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3-17-2022

### Covid-19 Clinical Update 3/17/2022

George Washington University

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# COVID-19 update

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March 17, 2022

# The Omicron surge in the U.S. to date

- By the end of March ~40-50% of us will have been infected with Omicron
- Cases are *far* underreported
- A majority of Omicron infections may have been asymptomatic
- Current average daily case rates:



11/100K



5/100K



11/100K

[nytimes.com](https://www.nytimes.com)

- PPE precautions modified: optional N95 in MFA, hospital for routine patient contact (still required for COVID, aerosol-generating procedures)

# What are Omicron BA.1, BA.2, and BA.3?

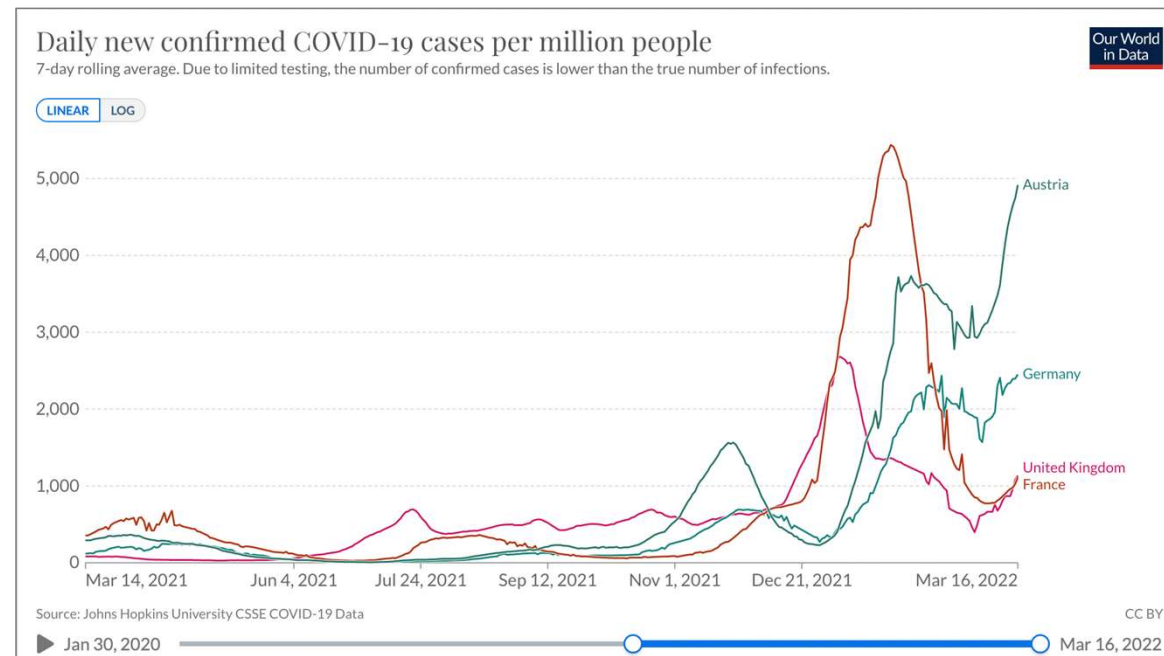
The Omicron variant has three lineages (=sub-variants), known as BA.1→BA1.1, BA.2, and BA.3. Few cases of BA.3 have been identified.

		Anticipated clinical activity			
Lineage	S gene target*	Sotrovimab	REGEN-COV	Evusheld	Paxlovid
BA.1/BA.1.1	negative	Active	Not active	Active (high dose)	Active
BA.2	positive	Unlikely active	Likely active	Active (high dose)	Active
BA.3	negative	No data	No data	No data	No data

\*may enable rapid PCR identification of sub-variant rather than broader sequencing under some epidemiological circumstances

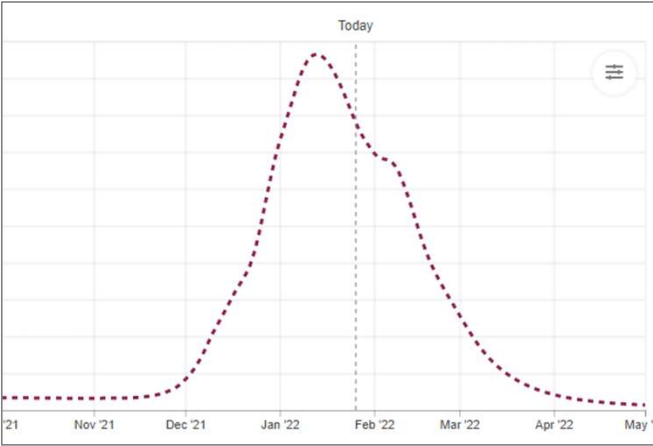
# What is happening with Omicron outside the U.S.?

- Europe: Cases and hospitals are rising, but not ICU admissions or deaths
- A majority of cases are due to Omicron BA.2
  - 25-40% more transmissible than Omicron BA.1.1
  - The masks are off
  - Immunity from boosters waning
- Surges in some East Asian countries, NZ
- Hong Kong: tragic surge
- Africa: Few data outside S. Africa

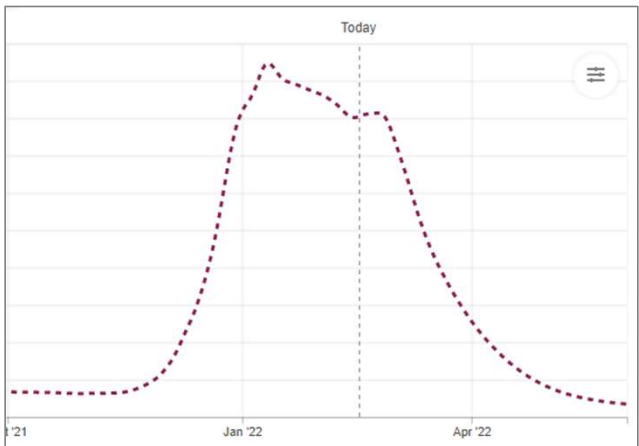


# Global COVID infection rate projections

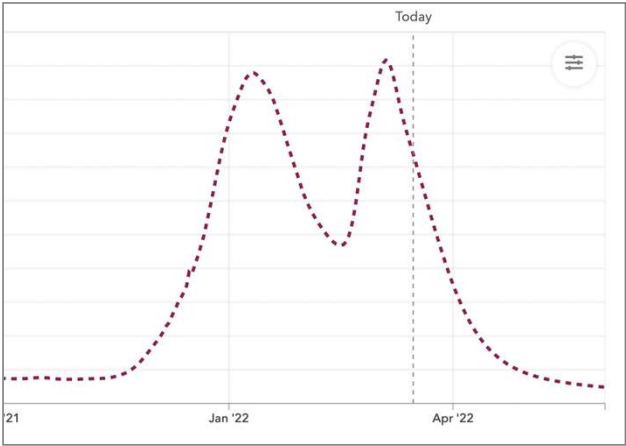
*How the expected trend in worldwide COVID infections has changed over 7 weeks*



**January 26**

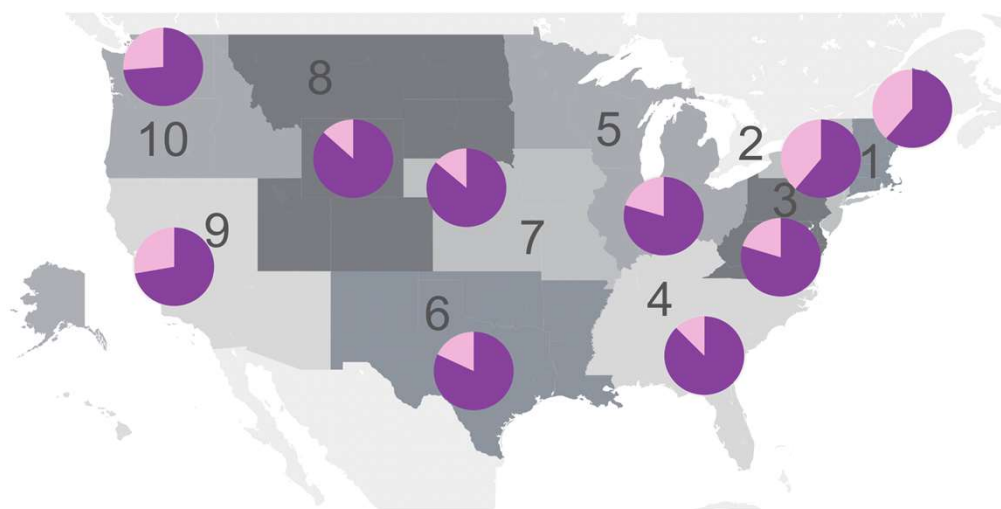
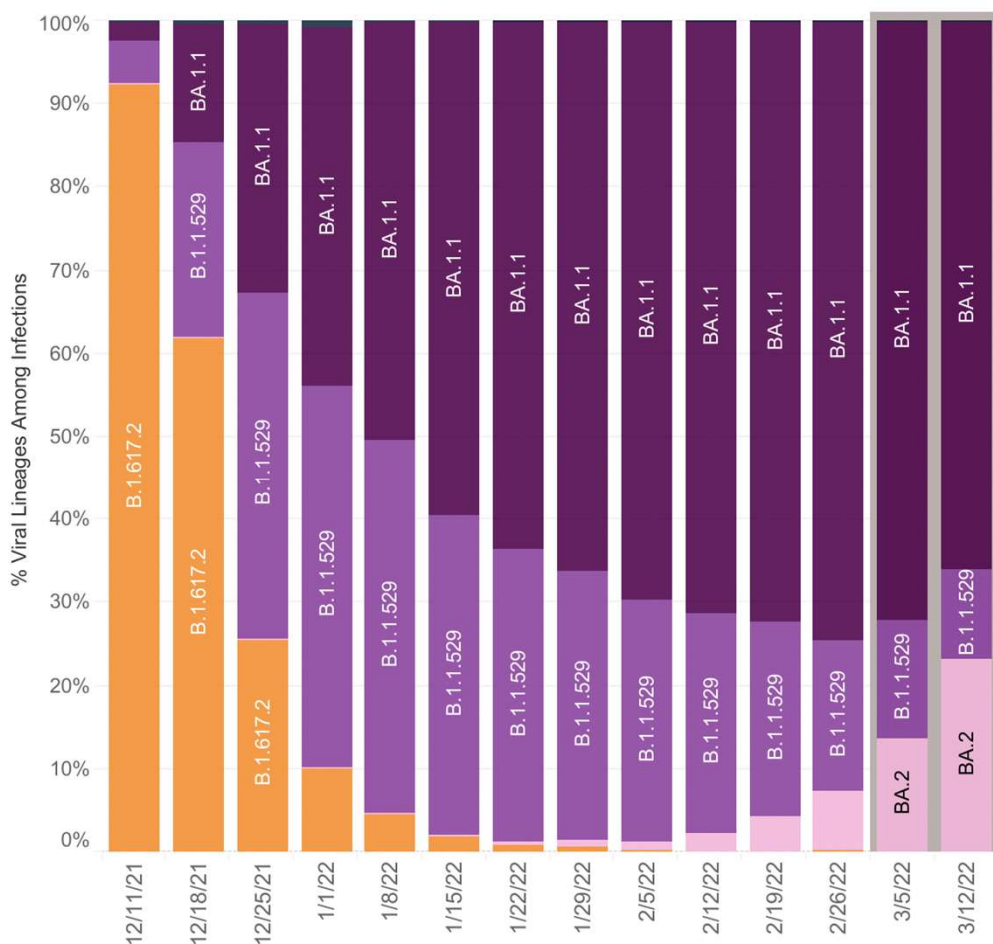


**February 16**



**March 16**

# BA.2 represents an increasing share of Omicron in the U.S.



# Who should get a fourth dose?

- Data from Israel: Age 60+, immune compromised given Pfizer fourth dose
  - Half the rate of confirmed infection
  - One quarter the rate of severe illness

<https://www.medrxiv.org/content/10.1101/2022.02.01.22270232v1.full.pdf>
- Among healthcare personnel: marginal benefit from fourth dose of mRNA vaccine
  - Vaccine efficacy 11-30% for infection; 31-43% for symptomatic disease
  - Those who were infected had negligible symptoms, high viral loads

<https://www.nejm.org/doi/full/10.1056/NEJMc2202542>
- **Current CDC guideline:** 4<sup>th</sup> dose at least 3 months after 3rd dose for age 12+ with moderate to severe immune compromise\*

\*e.g., active cancer treatment; organ or stem cell transplant; moderate or severe congenital immunodeficiency; advanced HIV; high-dose steroids or other immunosuppressive therapy

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/immuno.html>



## We all want the pandemic to be over *But no one can say it is over*

- “Endemic” means: a disease that prevails continually in a region
  - Does not mean it is a less virulent disease or that people
  - Examples: malaria in Africa, tuberculosis in India, hepatitis C in the U.S.
- There is no rule that viruses evolve to become more benign
- What is predictable about SARS-CoV-2: It’s unpredictable
  - SARS-CoV-2 has shown much faster genetic drift than predicted
  - There is a large animal reservoir
  - Nobody can predict when/if a new variant will appear
- **While rates are low we must use the opportunity to prepare for a next wave**

Share of population fully vaccinated against COVID

