Travelling the Road from Pandemic to Endemic… Is It Too Soon?

USET COVID-19 ECHO Presentation

February 11, 2022

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USET Tribal Epidemiology Center

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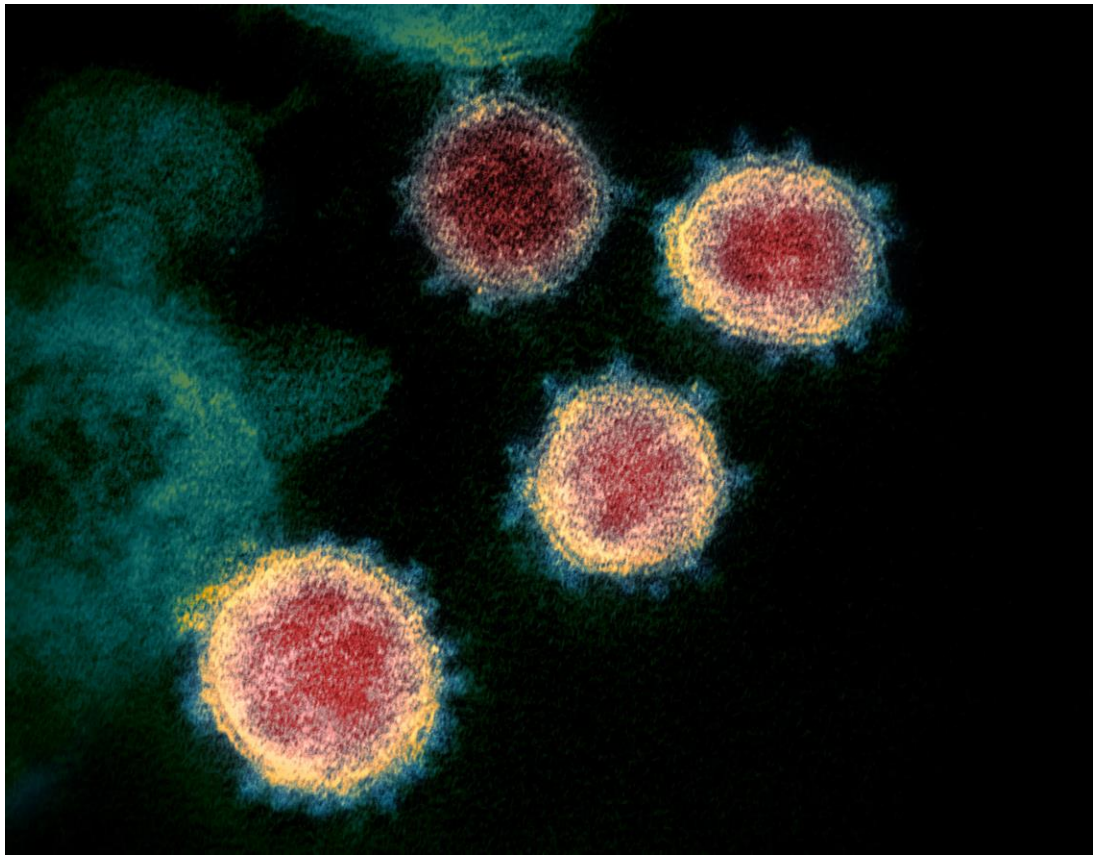
Day 703 of the COVID-19 Pandemic



- Vaccines for really little kids
- Novavax etc.
- Immunity: Vaccine-induced vs Natural infection vs “Hybrid”
- From Pandemic to Endemic

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Covid Vaccines for the Very Young

- On February 15, 2022, the FDA's Vaccine and Related Biological Products Advisory Committee has scheduled a meeting to review the application for an EUA for the Pfizer-BioNTech COVID-19 vaccine for children ages 6 months through 4 years
- The Pfizer-BioNTech vaccine currently has an EUA for ages 5 through 15, and full approval for ages 16 and up
- This will be interesting for a number of reasons…
- STAY TUNED FOR FURTHER DEVELOPMENTS!

Vaccines and Related Biological Products Advisory Committee February 15, 2022 Meeting Announcement - 02/15/2022 | FDA

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PRELIMINARY – SUBJECT TO CHANGE PENDING REGULATORY GUIDANCE AND AUTHORIZATION/APPROVAL

Pfizer BioNTech COVID-19 Vaccine: Product Characteristics

Description	*Dilute Before Use*	*Do Not Dilute*	*Dilute Before Use*	*Dilute Before Use*
Age Group	12 years and older	12 years and older	5 through 11 years	6 mos through 4 years[1]
Vial Cap Color and Label with Color Border	PURPLE	GRAY	ORANGE	MAROON
Dose	**30 mcg**	**30 mcg**	**10 mcg**	**3 mcg**
Dose Volume	0.3 mL	0.3 mL	0.2 mL	0.2 mL
Amount of Diluent* Needed per Vial	1.8 mL	**NO DILUTION**	1.3 mL	2.2 mL
Doses per Vial	6 doses per vial (after dilution)	6 doses per vial	10 doses per vial (after dilution)	10 doses per vial (after dilution)

[1]The vaccine is not authorized for use in individuals younger than 5 years of age.

**Diluent: sterile 0.9% Sodium Chloride Injection, USP. Do not use bacteriostatic 0.9% Sodium Chloride Injection or any other diluent.*

FOR TRAINING PURPOSES ONLY – THE VACCINE HAS NOT BEEN AUTHORIZED FOR USE IN INDIVIDUALS YOUNGER THAN 5 YEARS OF AGE

Pfizer Medical

Before administration of the vaccine, please see full Prescribing Information: 16+ years of age (DILUTE BEFORE USE/Purple Cap) and 16+ years of age (DO NOT DILUTE/Gray Cap) and EUA Fact Sheets for Vaccination Providers: 12+ years of age (DILUTE BEFORE USE/Purple Cap), 12+ years of age (DO NOT DILUTE/Gray Cap) and 5 through 11 years of age (DILUTE BEFORE USE/Orange Cap). For the most recent prescribing information and fact sheets, please visit www.cvdvaccine-us.com

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And in other vaccine news…

- Moderna received full FDA approval for ages 18 and over on 1/31
- CDC followed on 2/4, so now we have 2 vaccines with full approval

- Novavax submitted for an EUA for their protein subunit vaccine on 1/31, so it is possible that we will have a 4th vaccine in a few weeks
- On 2/10 Novavax announced that their adolescent trial (ages 12 – 17) showed 82% efficacy against Covid-19 (mainly Delta strain, as the trial took place between May and September 2021)
- Already being used in many countries, including UK and EU

Do I need to get vaccinated if I had Covid?

From the journal *Science Immunology*, a paper published 1/25/22:

"Vaccination before or after SARS-CoV-2 infection leads to robust humoral response and antibodies that effectively neutralize variants"

TA Bates *et al., Sci. Immunol.* DOI: 10.1126/sciimmunol.abn8014 (2022)

- Case control study comparing 3 groups
  - Vaccination without infection before or after vaccination
  - Vaccination after infection
  - Breakthrough infection after vaccination
- Results: Immunity from **vaccination + infection** higher
- But vaccination without infection protective against severe disease

Epidemic, Pandemic, Endemic…

- Epidemic – a disease that affects a large number of people within a community, population, or region
- Pandemic – an epidemic that spreads over multiple countries or continents; worldwide.
- Endemic – something (such as a disease) that belongs to a particular population or region
- A disease is endemic when it reaches a more or less constant number of cases

Where are we on the Pandemic Highway?

https://ourworldindata.org/explorers/coronavirus-data-explorer

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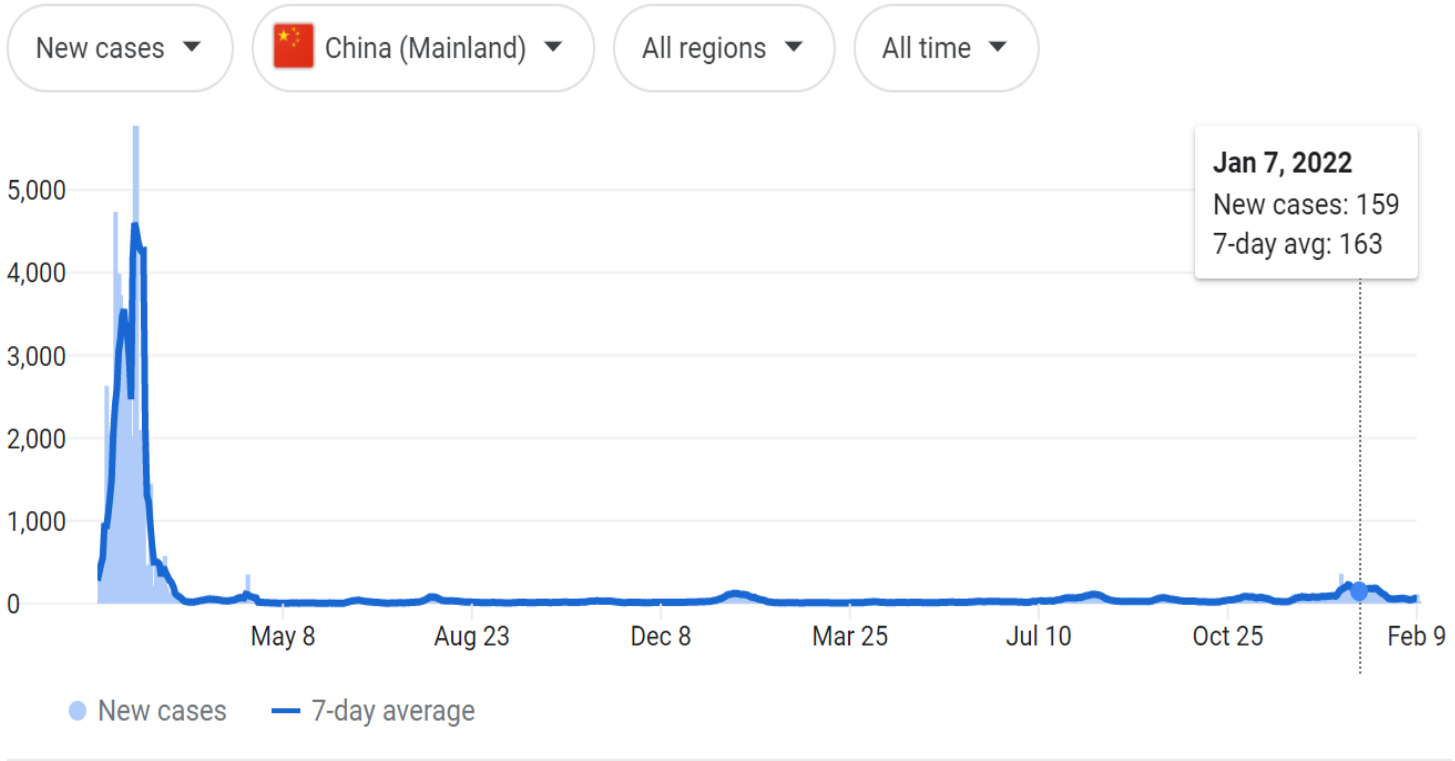
China, the first…



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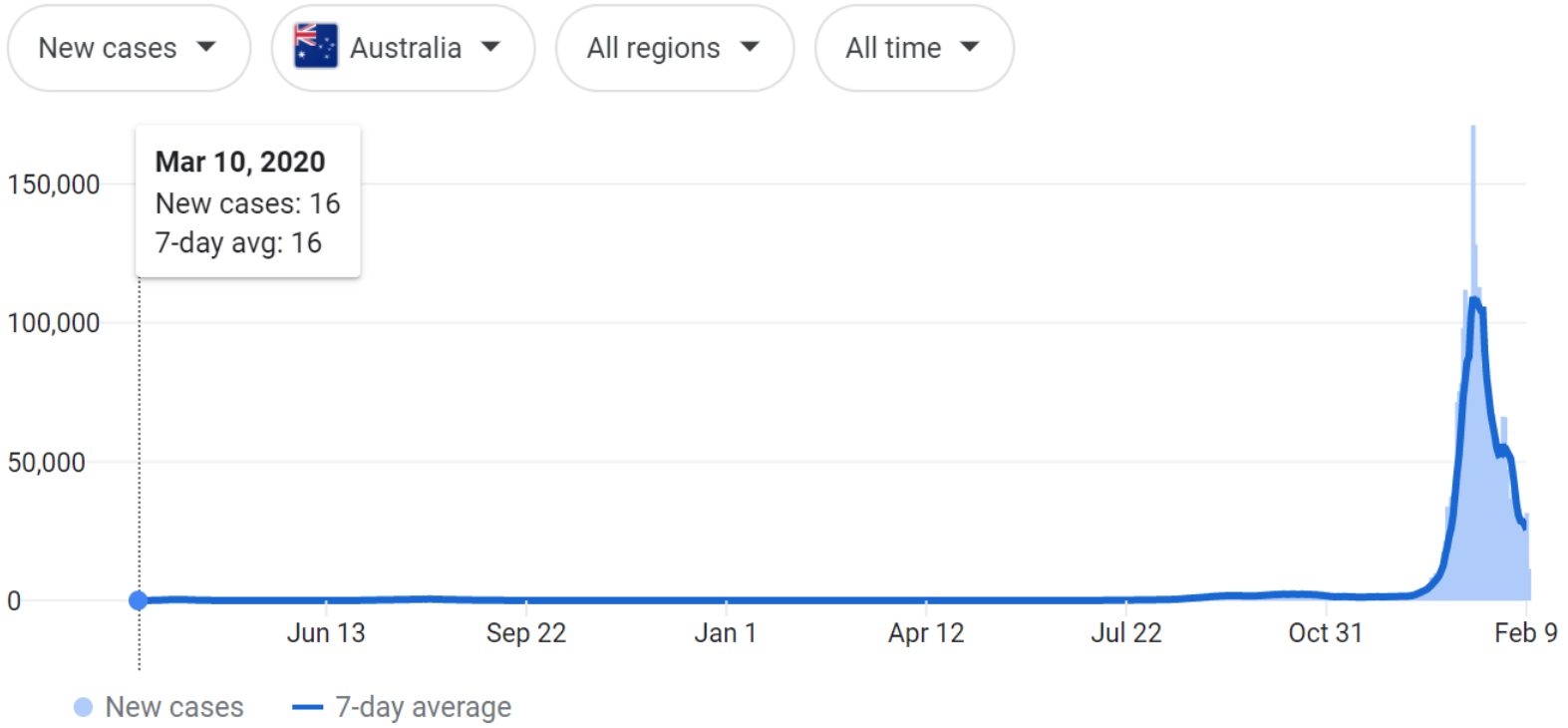
Australia, successful until Omicron…



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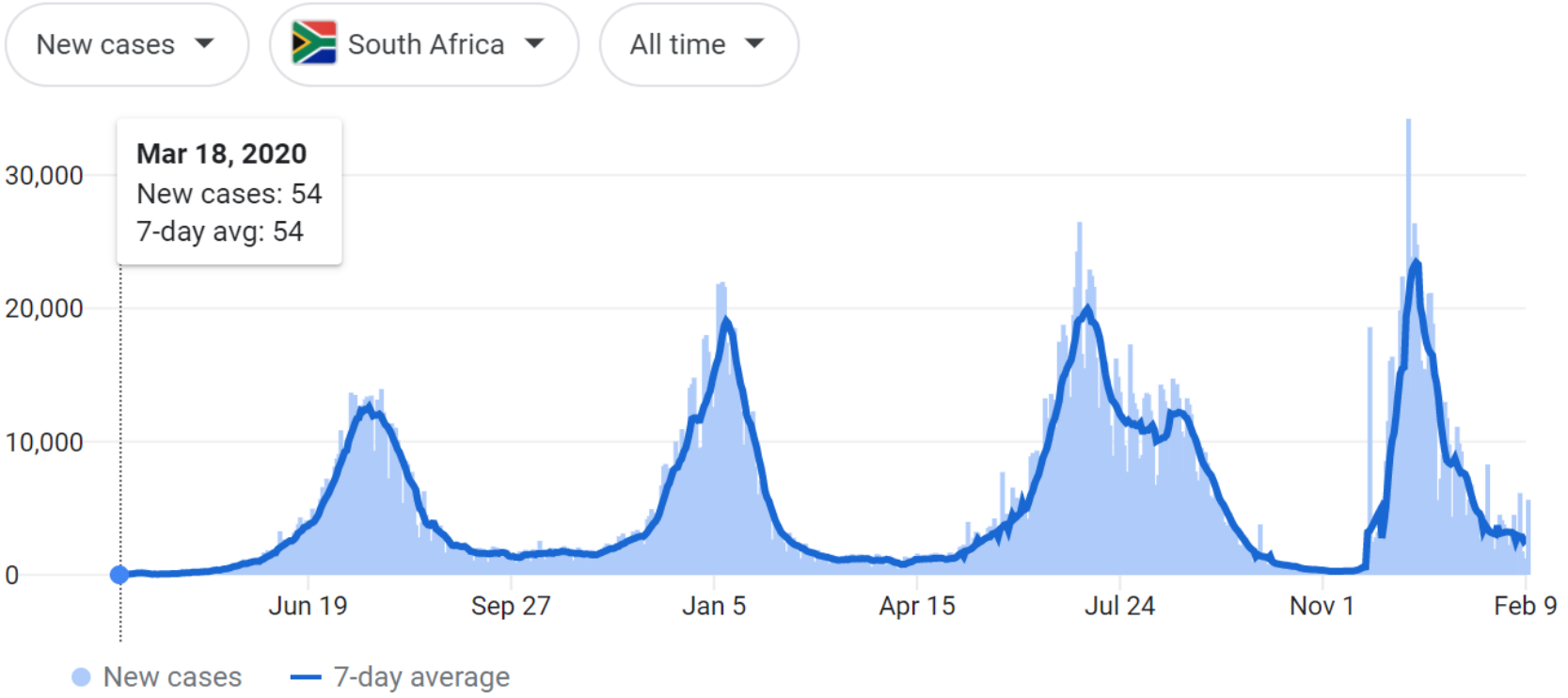
South Africa, early with Omicron…



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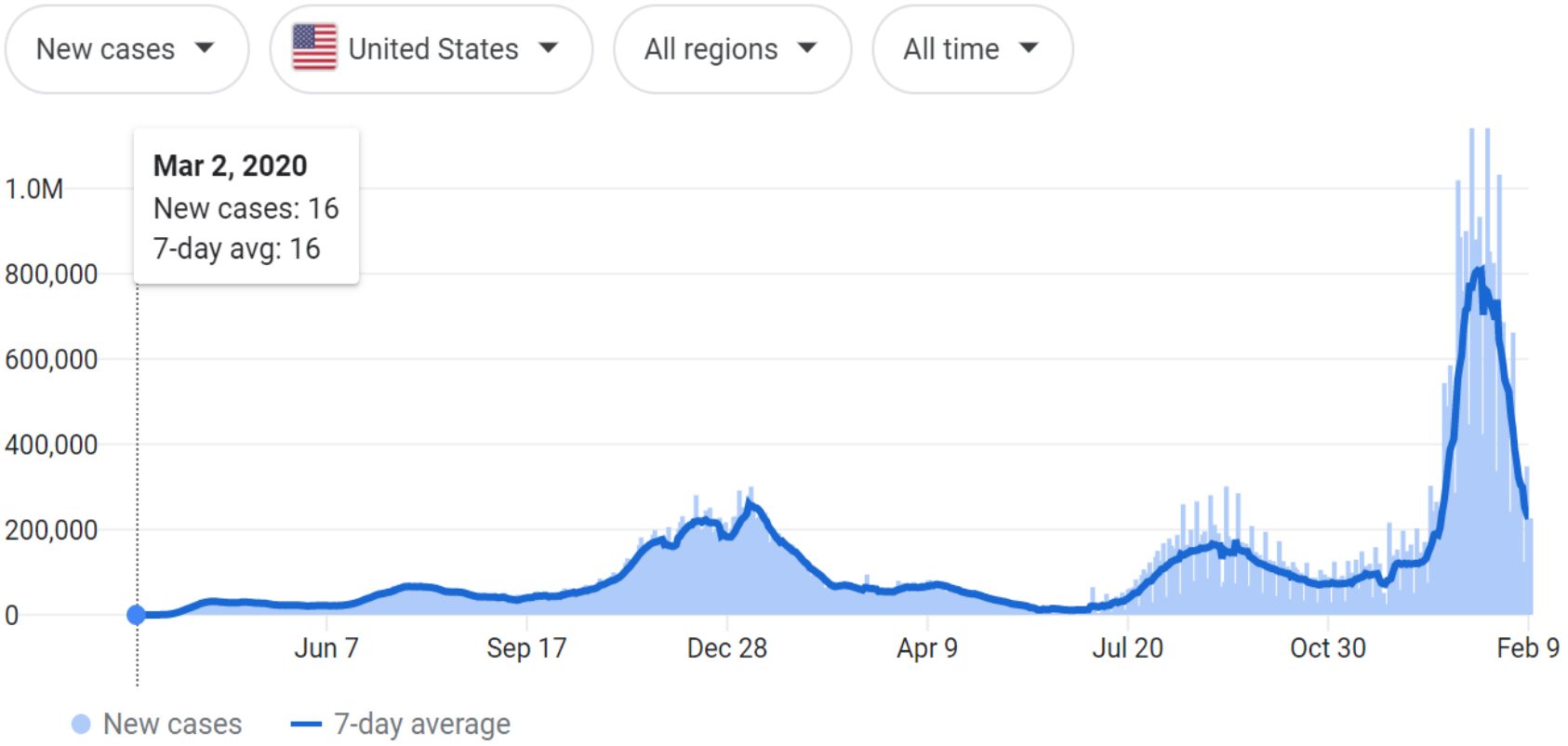
And the USA…



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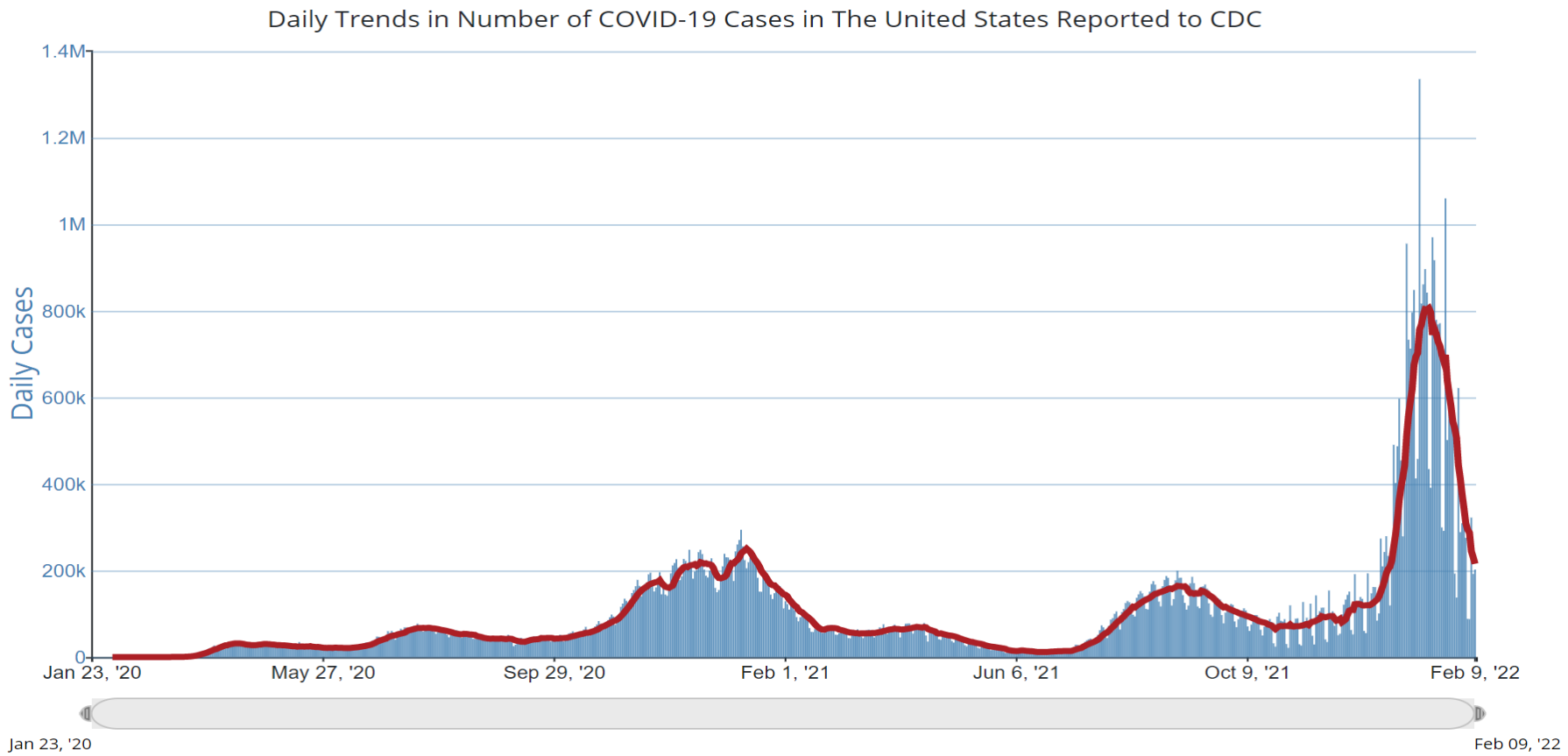
The USA, courtesy of CDC…



https://covid.cdc.gov/covid-data-tracker/#trends_dailycases_7daydeathsper100k

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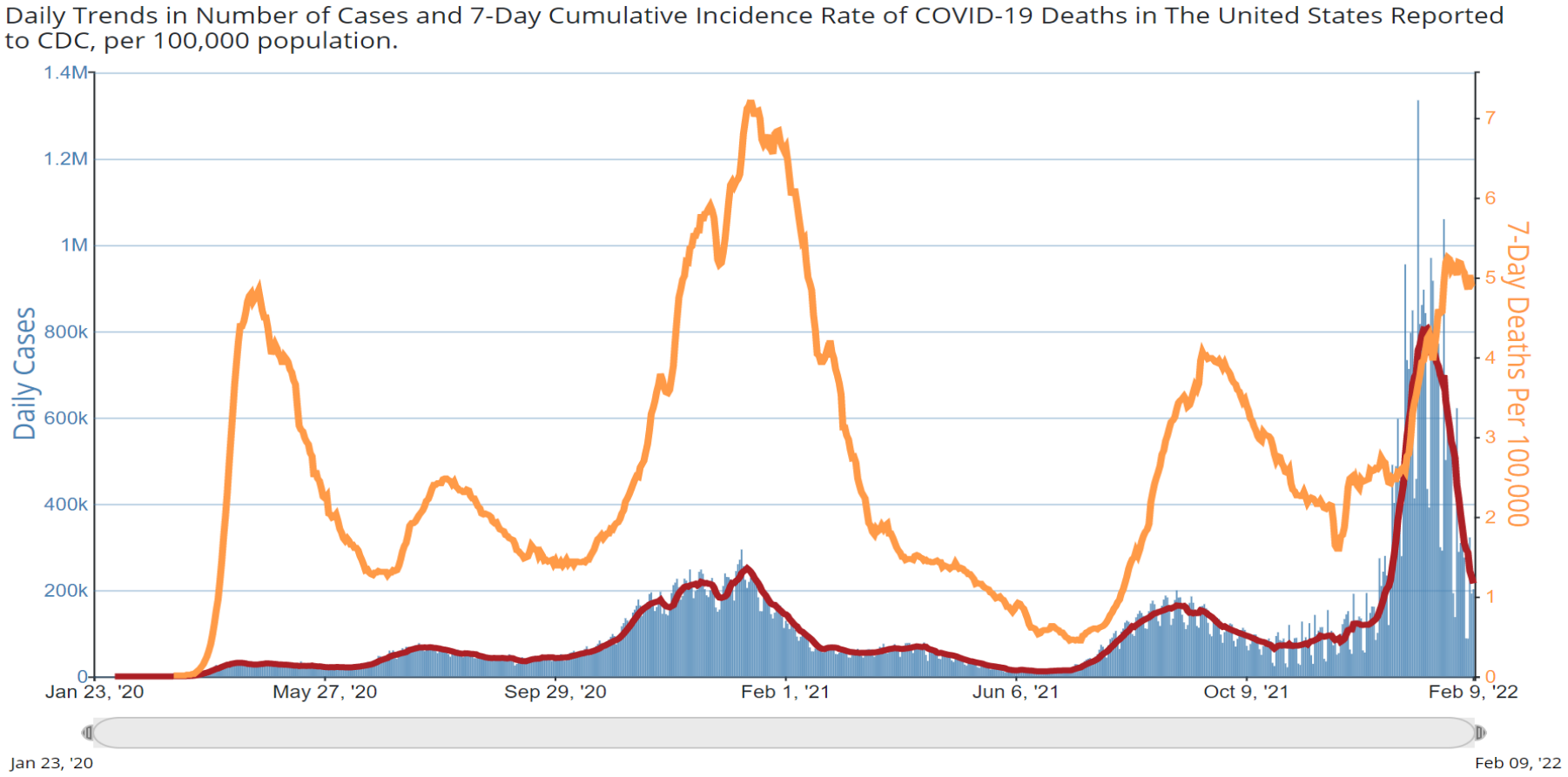
US Cases with Deaths



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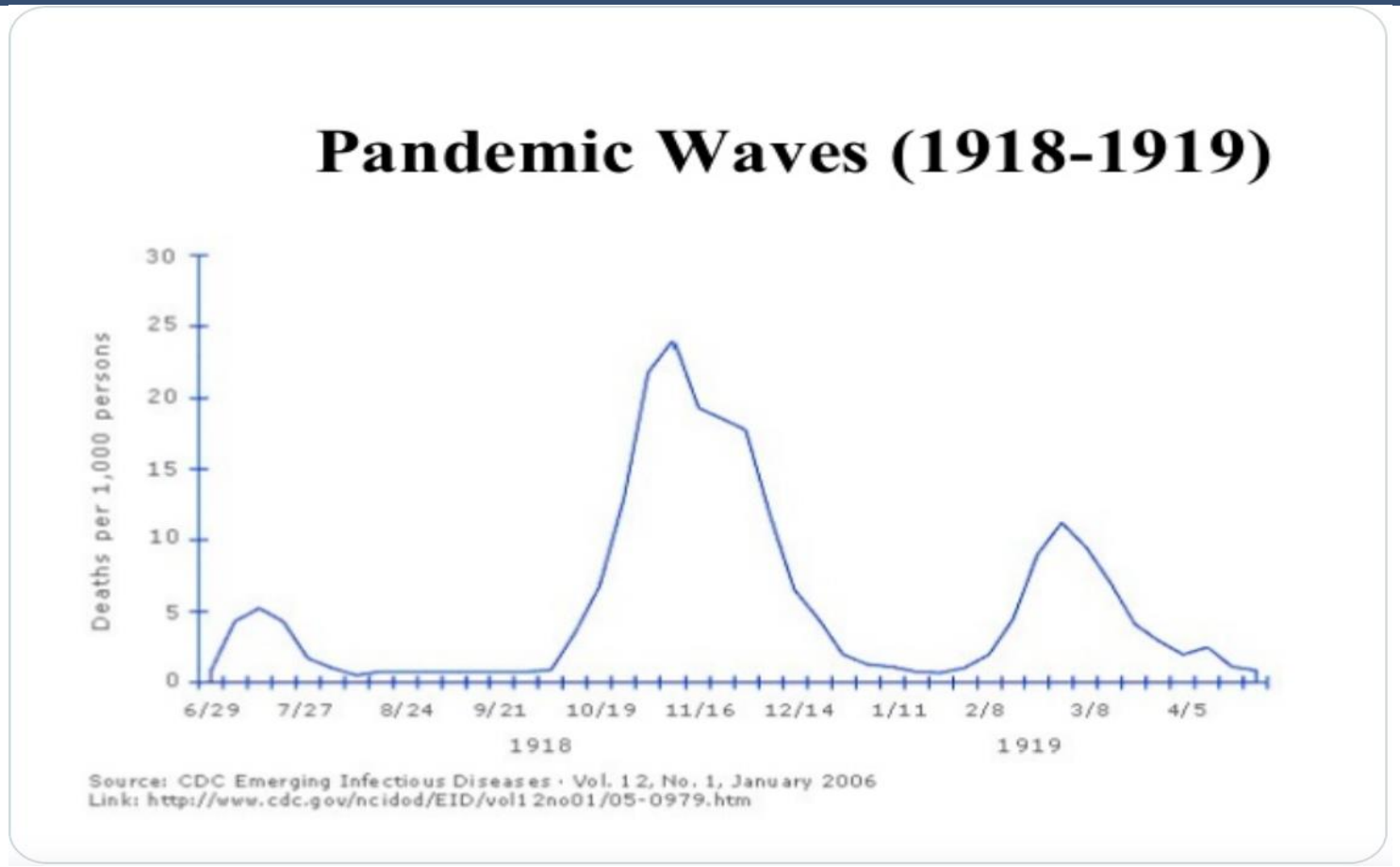
What about the last pandemic?



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So when will COVID-19 become endemic?

- Barring an unforeseen miracle, COVID is here to stay
- As more immunity is obtained through vaccination and natural disease, waves will become smaller
- COVID may become endemic with seasonal epidemics
- We must learn to live with it

Where are we 2 years on?

- Better supportive care, experienced healthcare workers
- Effective antivirals and monoclonal antibodies
- Effective and safe vaccines
- Better knowledge of what works
- A variant that is **more contagious** but **less virulent** – will this be our path to a more livable situation?

Thank-you for your time and attention, and have a good weekend!

Gulf Coast Box Turtle

Questions?

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