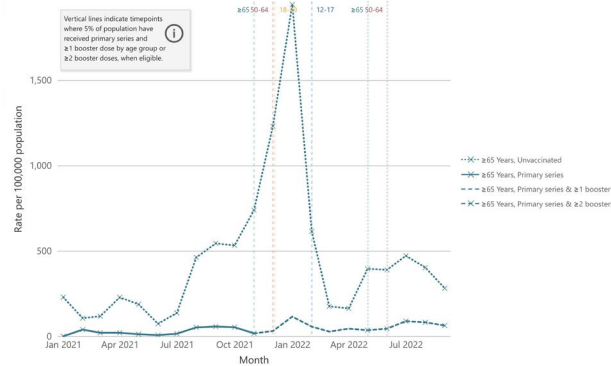
Age-Adjusted Rates of COVID-19-Associated Hospitalization by Vaccination Status
in Patients ages ≥ 18 Years January 2021 - September 2022



These data were posted on December 2, 2022, and reflect hospitalizations through September 2022.

Age 65 and Older

Rates of COVID-19-Associated Hospitalization by Vaccination Status
in all eligible age groups, January 2021 - September 2022



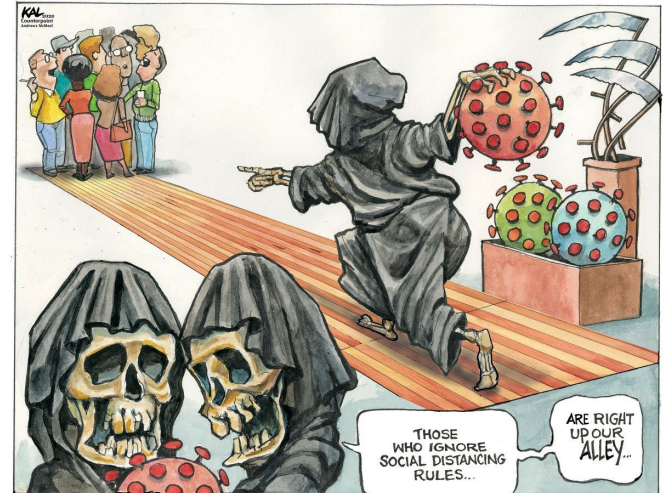
These data were posted on December 2, 2022, and reflect hospitalizations through September 2022.

To avoid severe Covid and hospitalization, you need a booster within the past 4-6 months

Reasons why this is happening

2. Abandonment of mitigation measures

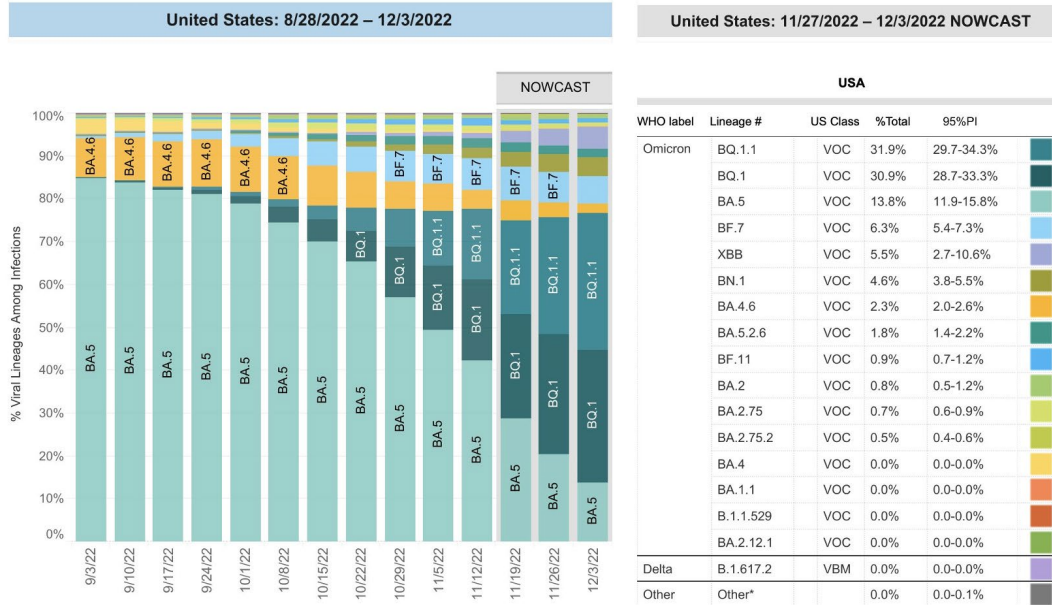
- Masking has largely been abandoned
- Colder weather and more indoor gatherings – Thanksgiving and more indoor holiday gatherings coming up
- Rapid testing is not being done for the vast majority of these gathering
- Air filtration and ventilation often not a key priority
- “The pandemic is over” attitude - ignoring the circulating virus doesn’t and won’t make it go away.



Reasons why this is happening

3. The BQ.1.1 variant:

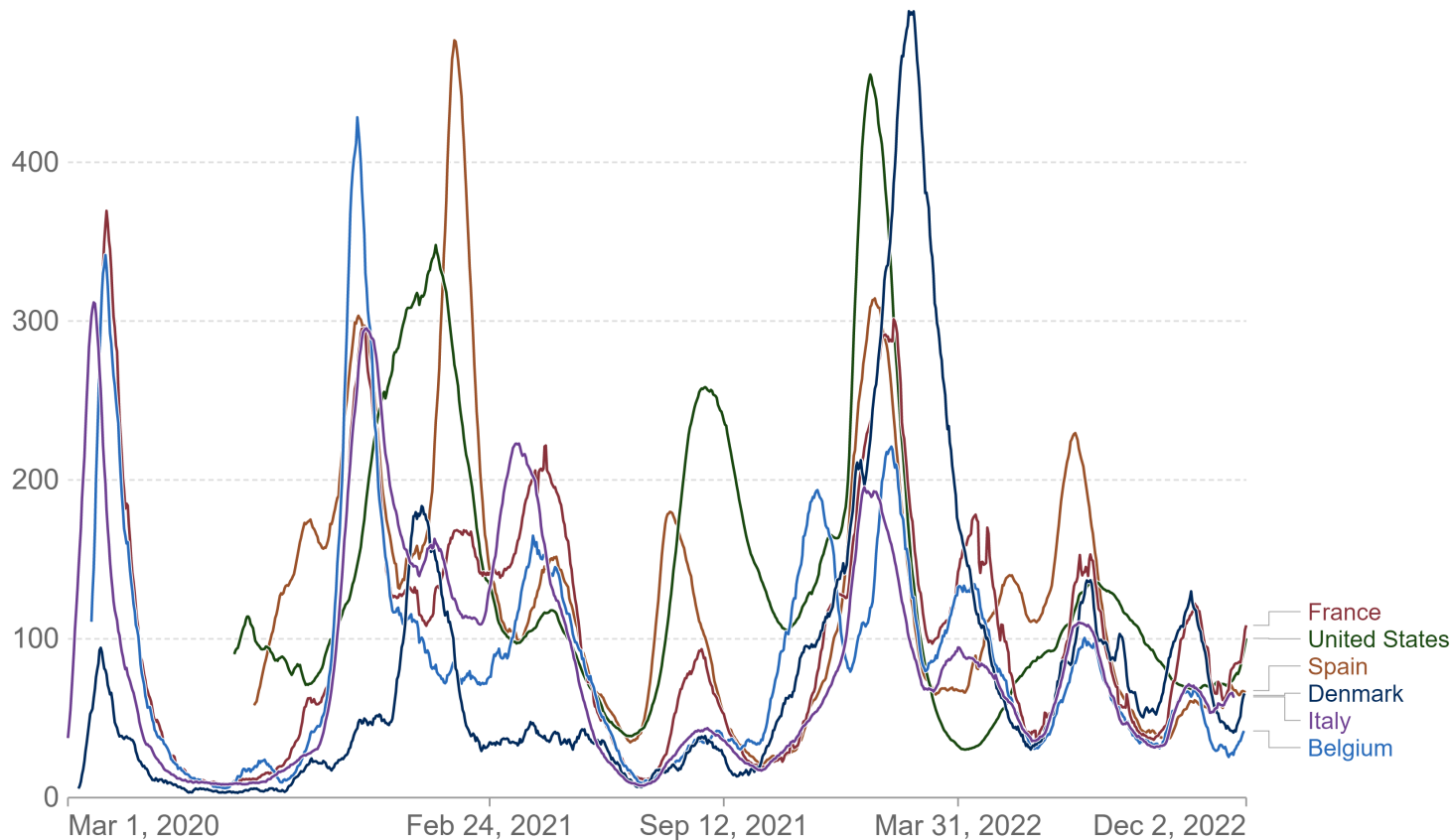
- BQ.1/BQ.1.1 increased to 63% of new cases
- The worrisome XBB variant is now 5.5% and BN.1 4.6%



Weekly new hospital admissions for COVID-19 per million people

Weekly admissions refer to the cumulative number of new admissions over the previous week.

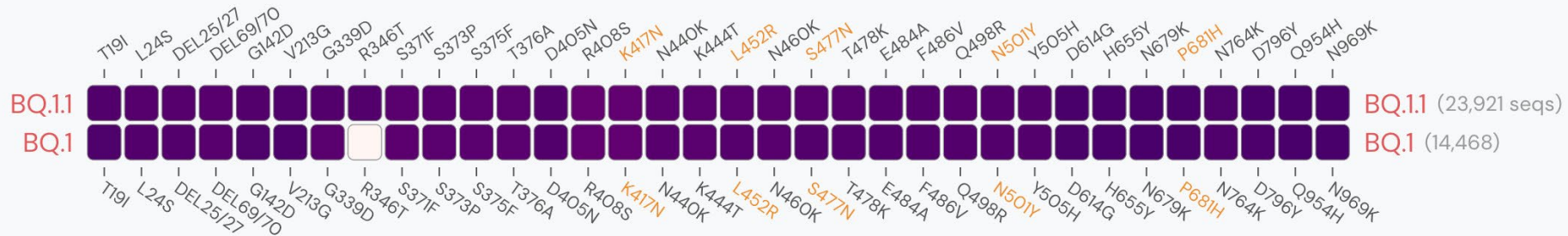
Our World
in Data



Source: Official data collated by Our World in Data

BQ.1 vs. BQ.1.1

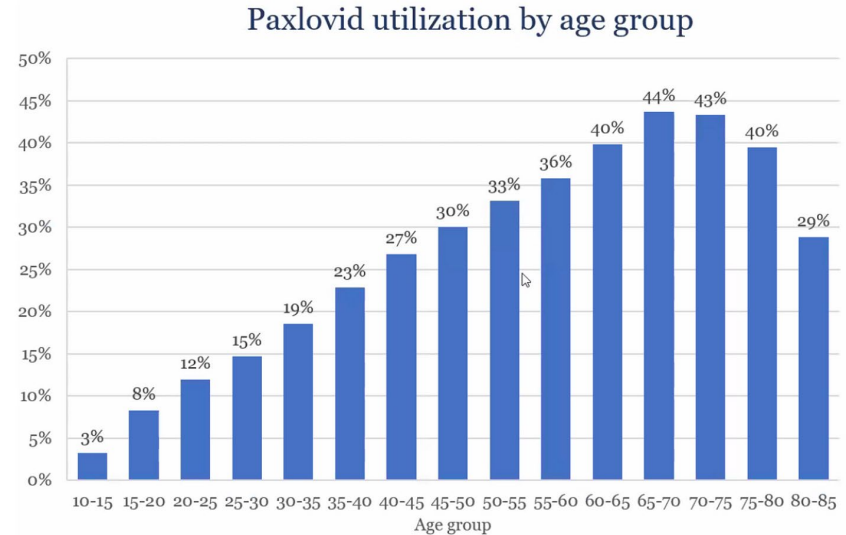
- There is a major difference between BQ.1 and BQ.1.1: the R346T mutation in the spike protein, which gives the latter variant a big edge in immune evasion and makes it resistant to Evusheld.
- Both BQ.1 and BQ.1.1 are resistant to Bebtelovimab, which is the reason that the FDA withdrew its authorization (EUA) for this monoclonal antibody this week.
 - Sequencing of the virus for an individual could have helped those with BA.5 infections as this variant would still be responsive.
 - Lost the important preventive measure for immunocompromised—Evusheld—and there's no sign of any replacement in the imminent pipeline.



Reasons why this is happening

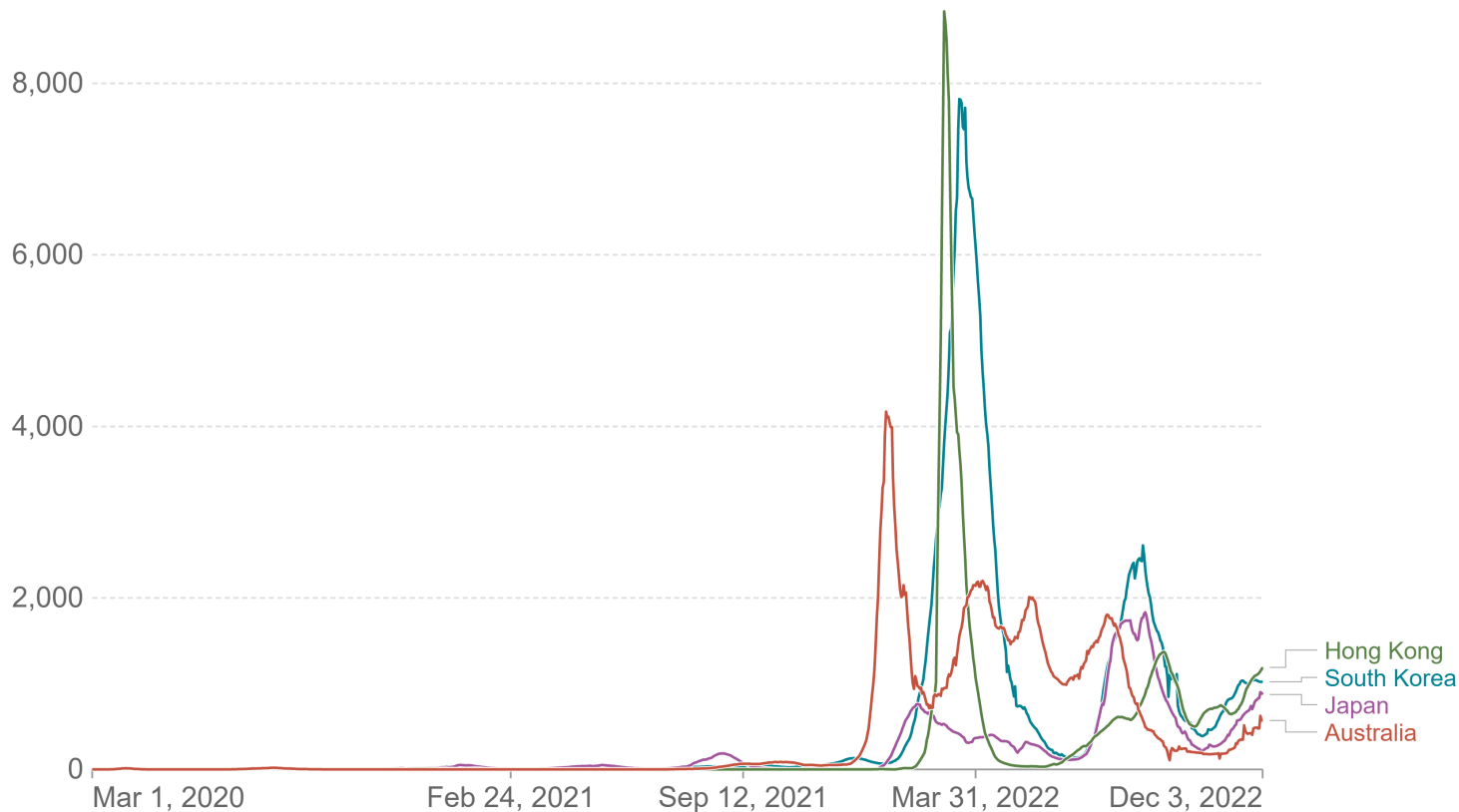
4. Low Use of Paxlovid

- Paxlovid works and recent studies show that:
 - People who are vaccinated/boosted have as much benefit as those who are unvaccinated
 - The same for immunocompromised;
 - The same for people with prior covid and across age groups
 - Plus, a bonus of a 26% reduction of Long Covid.
 - Rebound is much less of a concern that it was made out to be



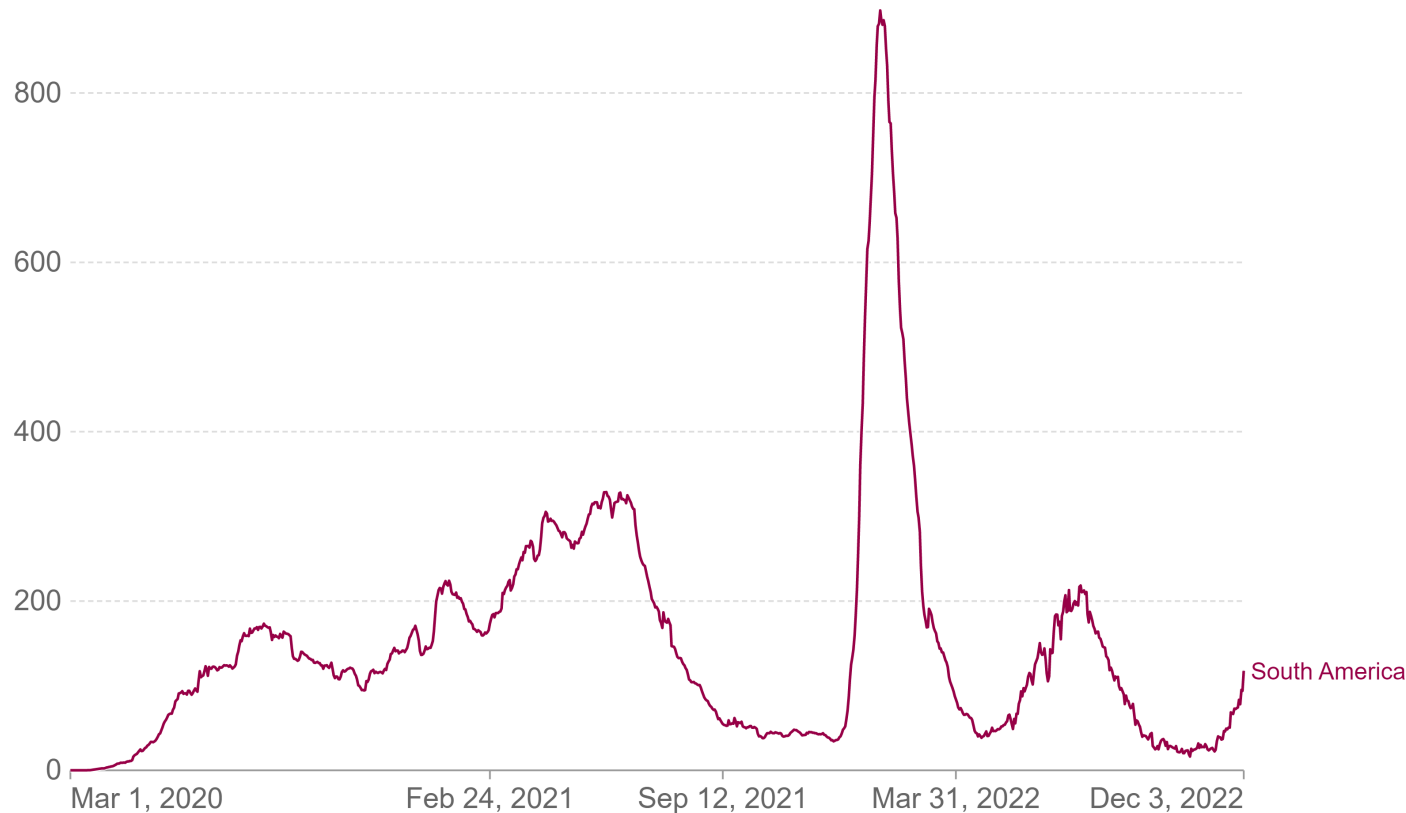
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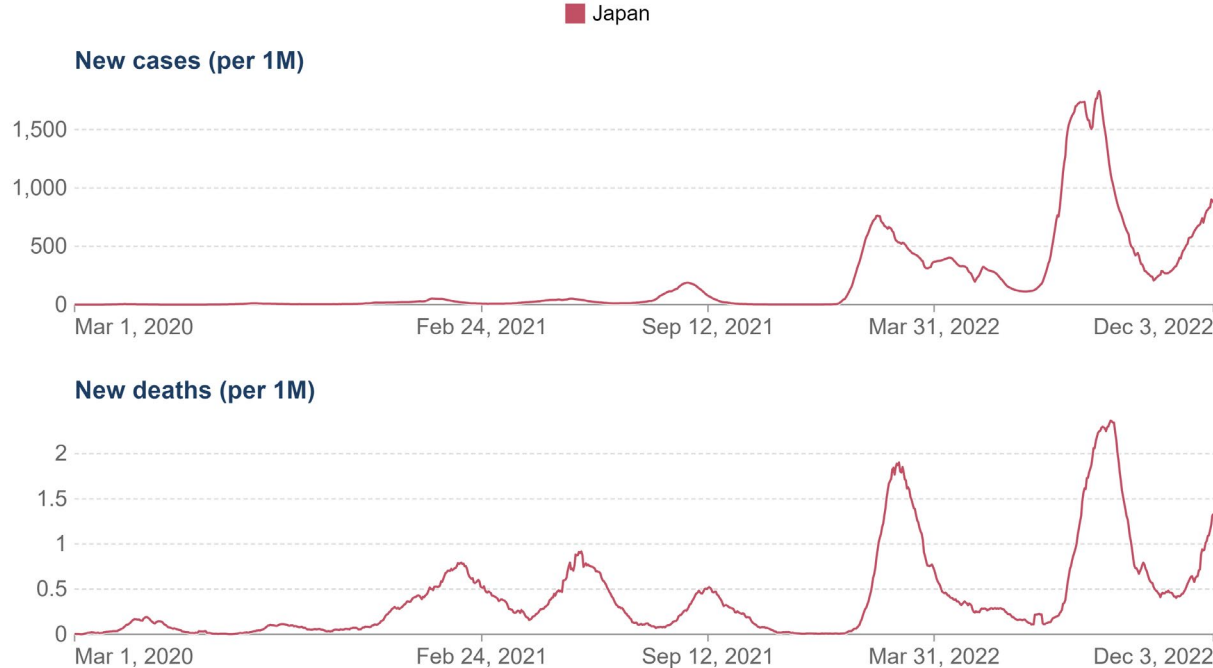


Source: Johns Hopkins University CSSE COVID-19 Data

Daily new confirmed COVID-19 cases & deaths per million people

7-day rolling average. Limited testing and challenges in the attribution of cause of death means the cases and deaths counts may not be accurate.

Our World
in Data



Source: Johns Hopkins University CSSE COVID-19 Data

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- Japan is experiencing a large and second BA.5 wave (or possibly due to newer subvariants of BA.5 not yet identified).
- Japan's management of the pandemic has been exemplary with an enviable balance of avoiding full lockdowns, use of masks and mitigation, "cluster-busting" and high uptake of vaccinations/boosters

But still seeing increasing deaths

So, what does this all mean?

- Despite waning immunity there is still a relatively high community 'wall of immunity' which should dampen the coming wave to some degree
- However, the country is not doing enough to mitigate the toll of the next wave.

We need to:

- Everyone (especially age 50+) getting a booster
- Everyone (especially age 50+) using mitigation measures appropriately
- Actively develop nasal vaccines and pan β -coronavirus vaccines
 - Recent study¹ should effectiveness of a pan-influenza mRNA vaccine – why not one for SARS-CoV2?
- Be ready in case a completely different variant emerges e.g., Pi or Sigma – could this happen when zero-COVID policies fails, and millions of new infections occur in China?!

1. <https://www.science.org/doi/10.1126/science.abm0271>

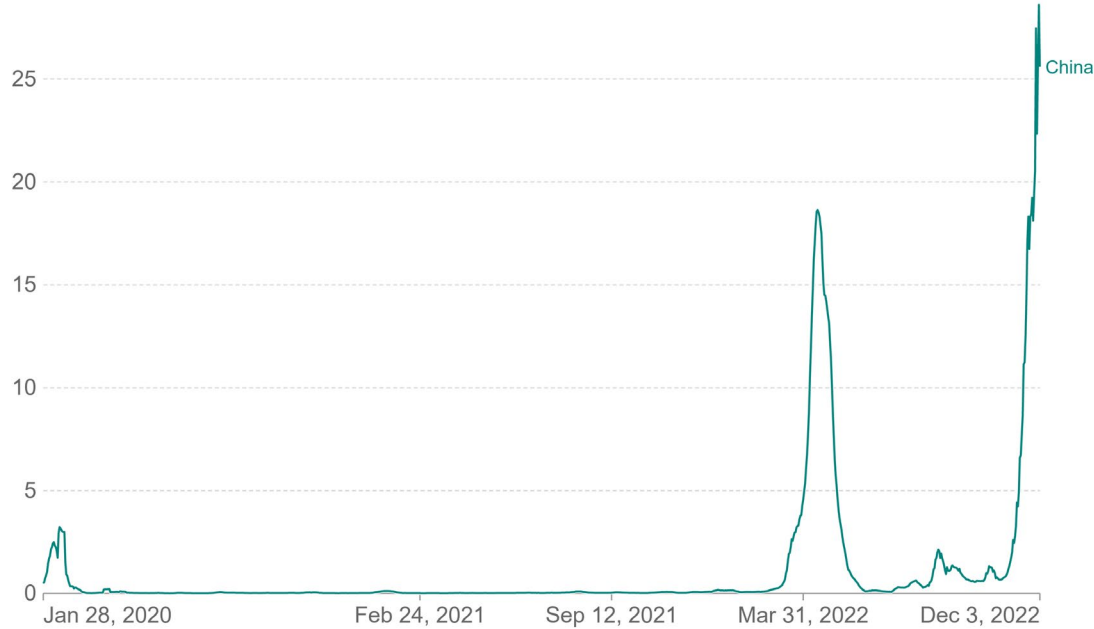
China



Daily new confirmed COVID-19 cases per million people

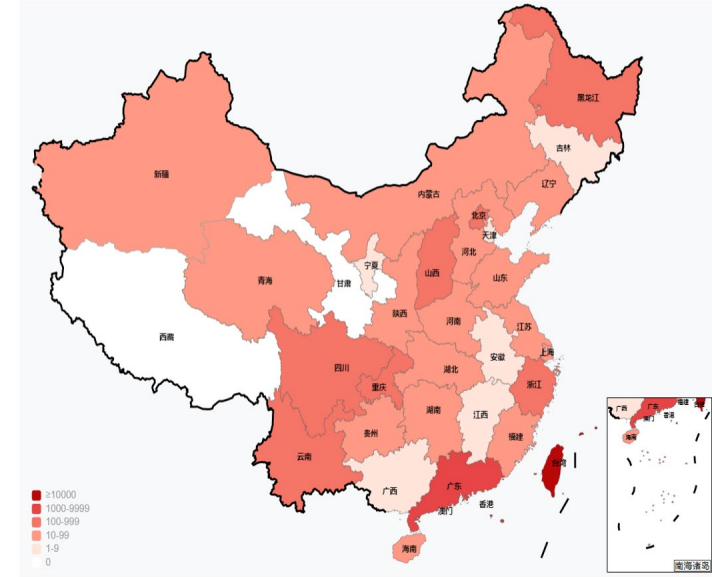
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Our World
in Data



Source: Johns Hopkins University CSSE COVID-19 Data

COVID-19 new infection cases distribution in China by Dec 4th



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China's COVID Challenges

- Highly infectious variant – BF.7
- Economic and social impacts of lockdowns and mass testing
- Vaccines that are less effective:
 - Sinovac was only 58% effective against severe Covid or death in people ages 80 and older
 - Sinovac vaccine against intensive-care admissions fell to 29% from 56% after 5 months
- Under vaccinated population, especially the vulnerable elderly – Two-thirds of people ages 80 and older are vaccinated, but only 40% have received a booster dose
- This year focus on testing versus vaccination so many people not received a booster for within last 6 months
- Lack of data on vaccines has increased misinformation discouraging people from getting vaccinated
- Success of Zero-COVID policy has meant people don't see the risk and therefore don't get vaccinated
- China has fewer intensive care beds per capita than many other Asian countries
- Limited antivirals
- Healthcare system that could get swamped if uncontrolled wave occurred

Lockdowns

- Lockdowns buy time to implement public health measures:
 - Build up healthcare system
 - Vaccinated as many people as possible
 - Develop effective treatments
 - Develop effective testing strategies
 - Ensure adequate supplies of PPE
- Lockdowns are not an 'exit strategy' and here is my scorecard on how China has implemented the measures above
 - Build up healthcare system C+
 - Vaccinated as many people as possible C+
 - Develop effective treatments C
 - Develop effective testing strategies A+ (but maybe an over emphasis)
 - Ensure adequate supplies of PPE A+

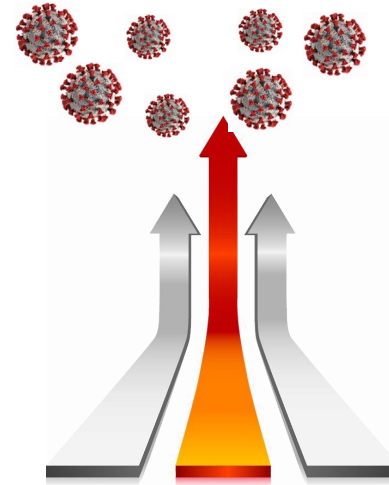
China Scenarios

Maintain Zero-COVID



But not sustainable in long term due to social and economic impacts.

The Virus Wins



Massive increase in cases and deaths, and healthcare overwhelmed

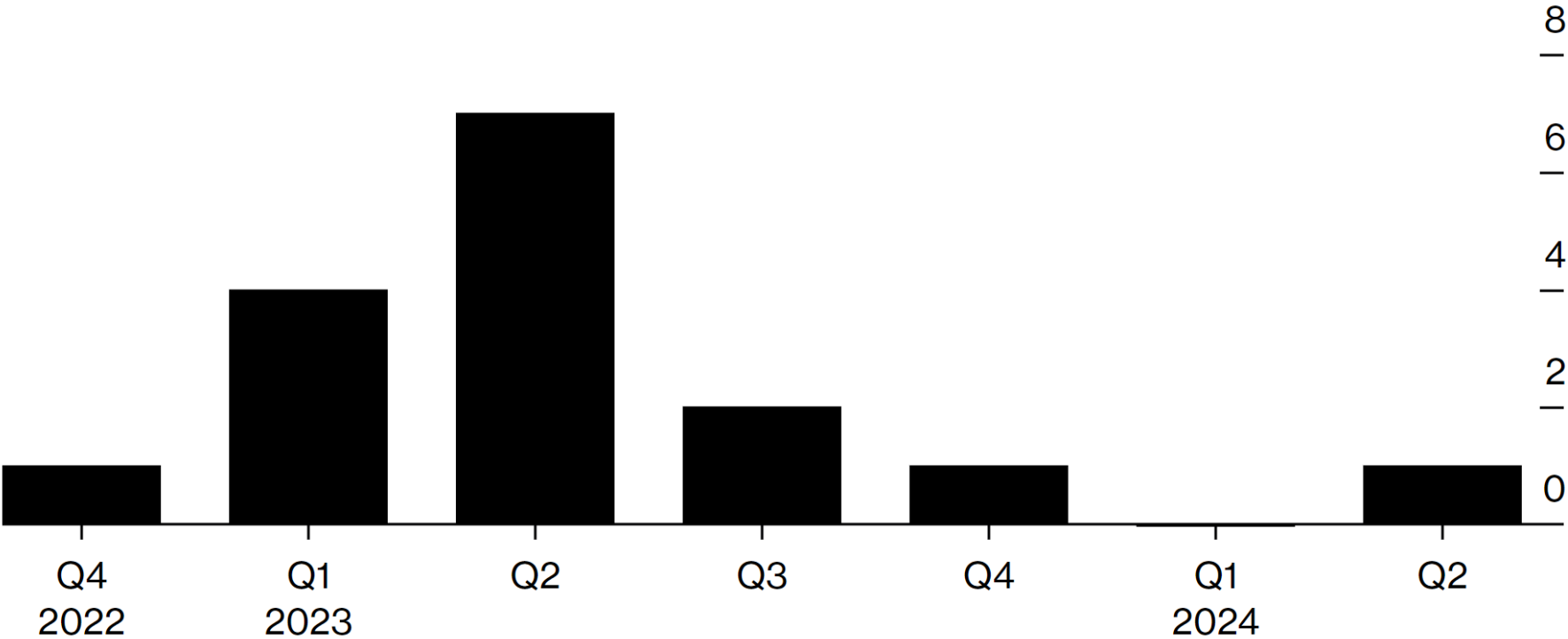
Gradually loosening
COVID restrictions

Minimizing the
impact of COVID
on the elderly and
the healthcare
system



Most economists see China exit from Covid Zero in second quarter of 2023

■ Number of respondents selecting each period as most likely for reopening



Source: Bloomberg survey on economists

Questions

Upcoming NEBGH virtual events:

- **Dec. 6** — 28th Annual Tribute to Leadership
- **Dec. 8** — The State of Women's Mental Health
- **Dec. 19** - Dr. Mark's Special COVID-19 Booster Update with Moderna's Dr. Paul Burton