

### COVID-19 Press Briefing

December 17, 2021







#### Daily Change in COVID-19 Cases, US

January 22, 2020 – December 15, 2021

TOTAL Cases Reported Since 1/22/20

50,321,503

NEW Cases Reported to CDC on 12/15/21

143,760

Change in 7-Day Case Average

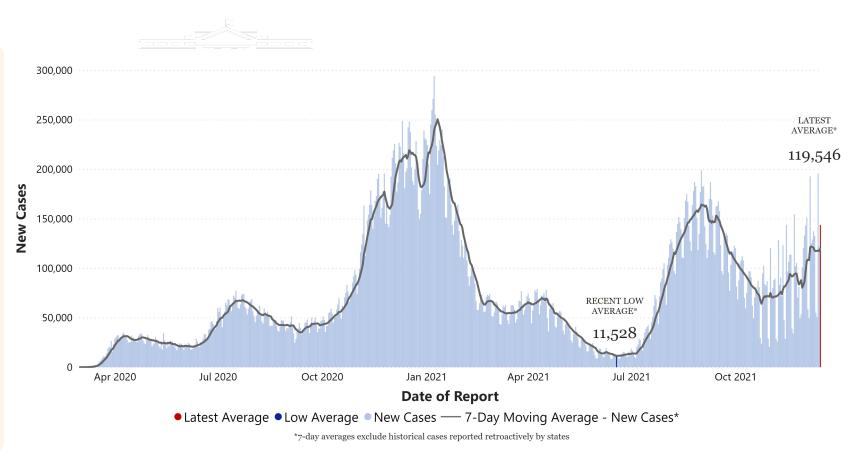
1.4%

Current 7-Day Case Average (12/9/21 - 12/15/21)

119,546

Prior 7-Day Case Average (12/2/21 - 12/8/21)

121,285







#### New Admissions of Patients with Confirmed COVID-19, US

August 1, 2020 – December 14, 2021

Patients Currently Hospitalized with COVID on 12/14/21

60,312

New Admissions on 12/14/21

7,980

Peak in New Admissions (1/5/21)

17,965

Change in 7-Day Average of New Admissions

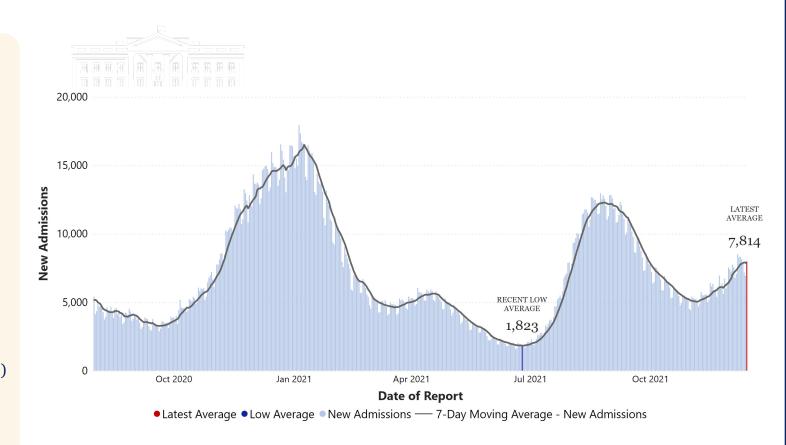
+4.4%

Current 7-Day Average of New Admissions (12/8/21 - 12/14/21)

7,814

Prior 7-Day Average of New Admissions (12/1/21 - 12/7/21)

7,482







#### Daily Change in COVID-19 Deaths, US

January 22, 2020 – December 15, 2021

TOTAL Deaths Reported Since 1/22/2020

799,847

NEW Deaths Reported to CDC on 12/15/21 1,607

Change in 7-Day Death Average

+8.0%

Current 7-Day Death Average (12/9/21 - 12/15/21)

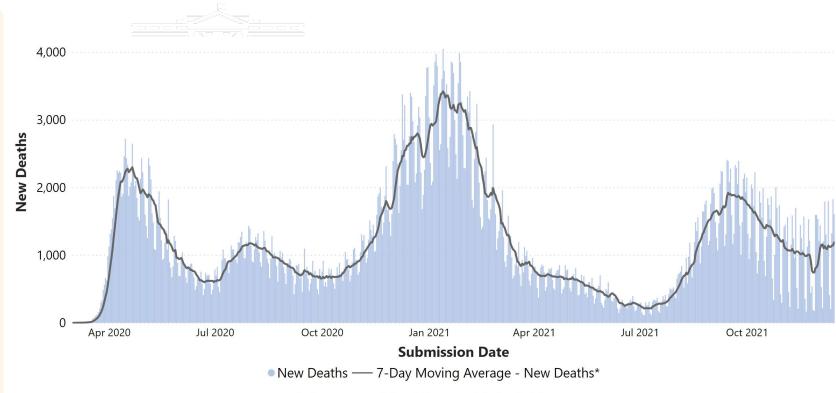
1,188

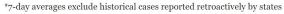
Prior 7-Day Death Average (12/2/21 - 12/8/21)

1,100

Forecasted Total Deaths by 01/08/22

837,000 to 845,000









# The Importance of COVID-19 Booster Shots in the Current Delta Surge and the Upcoming Omicron Surge



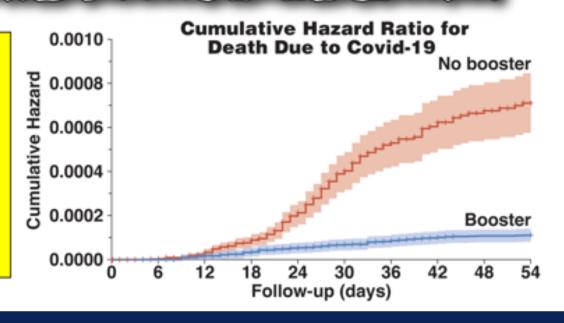




#### BNT162b2 Vaccine Booster and Mortality Due to Covid-19

R Arbel, S Yaron et al.

Individuals 50+ yrs who received a booster at least 5 months after a second dose of BNT162b2 had 90% lower mortality due to COVID-19 than participants who did not receive a boost.







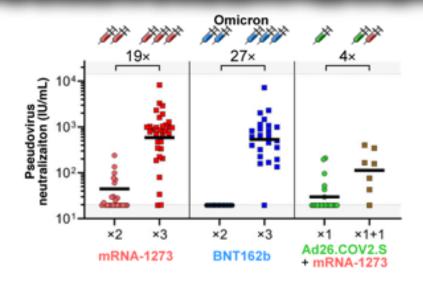


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## mRNA-based COVID-19 Vaccine Boosters Induce Neutralizing Immunity Against SARS-CoV-2 Omicron Variant

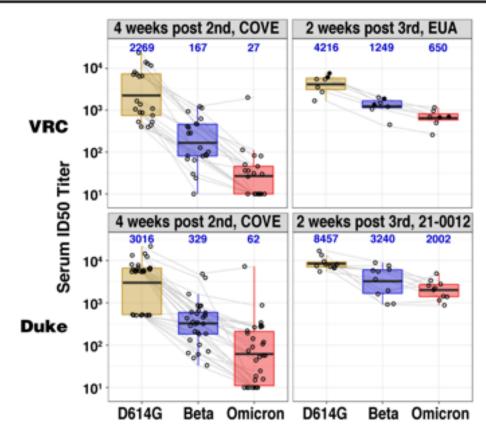
WF Garcia-Beltran, AB Balazs et al.







#### Neutralization of D614G, Beta and Omicron Pseudoviruses by Serum Samples Obtained from mRNA-1273 Vaccine Recipients



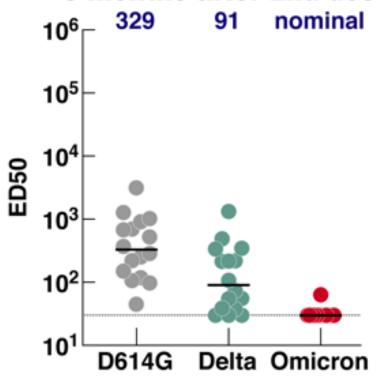
- **EUA:** NIAID VRC 200 protocol
- 21-0012: NIAID DMID "Mix and Match" study

Source: NA Doria-Rose et al. MedRxiv, 12/15/2021.

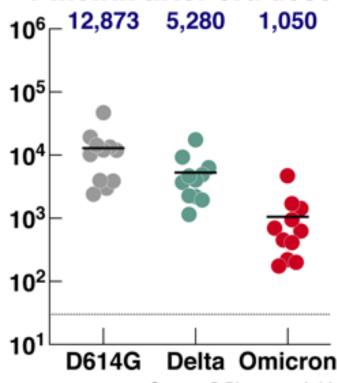


#### Sensitivity of SARS-CoV-2 Variants to Neutralization by Sera from Pfizer-Vaccinated Individuals

#### 5 months after 2nd dose



#### 1 month after 3rd dose

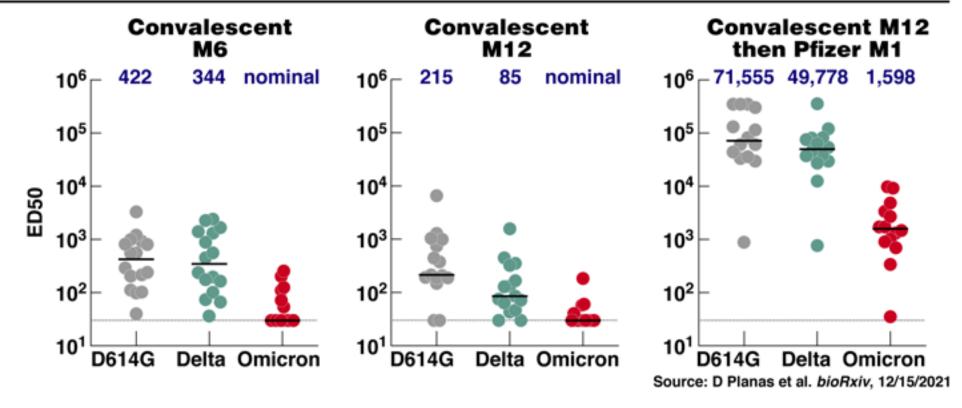


Source: D Planas et al. bioRxiv, 12/15/2021





#### Sensitivity of SARS-CoV-2 Variants to Neutralization by Sera from COVID-19 Convalescent Individuals, With and Without a Pfizer Vaccine Dose





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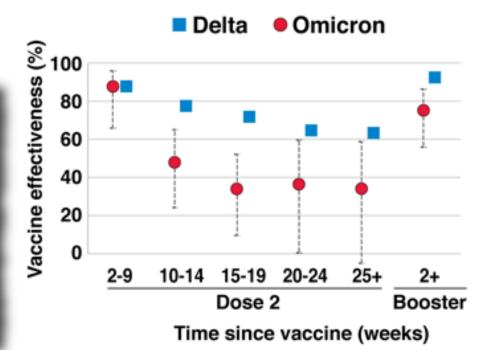
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## Effectiveness of COVID-19 Vaccines Against the Omicron (B.1.1.529) Variant of Concern

N Andrews, JL Bernal et al.

#### Two doses of BNT162b2 with a BNT162b2 booster dose

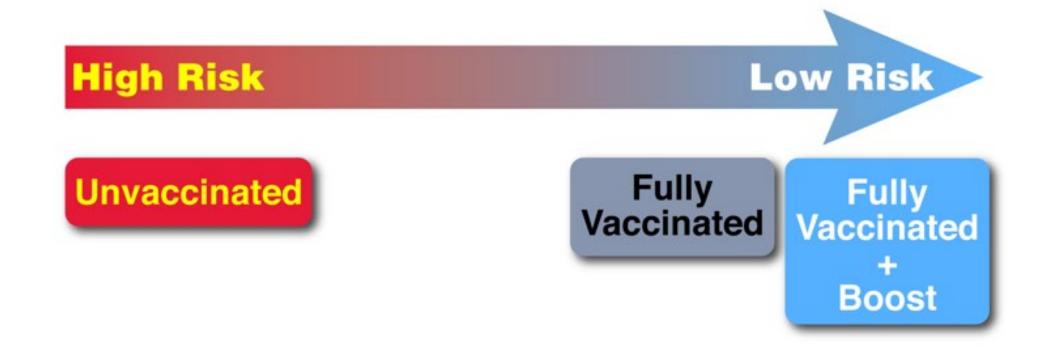


Pfizer/BioNTech vaccine effectiveness against symptomatic disease with Omicron variant is significantly lower than with the Delta variant, but increases to 75% after a booster dose





#### Risk of COVID - Delta/Omicron









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