

Don't be *AmBivalent* about the Bivalent Boosters

Understanding the Emerging Science Behind the Updated Boosters
January 6, 2023, with guest speaker Anuj Mehta, MD, MS

Christine LaRocca, MD

Courtney Ryan, CMA





Telligen QI Connect™

Telligen QI Connect™ is operated by Telligen, which is funded by CMS to deliver improvement services at no cost to you or your organization.

Telligen QI Connect™ is a network of partners working on quality improvement initiatives that place healthcare providers and consumers at the center to make healthcare safer, more accessible and more cost-effective through the Centers for Medicare & Medicaid Services (CMS) Quality Innovation Network-Quality Improvement Organization (QIN-QIO) and Hospital Quality Improvement Contractor (HQIC) programs.

What Do QIN-QIOs Do?

QIO Program Purpose

- To improve the efficiency, effectiveness, economy and quality of services delivered to Medicare beneficiaries

QIN-QIOs

- Bring Medicare beneficiaries, providers and communities together in data-driven initiatives that increase patient safety, make communities healthier, better coordinate post-hospital care and improve clinical quality
- Provide technical assistance and convene learning and action networks at no-cost to support healthcare QI at the community level

What We Offer - At No Cost!

- Quality improvement expertise to include comprehensive COVID-19 support
- Customized technical assistance – Telligen has expertise in Human-Centered Design, Community Organizing, Motivational Interviewing, Patient and Family Engagement and TeamSTEPPS®
- Timely, relevant and useful tools
- Actionable data, analytics support and national benchmarking
- A network to share and spread your best practices and outcomes
- Extension for Community Healthcare Outcomes (ECHO) series with case-based learning - Telligen is a trained ECHO hub
- Learning collaboratives using the Institute for Healthcare Improvement's (IHI) Breakthrough Series Collaborative model



Focus Areas

- COVID-19 Response
- Public Health Emergency Preparedness
- Hospital Leader Engagement
- Behavior Health and Opioid Misuse
- Immunizations
- Patient Safety
- Antibiotic Stewardship
- Nursing Home Quality
- Chronic Disease Management
- Care Coordination

Before We Begin

- Be sure to add qiconnect@telligen.com to your trusted list of email contacts
 - If you unsubscribe, you'll miss out on every communication we share
- We're on social media, follow us for updates and events!



Facebook: <https://www.facebook.com/telligenqiconnect>



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Increase COVID-19 Vaccination Rates

Telligen has a new campaign assisting nursing homes in increasing COVID-19 vaccination rates and reducing resident mortality rates.

The Centers for Medicare and Medicaid Services (CMS) requested Quality Improvement Organizations (QIOs) across the country to increase efforts assisting nursing homes to:

- Increase *Up-to-Date* vaccination rates for residents and staff
- Provide educational materials to increase the use of COVID-19 therapeutics

Telligen Action Steps:

- Quality Improvement Facilitators are contacting nursing homes with low resident Up-to-Date vaccination rates
- Offer National Healthcare Safety Network (NHSN) reporting support, coaching, strategies and resources
- Provide live and on-demand educational events
- Offer 1:1 technical assistance: nursinghome@telligen.com

<https://www.whitehouse.gov/briefing-room/statements-releases/2022/11/22/fact-sheet-biden-administration-announces-six-week-campaign-to-get-more-americans-their-updated-covid-19-vaccine-before-end-of-the-year/>



COVID-19 Disclaimers

- Today's content and answers to participants' questions reflect Telligen's best understanding based on currently available information about COVID-19 as of Monday, January 9, 2023.
- However, COVID-19 is continuously evolving situation. Therefore, it remains critically important to continually check the Centers for Disease Control and Prevention's (CDC's) most up-to-date guidance, as well as the guidance from your state/local health department. CDC guidance for COVID-19 may be adapted by state and local health departments to respond to rapidly changing local circumstances.
- The views expressed by the speaker do not necessarily reflect the views of Telligen or the Centers for Medicare & Medicaid Services. Presentation content is for information purposes only and does not constitute medical advice; it is not intended to be a substitute for professional medical advice, diagnosis or treatment.

Today's Speaker(s)



Anuj Mehta, MD, MS
Pulmonary and Critical Care Physician
Denver Health and Hospital Authority

Served as the Chair of the Colorado Governor's
Expert Emergency Epidemic Response Committee
(GEEERC) Medical Advisory Group on COVID-19
Vaccine Allocation



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FOR LIFE'S JOURNEY

Don't be Am**BIVALENT** about the Bivalent Boosters: Understanding the Emerging Science Behind the Updated Boosters

Anuj Mehta, MD MS
Assistant Professor of Medicine
Pulmonary and Critical Care Medicine

Disclosures

- No financial or intellectual conflicts of interest
- I receive funding from the NIH and ASPR for unrelated research
- Served as Chair for updating Colorado's Crisis Standards of Care
- Served as Chair for Colorado's COVID-19 Vaccine plan

Learning Objectives

- Describe the dual role that all vaccines have
- Describe how the bivalent boosters work and why they are important
- Increase awareness of the “triple-demic” for COVID-19, RSV, and Influenza, and how vaccination can play a key role in keeping people safe

Describe the dual role that all vaccines have

Mild Symptoms



Severe Symptoms or Hospitalization



Death



Measles

Polio

Chicken Pox

Influenza

Pneumococcal

Mild Symptoms



Severe Symptoms or Hospitalization



Death



Long-Term Complications



Chicken Pox

Still at risk for shingles

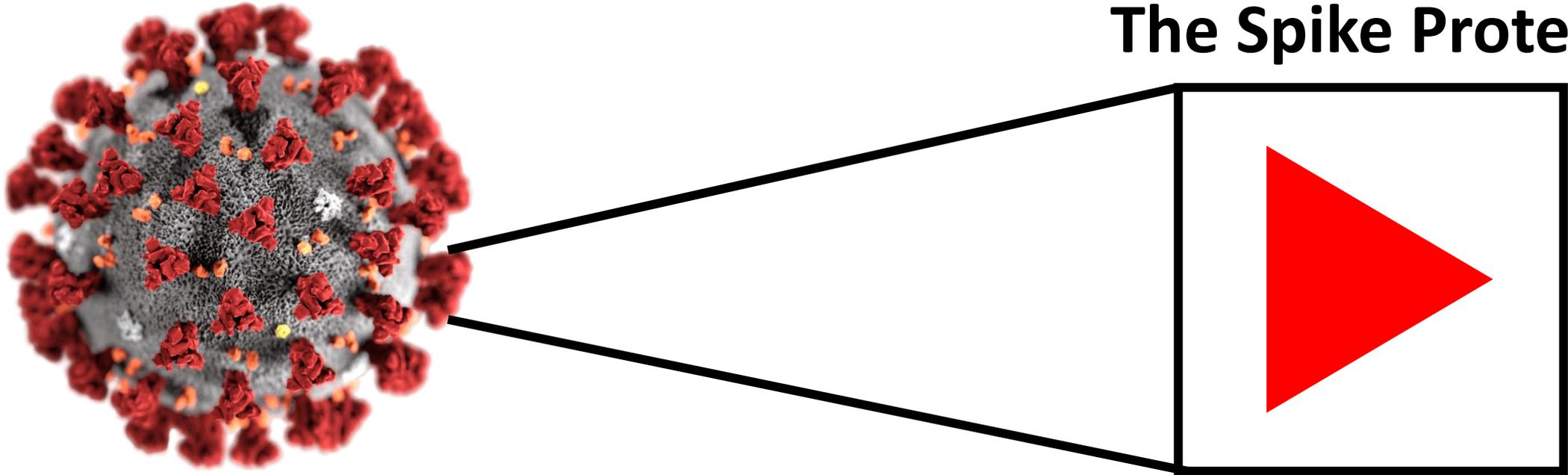
Goal of Vaccines

- Primary Goal
 - Prevent mild infection and all sequelae
 - Prevent severe disease and death
- Secondary Goals
 - Prevent transmission
 - Prevent long-term complications

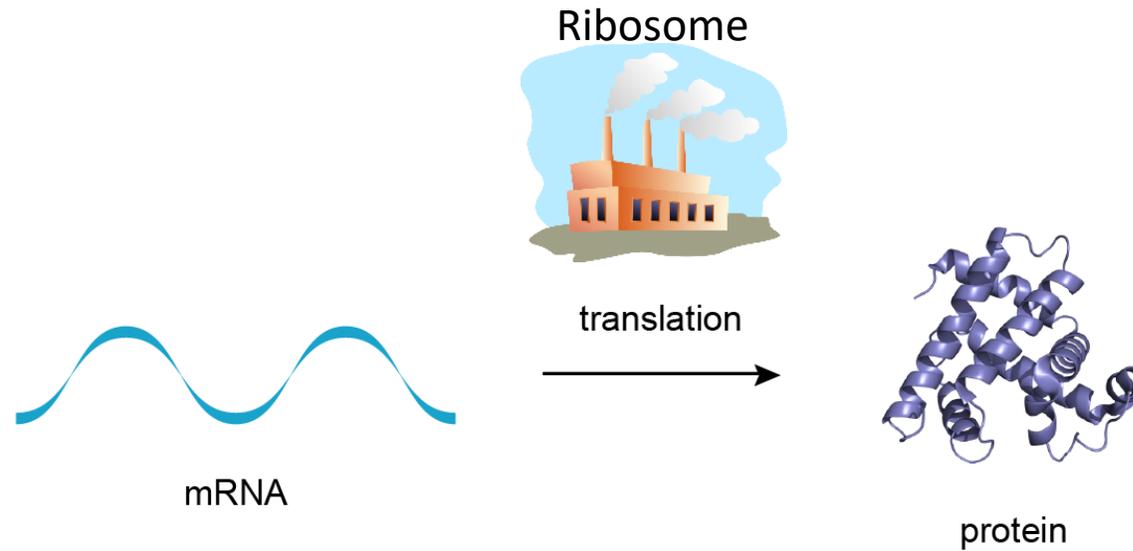
Describe how the bivalent boosters work and why they are important

A brief reminder on how mRNA vaccines work

The Spike Protein



mRNA is the instruction to make proteins

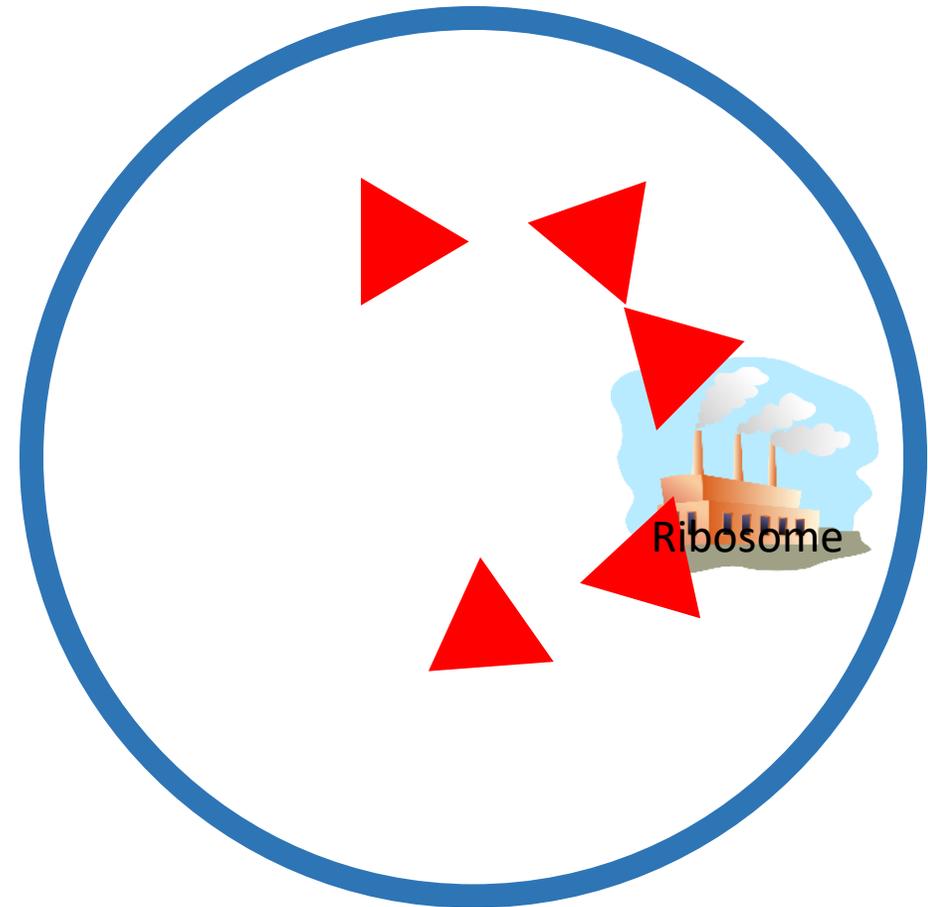


How do mRNA Vaccines Work?

mRNA in a bubble



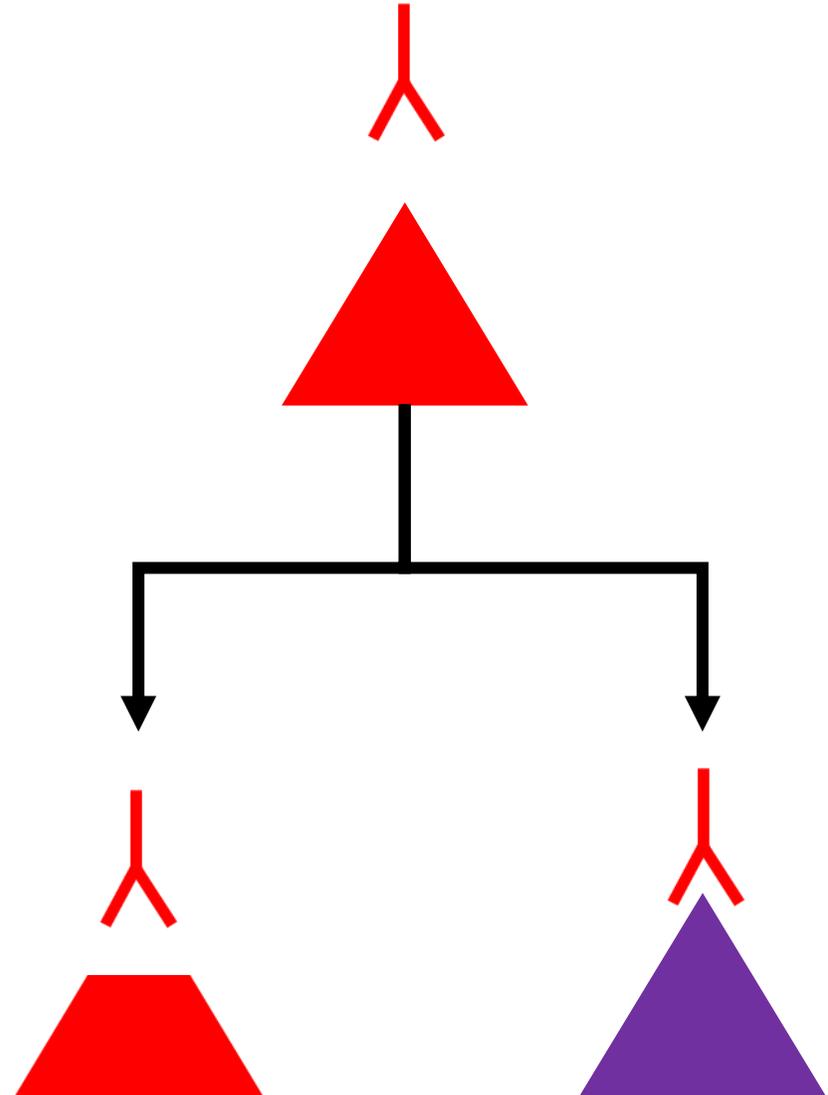
Spike Protein



Human Cell

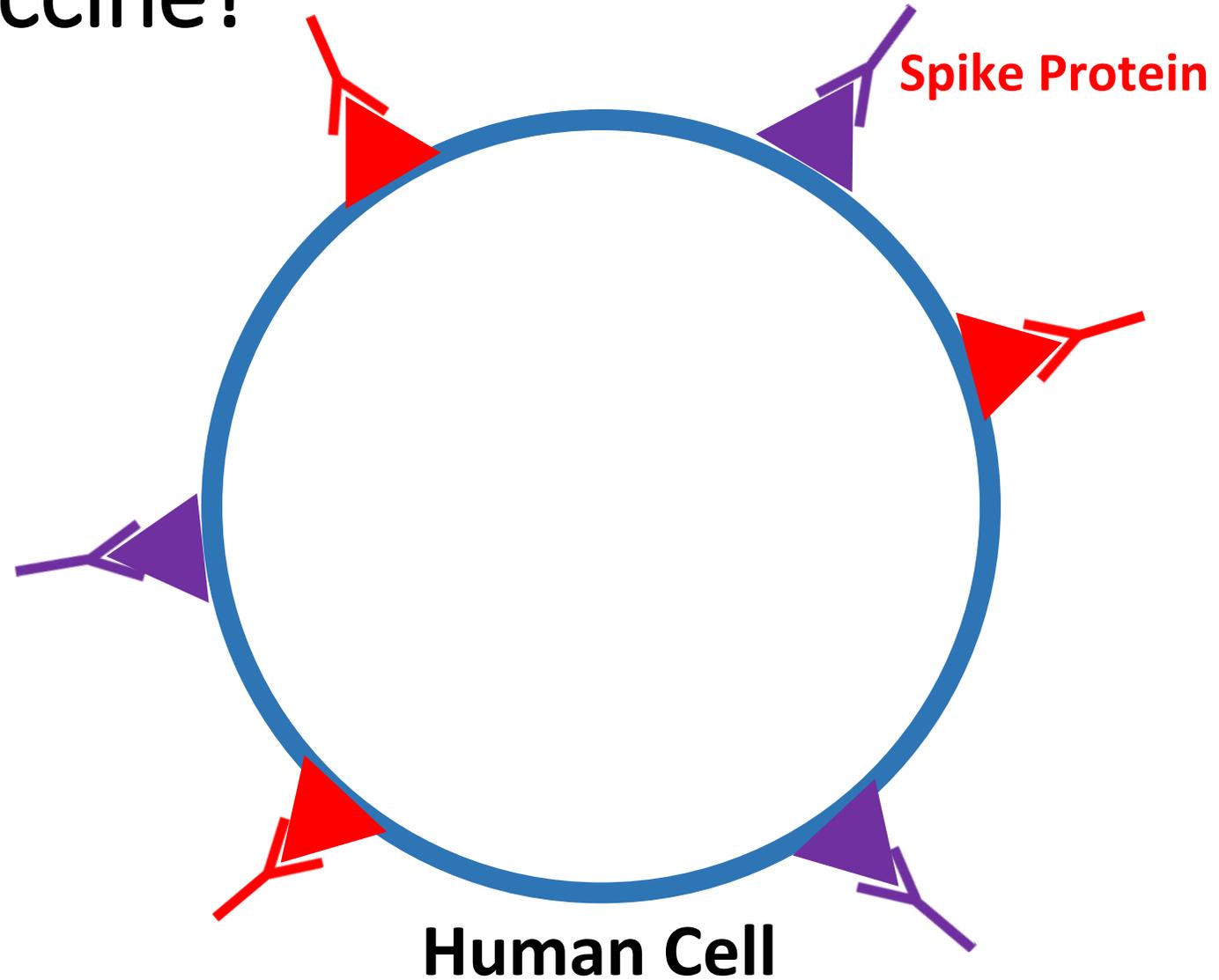
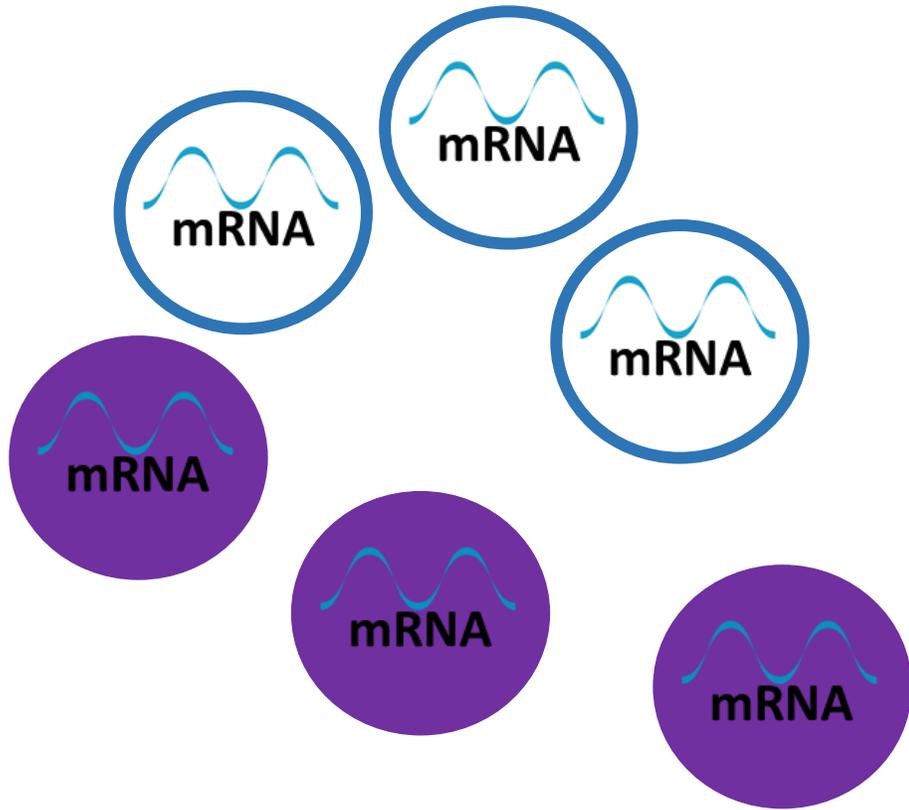
What defines a “variant”

- Focus is on the spike protein
- mRNA vaccines induce immunity by teaching the immune system to create antibodies against the spike protein
- Changes in the spike protein can affect how well the virus attaches to human cells (infectivity) and how invasive the infection is (severity)
- When the spike protein changes enough, the original antibodies may not work as well



What is a Bivalent Vaccine?

mRNA in a bubble



Why is efficacy difficult to study?

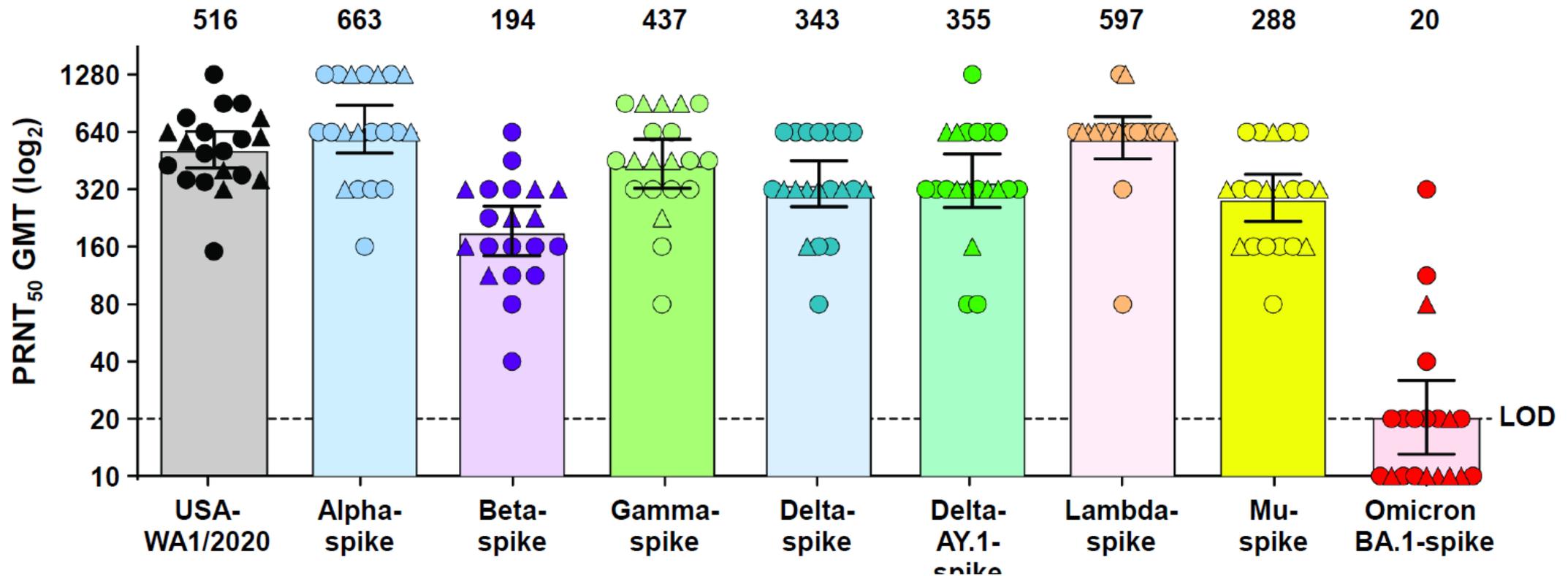
- Situation has changed
- Multiple confounders
 - Infection control measures – masking, social distancing, etc.
 - Number and timing of previous COVID-19 vaccines
 - Number and timing of previous COVID-19 infections
 - Testing ability
- New variants/subvariants
 - Scramble assortment of subvariants: BQ.1, BQ.1.1, XBB, XBB.1.5
- What can we study
 - Immunogenicity
 - Real-world effectiveness

Immunogenicity: Two types of antibodies measures

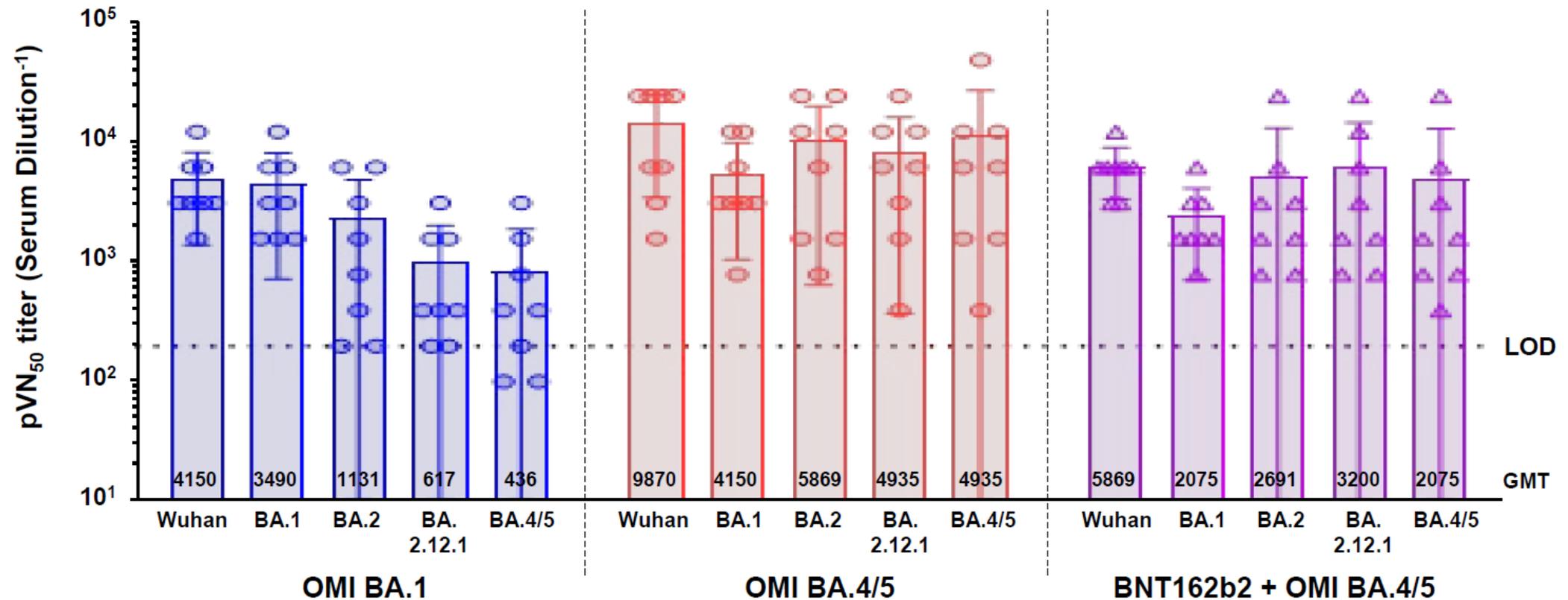
- Total levels – quantitatively measures antibody levels against the spike protein after immunization or infection - **LEVEL**
- Neutralizing levels – antibodies that bind to the virus AND prevent entry into host cell - **FUNCTION**

Immunogenicity of the Original Vaccine (Pfizer)

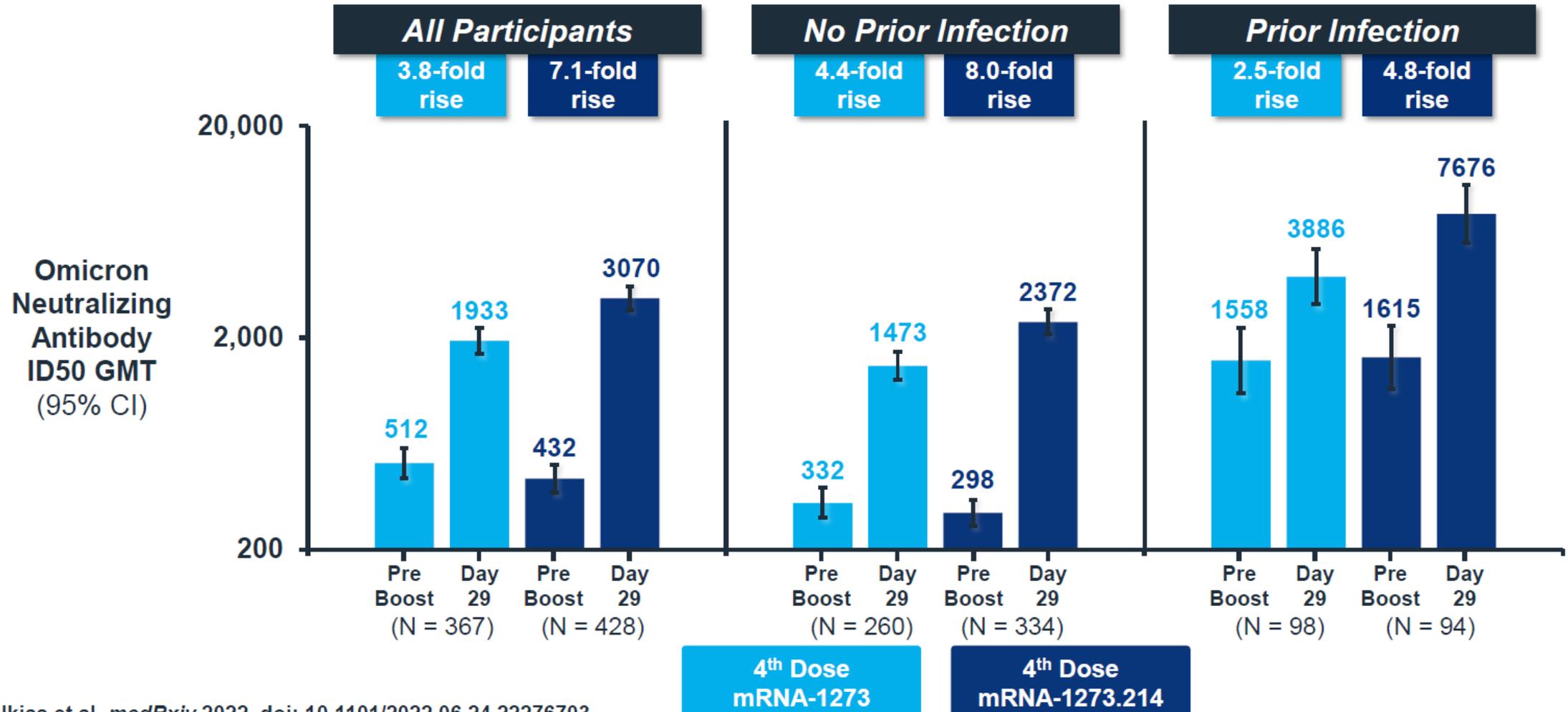
Neutralizing antibody levels against VOC



Pfizer Bivalent Leads to Higher Neutralizing Antibody Level in Mice

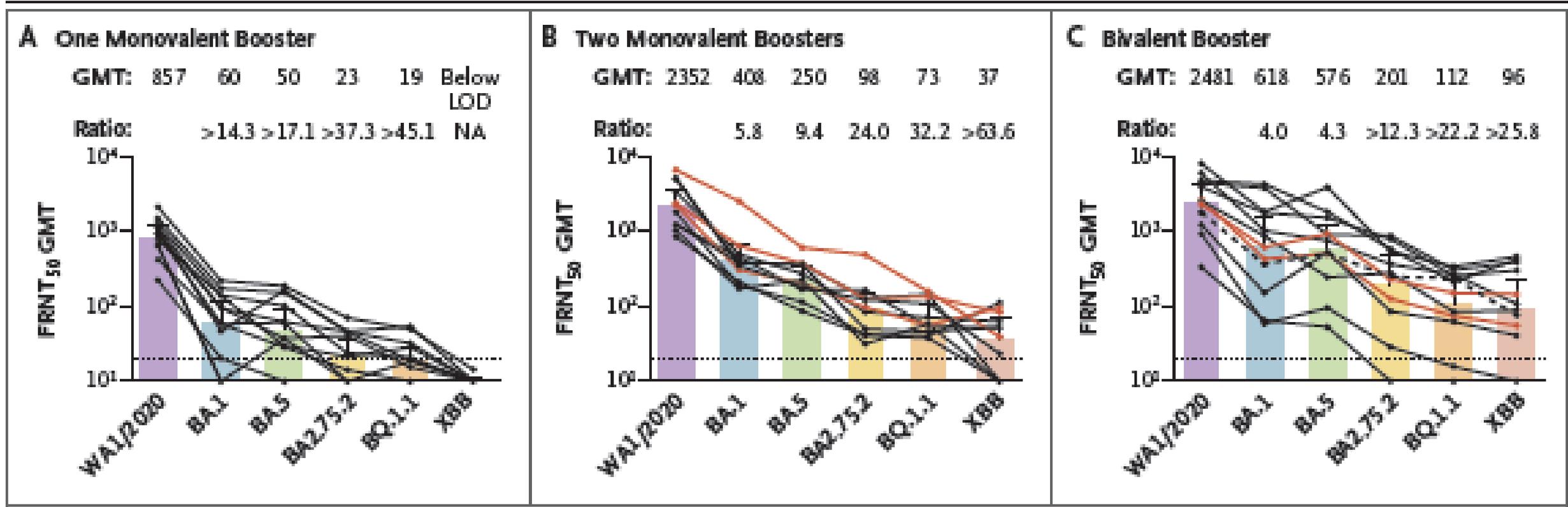


Moderna Bivalent Leads to Higher Neutralizing Antibody Levels in Humans



Wang et al. medRxiv 2022. doi: 10.1101/2022.06.24.22276703

Scrabble Variants



Take home: bivalent booster does induce significantly better immune response than monovalent booster

Take home message: Both bivalent vaccines induce significant immune response that is better than the original vaccine against Omicron subvariants BA.4, BA.5 and the newer scrabble family

Real-World Effectiveness: How do the boosters work in actual people

Effectiveness of Bivalent mRNA Vaccines in Preventing Symptomatic SARS-CoV-2 Infection — Increasing Community Access to Testing Program, United States, September–November 2022

Ruth Link-Gelles, PhD¹; Allison Avrich Ciesla, PhD^{1,2}; Katherine E. Fleming-Dutra, MD¹; Zachary R. Smith, MA³; Amadea Britton, MD¹; Ryan E. Wiegand, PhD¹; Joseph D. Miller, PhD³; Emma K. Accorsi, PhD^{1,4}; Stephanie J. Schrag, DPhil¹; Jennifer R. Verani, MD¹; Nong Shang, PhD¹; Gordana Derado, PhD¹; Tamara Pilishvili, PhD¹

- Sept 14 – Nov 11: COVID-19 360,026 tests performed at pharmacies for symptomatic adults 18 and older

Take home message: bivalent vaccines have moderate effectiveness at preventing infection, increased effectiveness further from last booster

TABLE 3. Relative vaccine effectiveness of a single bivalent mRNA COVID-19 booster dose against symptomatic SARS-CoV-2 infection* received after 2, 3, or 4 monovalent vaccine doses, by age group, number of monovalent COVID-19 vaccine doses received, and interval since last monovalent dose — Increasing Community Access to Testing program, United States, September–November 2022

| Age group, yrs/mos since receipt of most recent monovalent dose | Relative VE (95% CI), by no. of monovalent doses received [†] | | | |
|---|--|------------|----------------------|------------|
| | 2 doses | 3 doses | 4 doses [§] | ≥2 doses |
| 18–49 | | | | |
| 2–3 | 45 (31–56) | 24 (14–33) | NA | 30 (22–37) |
| 4–5 | 47 (35–57) | 41 (35–47) | NA | 43 (38–48) |
| 6–7 | 42 (30–52) | 47 (42–52) | NA | 46 (41–50) |
| ≥8 | 53 (45–60) | 58 (56–61) | NA | 56 (53–58) |
| 50–64 | | | | |
| 2–3 | — | 15 (–4–31) | 33 (24–41) | 31 (24–38) |
| 4–5 | 44 (18–62) | 31 (18–42) | 36 (29–43) | 36 (30–41) |
| 6–7 | 46 (22–62) | 36 (25–45) | 40 (32–47) | 38 (32–43) |
| ≥8 | 61 (49–70) | 51 (45–55) | NA | 48 (45–51) |
| ≥65 | | | | |
| 2–3 | — | — | 32 (23–40) | 28 (19–35) |
| 4–5 | — | 21 (1–36) | 36 (29–42) | 33 (27–39) |
| 6–7 | — | 14 (–6–30) | 40 (33–46) | 36 (29–41) |
| ≥8 | 45 (27–58) | 42 (35–48) | NA | 43 (39–46) |

Early Estimates of Bivalent mRNA Vaccine Effectiveness in Preventing COVID-19–Associated Hospitalization Among Immunocompetent Adults Aged ≥65 Years — IVY Network, 18 States, September 8–November 30, 2022

TABLE 2. Effectiveness of a bivalent COVID-19 mRNA booster dose against COVID-19–associated hospitalization among immunocompetent adults aged ≥65 years — IVY Network, 22 hospitals,* 18 states, September 8, 2022–November 30, 2022

| Characteristic | Received BV vaccine dose, by case status, n/N (%) | | Median interval [†] from last vaccine dose to illness onset, days | Adjusted VE, % (95% CI) [§] |
|--|---|-----------------|--|--------------------------------------|
| | Unvaccinated (Ref) | BV booster dose | | |
| Absolute VE (BV booster dose versus unvaccinated) (Ref) | — | — | NA | — |
| BV booster dose [¶] ≥7 days before illness onset | — | 59/176 (34) | 29 (15–45) | 84 (64–93) |
| Relative VE (BV booster dose versus ≥2 MV-only mRNA doses, last dose ≥12 mos before illness onset) | — | — | 77 | — |
| BV booster dose ≥7 days before illness onset | — | 59/176 (34) | 29 (15–45) | 73 (52–85) |
| ≥2 MV-only mRNA doses, last dose ≥12 mos before illness onset | — | — | 55 | — |
| BV booster dose ≥7 days before illness onset | — | 59/176 (34) | 29 (15–45) | —** |
| ≥2 MV-only mRNA doses, last dose ≥12 mos before illness onset | — | — | 33 | — |
| BV booster dose ≥7 days before illness onset | 20/103 (19) | 59/176 (34) | 29 (15–45) | 78 (57–89) |
| ≥2 MV-only mRNA doses, last dose ≥12 mos before illness onset (Ref) | — | — | 528 (386–575) | — |
| BV booster dose ≥7 days before illness onset | 20/103 (19) | 59/142 (42) | 29 (15–45) | 83 (63–92) |

Take home point: Bivalent boosters are extremely effective at preventing hospitalization in older adults compared to unvaccinated and previously COVID-19 individuals

**Early Estimates of Bivalent mRNA Vaccine Effectiveness in Preventing
COVID-19–Associated Emergency Department or Urgent Care Encounters and
Hospitalizations Among Immunocompetent Adults — VISION Network,
Nine States, September–November 2022**

TABLE 2. Bivalent booster COVID-19 vaccine effectiveness* against laboratory confirmed COVID-19–associated emergency department and urgent care encounters and hospitalizations among immunocompetent adults aged 18 years — nine states,† September–November 2022

| mRNA dosage pattern | Total | Negative SARS-CoV-2 test result, no. (%) | Positive SARS-CoV-2 test result, no. (%) | Median interval since last dose, days (IQR) | VE % (95% CI) |
|---|----------------|--|--|---|---------------|
| ED/UC encounters | | | | | |
| Relative VE | | | | | |
| Only MV doses, last dose 2–4 mos earlier | 5,668 | 5,131 (91) | 537 (9) | 115 (91–134) | Ref |
| BV booster dose, ≥7 days earlier | 3,905 | 3,658 (94) | 247 (6) | 25 (16–37) | 31 (19–41) |
| Only MV doses, last dose 5–7 mos earlier | 6,891 | 6,166 (89) | 725 (11) | 184 (166–209) | Ref |
| BV booster dose, ≥7 days earlier | 3,905 | 3,658 (94) | 247 (6) | 25 (16–37) | 42 (32–50) |
| Only MV doses, last dose 8–10 mos earlier | 14,220 | 12,543 (88) | 1,677 (12) | 294 (273–312) | Ref |
| BV booster dose, ≥7 days earlier | 3,905 | 3,658 (94) | 247 (6) | 25 (16–37) | 53 (46–60) |
| Only MV doses, last dose ≥11 mos earlier | 23,477 | 20,694 (88) | 2,783 (12) | 459 (365–542) | Ref |
| BV booster dose, ≥7 days earlier | 3,905 | 3,658 (94) | 247 (6) | 25 (16–37) | 50 (43–57) |
| Absolute VE | | | | | |
| Unvaccinated | 24,142 | 21,102 (87) | 3,040 (13) | NA | Ref |
| BV booster dose, ≥7 days earlier | 3,905 | 3,658 (94) | 247 (6) | 25 (16–37) | 56 (49–62) |
| Hospitalizations | | | | | |
| Relative VE | | | | | |
| Only MV doses, last dose 2–4 mos earlier | — [§] | — | — | — | — |
| BV booster dose, ≥7 days earlier | — | — | — | — | — |
| Only MV doses, last dose 5–7 mos earlier | 1,819 | 1,652 (91) | 167 (9) | 178 (164–201) | Ref |
| BV booster dose, ≥7 days earlier | 783 | 734 (94) | 49 (6) | 23 (14–34) | 38 (13–56) |
| Only MV doses, last dose 8–10 mos earlier | 2,655 | 2,422 (91) | 233 (9) | 294 (273–313) | Ref |
| BV booster dose, ≥7 days earlier | 783 | 734 (94) | 49 (6) | 23 (14–34) | 42 (19–58) |
| Only MV doses, last dose ≥11 mos earlier | 4,595 | 4,147 (90) | 448 (10) | 472 (362–556) | Ref |
| BV booster dose, ≥7 days earlier | 783 | 734 (94) | 49 (6) | 23 (14–34) | 45 (25–60) |
| Absolute VE | | | | | |
| Unvaccinated | 4,092 | 3,658 (89) | 434 (11) | NA | Ref |
| BV booster dose, ≥7 days earlier | 783 | 734 (94) | 49 (6) | 23 (14–34) | 57 (41–69) |

Cleveland Clinic Employees (Preprint)

- 51011 employees with 41% with previous COVID, 83% with at least 2 vaccine doses
- Bivalent vaccine associated with decreased odds of infection (OR=0.70, 95% CI 0.61-0.80)
- Risk of COVID-19 increased with increasing time from last dose vaccine dose and last COVID-19 infection

Can COVID-19 vaccines prevent long COVID?

First – Why is it important to worry about long COVID

- Huge burden because of the number of people infected, some estimates are 1 in 3 individuals with mild to moderate symptoms of COVID-19 will have persistent symptoms beyond 4 weeks
- Huge impact – school, education, return to work, ability to exercise, impact on other health problems
- Major societal concern about large population of individuals who may be unable to work in coming year

Second – Why is it difficult to study?

- No standard definition of long COVID
- Variable times of onset
- Variable time since last vaccine / last COVID-19 infection
- Vaccine clinical trials were not designed to track long COVID
- No singular long COVID registry although they are being set up

Association between BNT162b2 vaccination and reported incidence of post-COVID-19 symptoms: cross-sectional study 2020-21, Israel

Paul Kuodi ¹, Yanay Gorelik¹, Hiba Zayyad^{1,2}, Ofir Wertheim², Karine Beirut Wiegler³, Kamal Abu Jabal ^{1,3}, Amiel A. Dror^{1,4}, Saleh Nazzal², Daniel Glikman ^{1,2} and Michael Edelstein ^{1,3}✉

Table 2. Post COVID-19 symptoms among vaccinated and unvaccinated participants.

| Post COVID symptoms | Number and proportion experiencing post COVID symptoms | | | |
|--------------------------|--|--------------------------------------|---|---------------------------|
| | All participants (n = 951) | Received 1 vaccine dose (n = 340) | Received two vaccine doses (n = 294) | Unvaccinated (n = 317) |
| Fatigue | 208 (21.9%) | 93 (27.4%) | 33 (11.2%) | 82 (25.9%) |
| Headache | 190 (20%) | 80 (23.5%) | 41 (14%) | 69 (21.8%) |
| Weakness in arms or legs | 128 (13.5%) | 57 (16.8%) | 20 (6.1%) | 51 (16.1%) |
| Persistent muscle pain | 98 (10.3%) | 45 (13.2%) | 17 (5.8%) | 36 (11.4%) |
| Loss of concentration | 90 (9.5%) | 44 (12.9%) | 13 (4.4%) | 33 (10.4%) |
| Hair loss | 88 (9.3%) | 43 (12.7%) | 9 (3.1%) | 36 (11.4%) |
| Problem sleeping | 85 (8.9%) | 42 (12.4%) | 14 (4.8%) | 29 (9.2%) |
| Dizziness | 74 (7.8%) | 30 (8.8%) | 12 (4.1%) | 32 (10.1%) |
| Persistent cough | 70 (7.4%) | 26 (7.7%) | 20 (6.8%) | 24 (7.6%) |
| Shortness of breath | 68 (7.2%) | 29 (8.5%) | 14 (4.8%) | 25 (7.9%) |
| Loss of taste | 63 (6.6%) | 20 (5.9%) | 15 (5.1%) | 28 (8.8%) |

Association Between BNT162b2 Vaccination and Long COVID After Infections Not Requiring Hospitalization in Health Care Workers

JAMA August 16, 2022 Volume 328, Number 7

2,560 patients
739 had confirmed COVID-19
229 had long COVID-19

| | Had long COVID | | Did not have long COVID | | P value |
|--|----------------|-------------------------|-------------------------|-------------------------|--------------------|
| | No. | % (95% CI) ^a | No. | % (95% CI) ^a | |
| No. | 229 | 31.0 (27.7-34.5) | 510 | 69.0 (65.5-72.3) | .11 ^b |
| Women | 180 | 32.7 (28.8-36.8) | 371 | 67.3 (63.2-71.2) | |
| Men | 49 | 26.1 (19.9-33.0) | 139 | 73.9 (67.0-80.1) | |
| Age, mean (SD), y | 44.3 (10.7) | | 41.2 (11.4) | | <.001 ^c |
| BMI, mean (SD) | 24.3 (4.3) | | 23.5 (3.7) | | .01 ^c |
| Vaccine doses before SARS-CoV-2 Infection ^e | | | | | <.001 ^b |
| 0 | 176 | 41.8 (37.0-46.7) | 245 | 58.2 (53.3-63.0) | |
| 1 | 3 | 30.0 (6.7-65.2) | 7 | 70.0 (34.8-93.3) | |
| 2 | 8 | 17.4 (7.8-31.4) | 38 | 82.6 (68.6-92.2) | |
| 3 | 42 | 16.0 (11.8-21.0) | 220 | 84.0 (79.0-88.2) | |

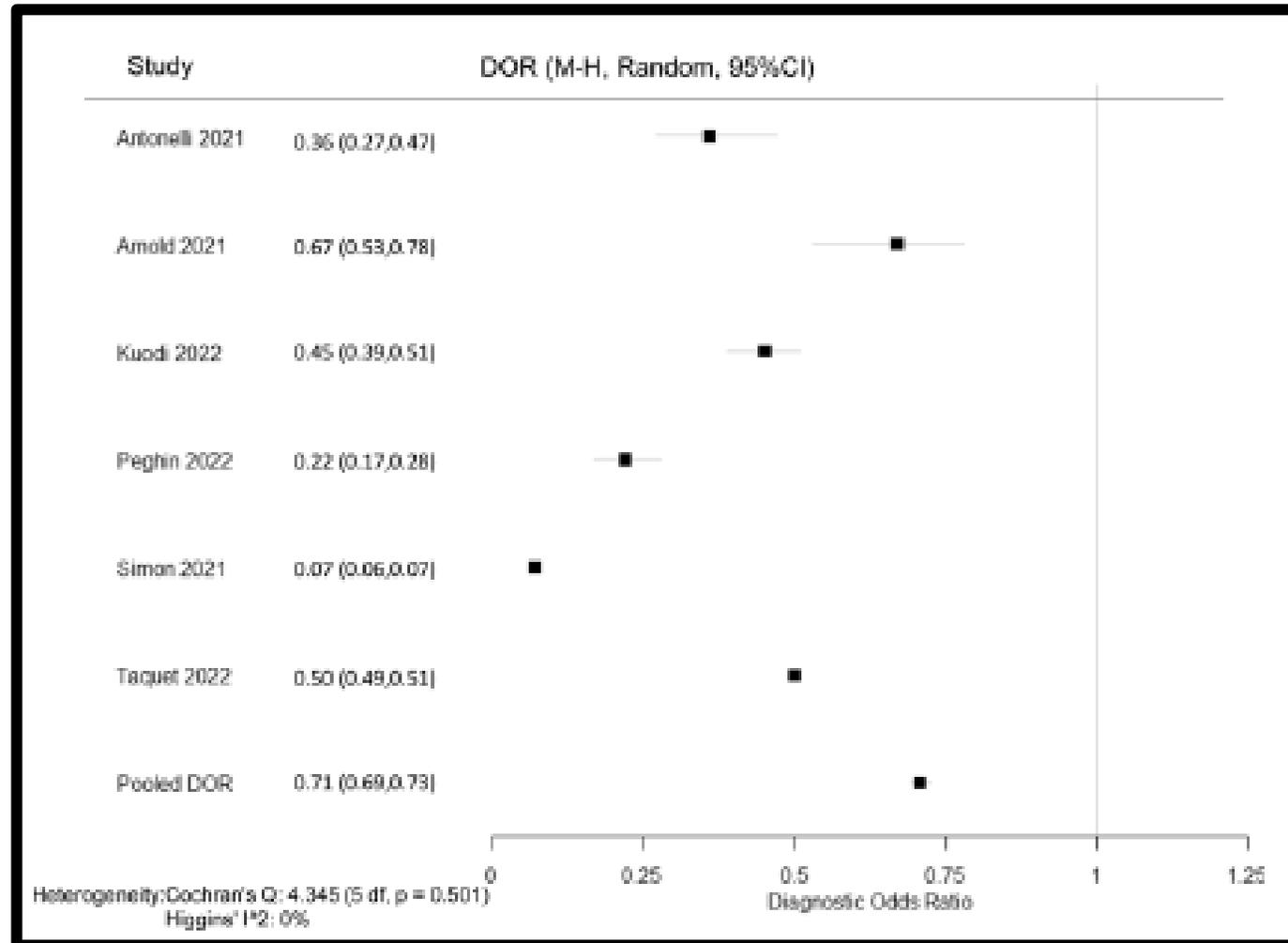
Impact of COVID-19 vaccination on the risk of developing long-COVID and on existing long-COVID symptoms: A systematic review

Kin Israel Notarte,^a Jesus Alfonso Catahay,^b Jacqueline Veronica Velasco,^c Adriel Pastrana,^c Abbygail Therese Ver,^c Flos Carmeli Pangilinan,^c Princess Juneire Peligro,^c Michael Casimiro,^c Jonathan Jaime Guerrero,^d Ma. Margarita Leticia Gellaco,^c Giuseppe Lippi,^e Brandon Michael Henry,^f and César Fernández-de-las-Peñas^{g}*

Findings From 2584 studies identified, 11 peer-reviewed studies and six preprints were included. The methodological quality of 82% ($n=14/17$) studies was high. Six studies ($n=17,256,654$ individuals) investigated the impact of vaccines before acute SARS-CoV-2 infection (vaccine-infection-long-COVID design). Overall, vaccination was associated with reduced risks or odds of long-COVID, with preliminary evidence suggesting that two doses are more effective than one dose.

Original Article

The effectiveness of coronavirus disease 2019 (COVID-19) vaccine in the prevention of post-COVID-19 conditions: A systematic literature review and meta-analysis



Take home: Vaccines probably reduce long COVID in 2 ways

1. You can't get long COVID if you don't get COVID-19
2. Vaccinated individuals who still get COVID-19 seem to be at lower risk for long-term symptoms

Increase awareness of the “triple-demic” for COVID-19, RSV, and Influenza, and how vaccination can play a key role in keeping people safe

Hospitals are full

Hospitals in the US are the fullest they've been throughout the pandemic – but it's not just Covid

By Deldre McPhillips, CNN

Updated 12:18 PM EST, Fri December 9, 2022

PUBLIC HEALTH

Children's hospitals are struggling to cope with a surge of respiratory illness

December 15, 2022 - 7:01 AM ET

KATE WELLS

FROM  MICHIGAN RADIO

With hospitals at 90% capacity, officials worried about new COVID-19 surge

Updated: 7:20 AM EST Jan 3, 2023

<https://www.wbaltv.com/article/with-hospitals-90-capacity-officials-worried-about-covid-19-surge/42383873>

LOCAL NEWS

**Some hospitals
full ICUs after**

Both Mercy Hospitals in Northwest Arkansas
their ICUs are at capacity.

Author: Kathryn Glicker

Published: 6:11 PM CST January 5, 2023

Updated: 6:11 PM CST January 5, 2023

<https://www.5newsonline.com/article/news/local/arkansas-hospitals-icu-capacity-covid-flu/527-b2f861bc-663d-41fa-9a6e-9785afb4427f>

Health care workers are burnt out

STRIKE

NYC Hospitals Start Moving Sick Babies, Diverting Patients as Nurse Strike Looms

The New York State Nurses Association has as many as 10,000 members, threatening to conduct strikes at hospitals wh

How the Minnesota Nurses' St

ON THE PICKET LINE

Nurses strike Sutter Health hospitals over wages, staffing

BY ERIC SIMPSON

Vol. 87/No. 2

January 9, 2023

PRESS RELEASE

Alta Bates Summit nurses to hold strike in Oakland and Berkeley

California Nurses Association/National Nurses United December 23, 2022



What Can You Do? – Stay out of the hospital!

- **Get the bivalent booster**
- **If you get COVID-19 and are high risk, talk to your medical team about Paxlovid**
- **Get your influenza vaccine**

Bivalent Booster FAQ

- Do the bivalent boosters prevent COVID-19 with the new variants?
- Yes, there is good evidence of a modest reduction in symptomatic infections.

- Do the bivalent boosters prevent hospitalization from COVID-19 with the new variants?
- Yes, there is even stronger evidence of a substantial reduction in the risk of being hospitalized if you get the bivalent vaccines.

- What are the side effects?
- The same as the original vaccines. To date, over 650 million doses of COVID-19 vaccines have been administered in the US. While there are side effects, these vaccines have been shown to be incredibly safe.

- Who is eligible to get the bivalent boosters?
- Almost Everyone!

Kids and Adults

- Completed primary series
- More than 2 months since your last booster
- No history of allergic reaction to a COVID-19 vaccine
- Either the Pfizer (5 and older) or Moderna (6 and older) bivalent booster

Young Kids (must be same as primary series)

Pfizer

- 6 mo – 4 years
- Can be used as 3rd dose in primary series
- Not yet authorized as a 4th dose

Moderna

- 6 mo – 5 years
- Authorized as booster dose
- 2 months after last dose

- Who should not get the new booster?
- Past allergic reaction to a COVID-19 vaccine
- Can consider waiting 3 months after a COVID-19 infection

- Do the new boosters work against the Scrabble variants?
- We think so, but possibly slightly less effective than compared to BA.5

Thank you to all health care workers!

Questions?

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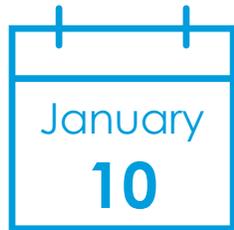
> Questions?

Upcoming Events



For all other events, visit our website:
<https://www.telligenqiconnect.com/calendar>

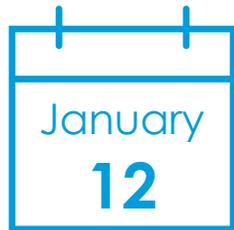
Don't miss out on these upcoming events:



Give Your Nursing Home a Boost – Setting Intentions for the New Year: Strategies for Burnout

Occurs every Tuesday at 12:00pm – 12:30pm CT

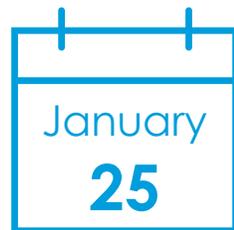
[Registration link](#)



Ask an Expert - Emergency Preparedness Planning Series (3 of 6) – Communication Plan

Occurs every Thursday at 11:00am – 11:30am CT

[Registration link](#)



Wake up Wednesday: High-risk Medication ECHO® Series

2nd and 4th Wednesdays, January 25 – April 26 at 8:30am – 9:00am CT

[Registration link](#)



vax hub

Resources

- Telligen’s [Vax Hub](#) provides on-demand tools, resources, and learning modules related to the COVID-19 vaccine and bivalent booster.
- [We Can Do This](#) is a COVID-19 public education campaign to increase vaccine confidence and awareness about treatments while reinforcing basic prevention measures.

