



**COLORADO**  
Department of Education  
Commissioner of Education

201 East Colfax Avenue  
Denver, CO 80203-1799

Dec. 23, 2021

Dear Supts, BOCES directors and other partners,

Apologies for the abrupt end to the call today—I was not the host and was not expecting that!

Attached is the PDF of the slides Dr. Herlihy shared. We will also try to get the link and send it out in a CDE Update.

We will be working on the questions in the chat over the holidays.

My best,  
Katy

Katy Anthes, Ph.D.  
Commissioner



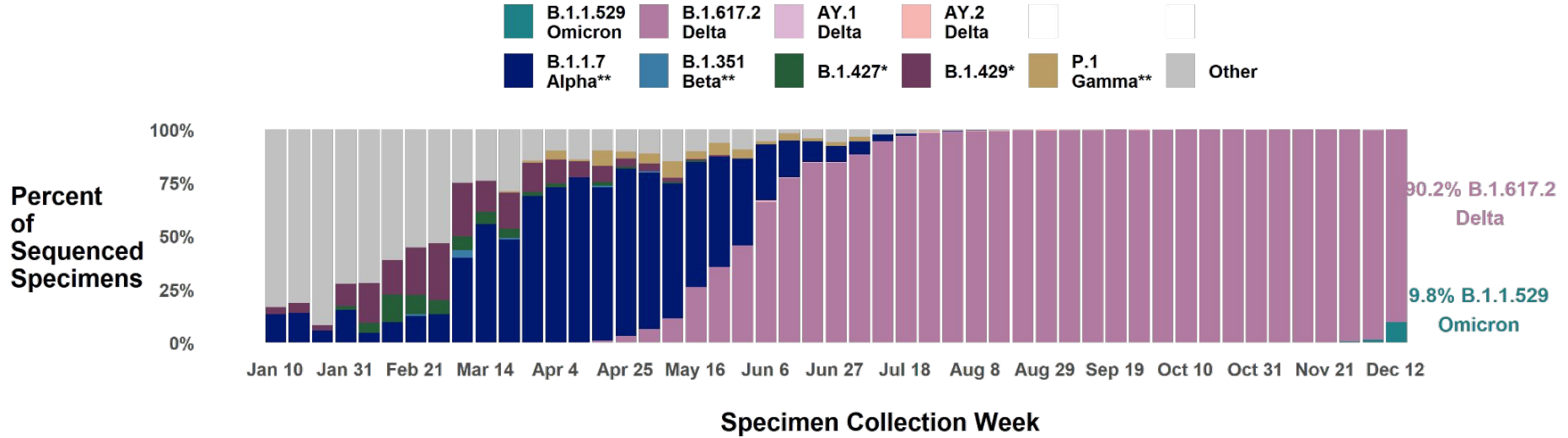
# December 23, 2021 - Omicron Update

**Rachel Herlihy, MD, MPH**  
State Epidemiologist

**Colorado Department of Public Health and Environment**



# COVID-19 Variants of Concern Sentinel Surveillance. Updated on Tuesdays



Updated Dec 21, 2021

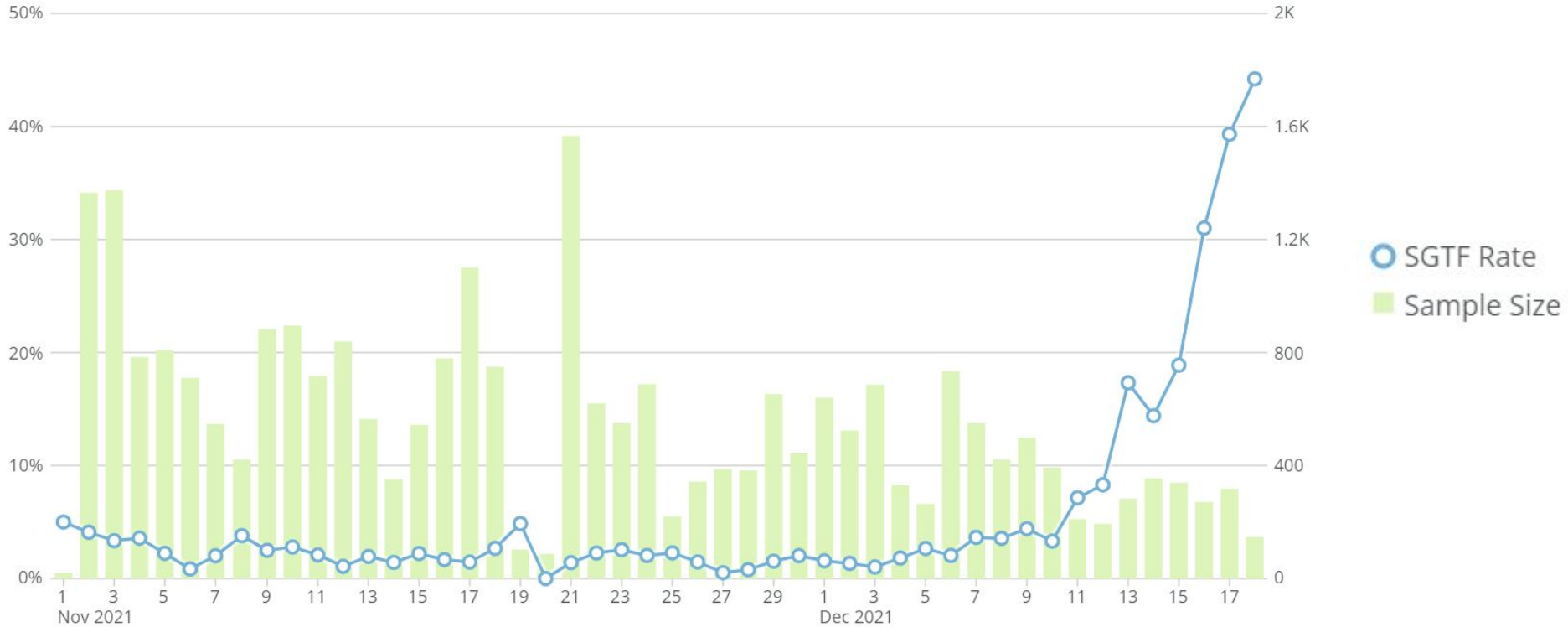
\*As of June 28, 2021, B.1.427 and B.1.429 are no longer variants of concern and will not be included in Variants of concern after 7/6/2021.

\*\*As of September 21, 2021, B.1.1.7, B.1.351, and P.1 are no longer variants of concern and will not be included in variants of concern after 10/5/2021.

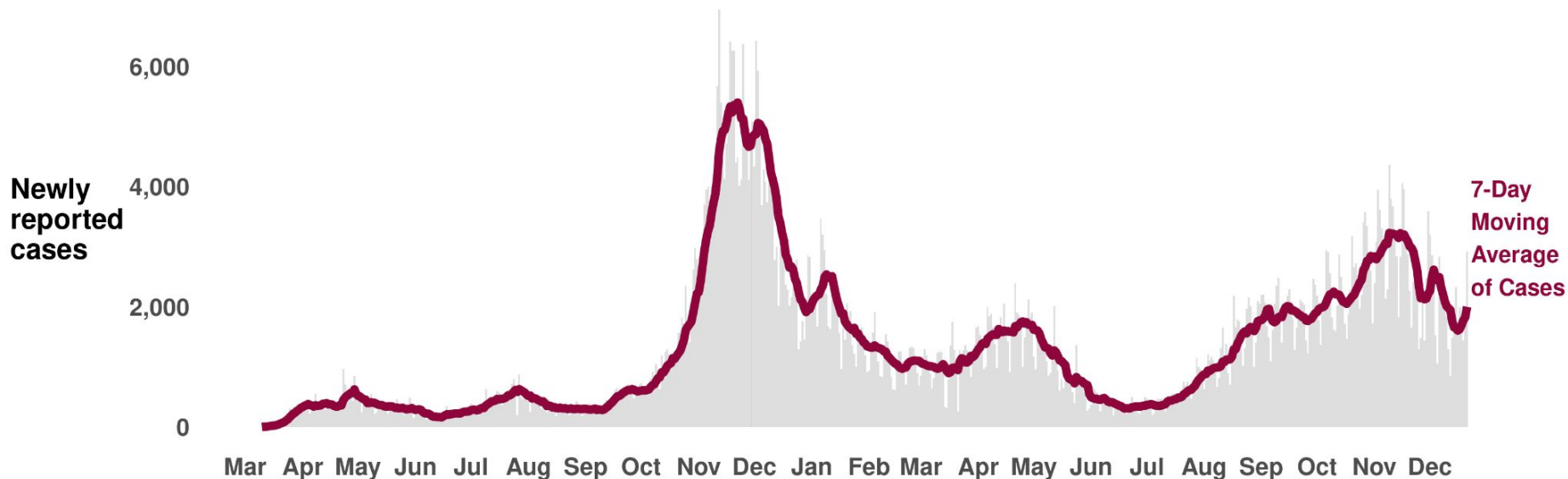
Methods were updated to include AY.3 -AY.12 in B.1.617.2



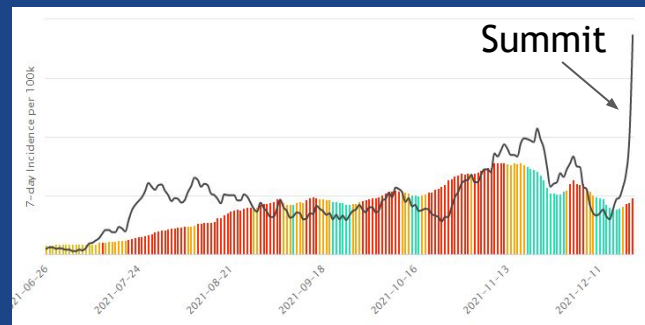
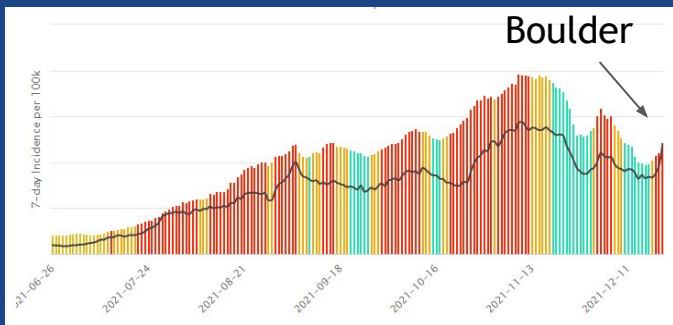
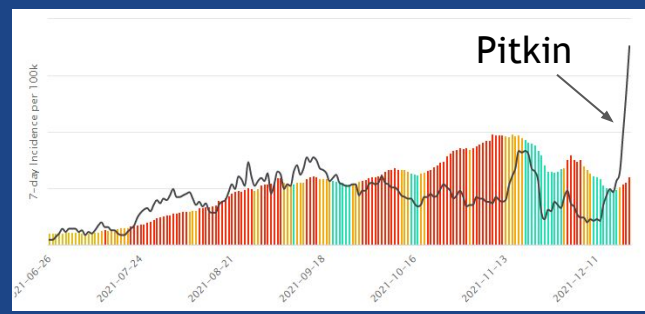
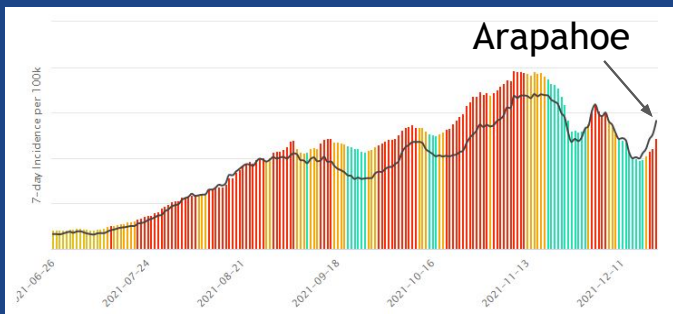
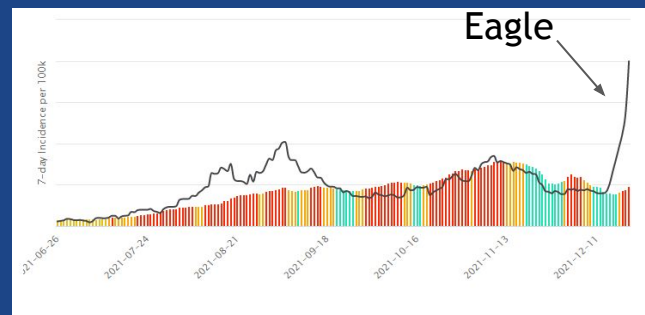
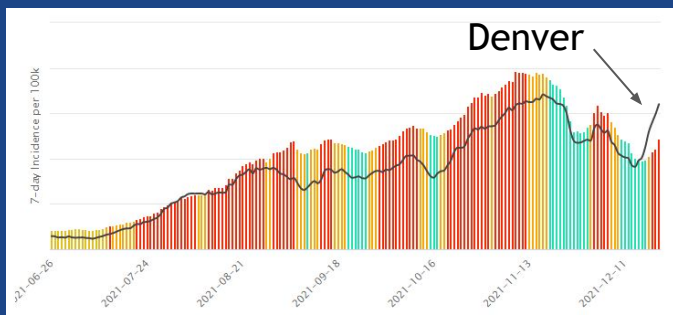
# Proportion of S Gene Target Failure (SGTF) Specimens Among All Positive PCR Results, Colorado State Public Health Laboratory



# Cases increasing Colorado

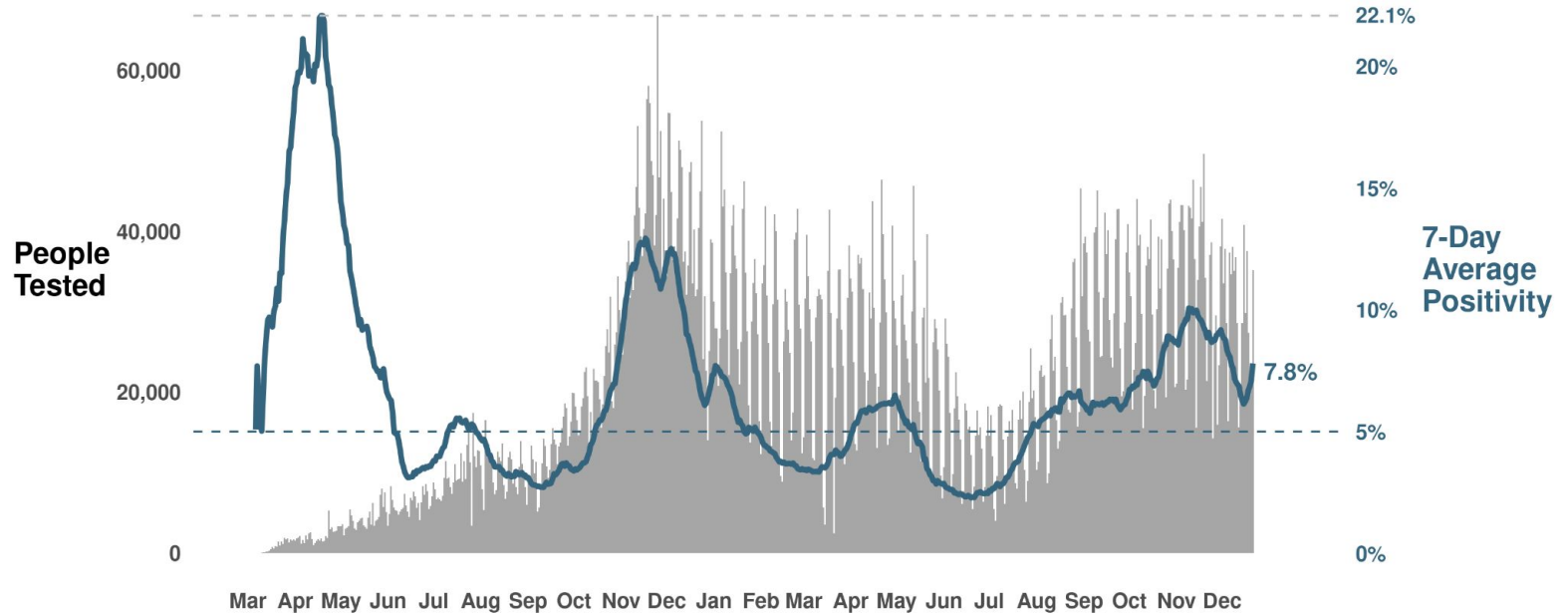


Updated Dec 22, 2021



Comparison of state and county rates for select counties

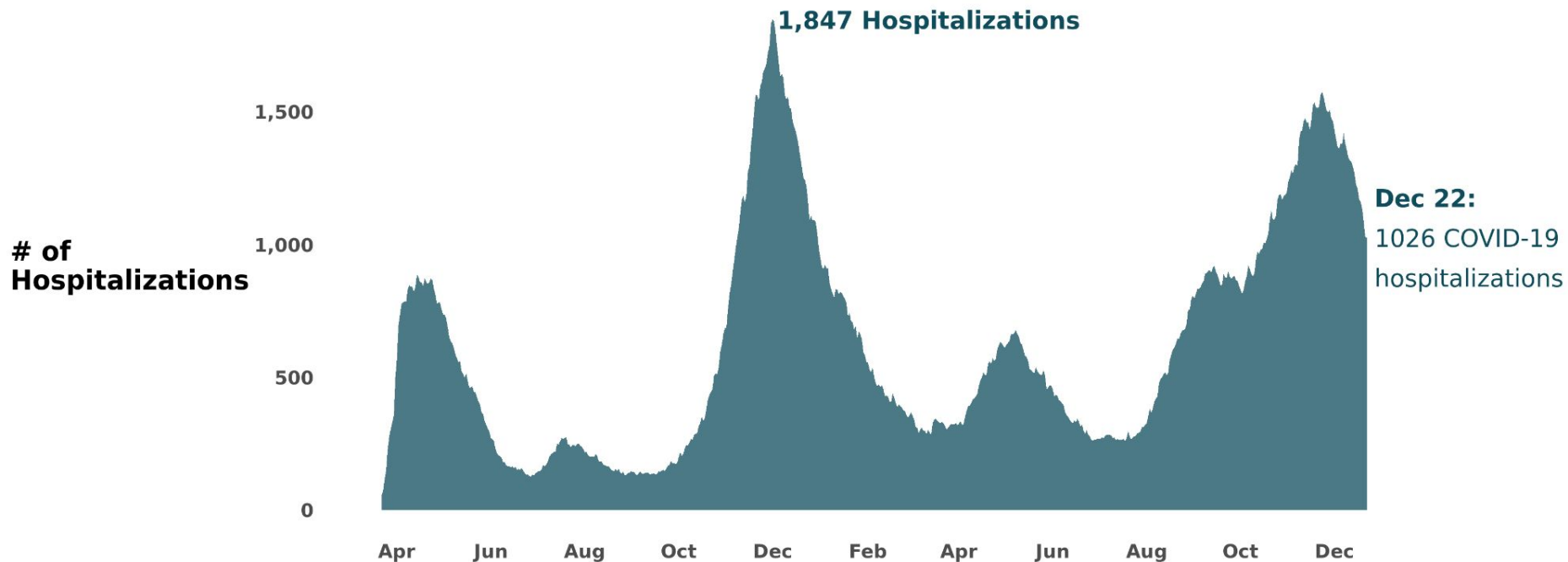
# Percent positivity increasing



Updated Dec 22, 2021

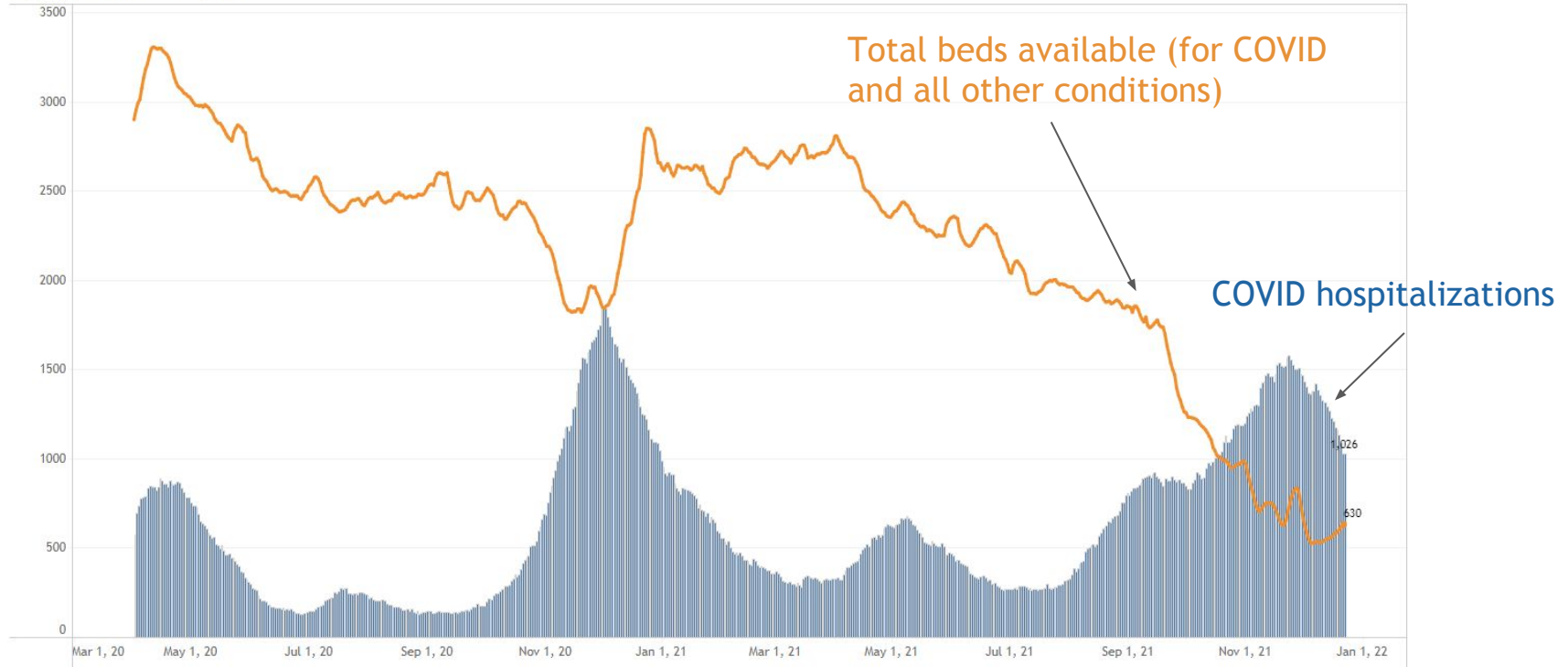


# Hospitalizations trends still improving





# Hospital capacity



# What we know and don't know

**Will Omicron displace Delta?** Probably yes. Omicron spreads faster than Delta, and will likely overtake it as the most common variant in Colorado in the near future.

**Can Omicron infect people with prior infection or vaccine-acquired immunity?** Yes. We have high confidence that Omicron can evade vaccine and infection-acquired immunity to cause infection. Early evidence suggests that boosters can significantly reduce vaccine-evasion. Vaccine may also provide greater protection against severe disease than infection.

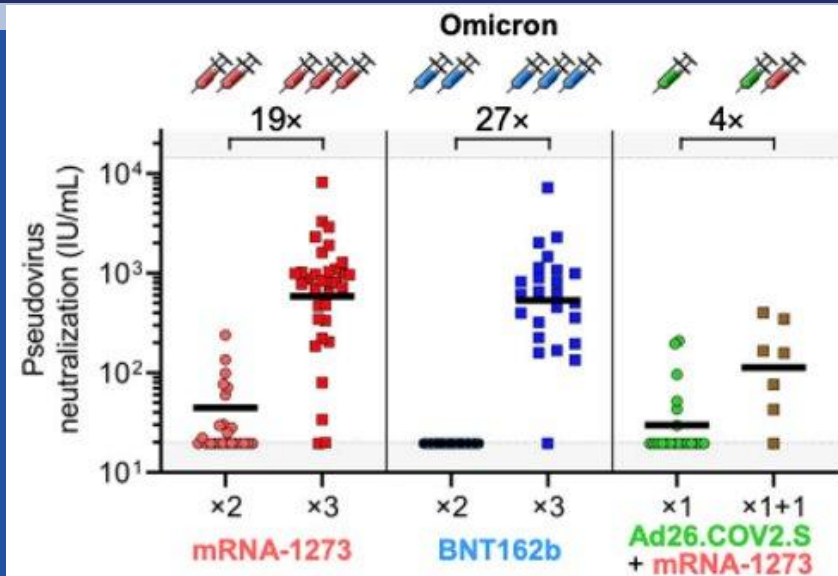
**Is Omicron less severe than Delta?** Evidence is very mixed right now. Even with significantly reduced severity, Omicron's increased transmissibility and immune escape could lead to very high hospitalization rates.



# Third doses greatly increases antibody response vs Omicron

Even with limited data, there is **strong evidence** that individuals who have received three doses of an mRNA vaccine have much better protection than those who have received only two doses.

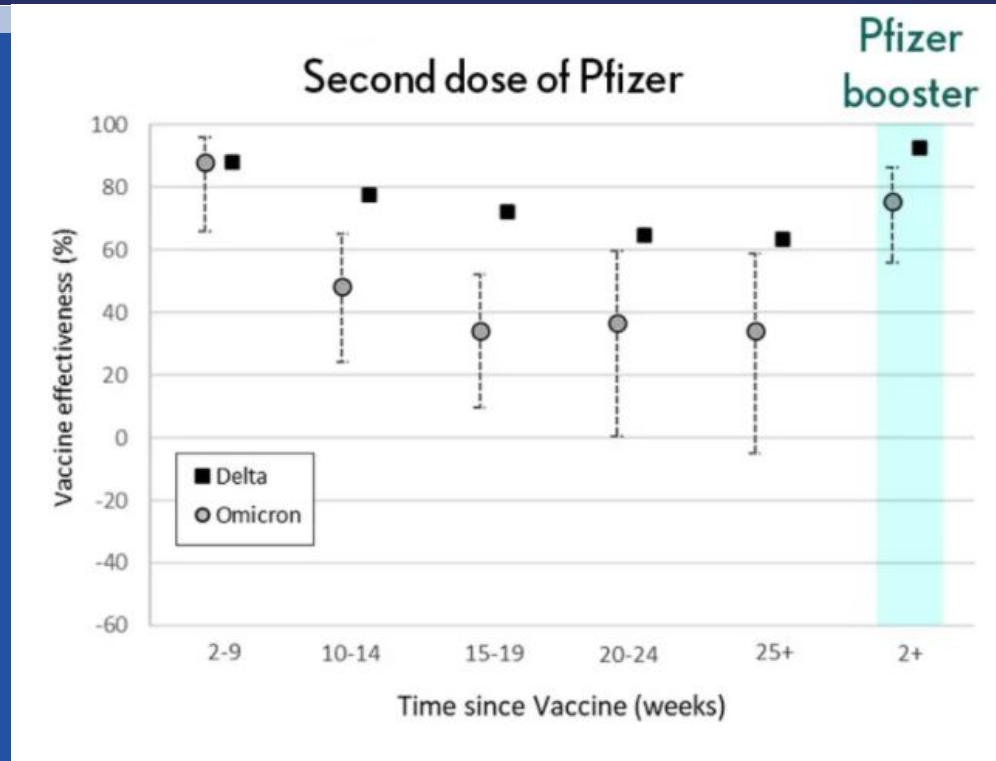
Given Omicron's rapid growth rate, it's important to increase booster rates as soon as possible to provide protection in January 2022.



Differences in neutralizing responses soon after primary vaccination series versus boosting for **Moderna**, **Pfizer**, and **J&J** from [Garcia-Beltran et al.](#)

# Pfizer and Omicron

- Increased waning immunity for Omicron vs Delta - 35% vs 64% at 25+ weeks
- 76% VE for Omicron 2 weeks after 3rd (booster) shot (95% for Delta)



# Monoclonal antibodies and Omicron

- Mutations in the receptor binding domain (RBD) are most likely to affect monoclonal antibody effectiveness
- Bamlanivimab/etesevimab and casirivimab/imdevimab (REGEN-COV) are both expected to have decreased activity against Omicron
- Sotrovimab is expected to retain activity against Omicron
  - IV formulation only
  - Treatment only (no post-exposure prophylaxis)
  - Will be prioritized for high risk individuals and settings

Thank you!

