

DECLARATION OF TARA VIJAYAN, M.D., M.P.H.

I, Tara Vijayan, declare:

I. Background and Qualifications

1. My name is Dr. Tara Vijayan. I am an Associate Professor of Medicine in the Division of Infectious Diseases at the UCLA David Geffen School of Medicine. My research and clinical work focus on general infectious diseases, HIV medicine, global and underserved health, health equity, medical education, and antimicrobial stewardship. I am currently the Medical Director of Antimicrobial Stewardship for UCLA Health and Medical Director for COVID-19 Preparedness for the Division of Infectious Diseases. In that capacity, I am currently overseeing the treatment of patients with COVID-19 at UCLA hospitals. I am board-certified in Internal Medicine and Infectious Disease, and I completed a three-year fellowship in Infectious Disease at the University of California, San Francisco.
2. A current copy of my CV is attached at the end of this declaration as **Exhibit A**.
3. I have been retained by Plaintiffs' counsel as an expert in this case. I am providing my services pro bono and am not being compensated for my work and testimony in this case.
4. I submit this declaration to discuss the particular dangers that people in immigration detention face with regard to COVID-19, especially with the emergence of new variants, and the critical importance of COVID-19 vaccines and boosters to protect their health and safety.

II. COVID-19 Background

5. COVID-19 (caused by the SARS-CoV-2 virus) is a serious and potentially deadly contagious disease with over 350 million confirmed diagnoses as of January 23, 2022, including over 70 million in the United States.¹ It is quite likely that this number is an undercount of cases in the United States, as many positive tests are confirmed only with at-home rapid tests.² As of January 23, 2022, according to the U.S. Centers for Disease

¹ John Hopkins University, Coronavirus Resource Center, *COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University*, <https://coronavirus.jhu.edu/map.html> (last visited Jan. 23, 2021).

² Marie Louise Kelly, *These Are the Numbers Health Officials Are Watching At This Point in the Pandemic*, NPR, Jan. 4, 2022, <https://www.npr.org/2022/01/04/1070008296/covid-omicron-cases-numbers-deaths-hospitalizations>; Jenni Fink, *America Is Likely Undercounting Infections Amid COVID Surge That's Nearly Doubled Cases*, Newsweek, Dec. 30, 2021, <https://www.newsweek.com/america-likely-undercounting-infections-amid-covid-surge-thats-nearly-doubled-cases-1664396>.

Control and Prevention (“CDC”), at least 862,494 people in the United States have died due to complications from COVID-19.³

6. The effects of COVID-19 can be very severe, including the need for hospitalization, intensive care, and use of a ventilator to assist in breathing. COVID-19 effects can include severe respiratory illness, major organ damage such as myocarditis, blood clots (in the lungs as well as strokes), multisystem inflammatory syndrome, and death. Patients who recover from COVID-19 often suffer lasting and serious complications, including long term effects on the central and peripheral nervous systems resulting in fatigue, memory loss, difficulty concentrating, sleep problems, joint pain, chest pain, dizziness, dysautonomia, headaches, and strokes.⁴ Some patients who recover from COVID-19 may also experience long-term neurological complications, including mental fog and confusion. These patients may also experience cardiovascular effects such as injury to the heart, which can cause long-term heart problems, such as abnormal heart rhythm and heart attacks. Some patients may experience ongoing pulmonary dysfunction including difficulty breathing and shortness of breath, while others never regain normal lung function.⁵ Patients who survive intensive care may face even further complications from prolonged treatment itself, including debilitating weakness and fatigue, and post-traumatic stress disorder including delusion and nightmares, anxiety, depression, and challenges functioning in daily life. Patients may experience profound bodily weakness after ventilation, and paralysis of vocal cords.⁶
7. The effects of COVID-19 are particularly significant for people age 50 and older, and those of any age with underlying health problems such as—but not limited to—cancer, obesity, weakened immune systems, serious heart conditions, hypertension, chronic lung and kidney disease, chronic obstructive pulmonary disease (“COPD”), diabetes, HIV infection, pregnancy, history of smoking, substance use disorders, tuberculosis, and mental health conditions.⁷

³ Centers for Disease Control and Prevention, *CDC COVID Data Tracker, United States COVID-19 Cases, Deaths, and Laboratory Testing (NAATs) by State, Territory, and Jurisdiction*, https://covid.cdc.gov/covid-data-tracker/#cases_totalcases (last visited Jan. 23, 2021).

⁴ Bjørn Blomberg, et al., *Long COVID in a Prospective Cohort of Home-Isolated Patients*, *Nature Med.* (June 23, 2021), <https://www.nature.com/articles/s41591-021-01433-3>; Ani Nalbandian, et al., *Post-acute COVID-19 Syndrome*, *27 Nature Med.* 601 (March 22, 2021), <https://doi.org/10.1038/s41591-021-01283-z>.

⁵ Brigham and Women’s Hospital, *Understanding the Long-Term Effects of COVID-19*, <https://www.brighamandwomens.org/campaigns/physicians/understanding-long-term-effects-of-covid-19> (last visited Jan. 19, 2022).

⁶ Lenny Bernstein and Dan Keating, *For Many ICU Survivors and Their Families, Life Is Never the Same: Physical, Mental, and Cognitive Problems Can Last Years After COVID-19 Illness is Conquered*, *Washington Post*, Nov. 12, 2021, <https://www.washingtonpost.com/health/2021/11/12/covid-icu-intensive-care-syndrome/>.

⁷ CDC, *COVID-19: People with Certain Medical Conditions*, <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html> (Dec. 14, 2021).

8. People housed in congregate settings, including nursing homes, residential care, and jails, prisons, and other detention facilities are at heightened risk of contracting and becoming ill with COVID-19.⁸

III. The Omicron Variant

9. In recent weeks, the United States has faced a devastating surge in COVID-19 cases and deaths due to the emergence of the highly transmissible Omicron variant. The Omicron variant is five times as transmissible as the original. The Omicron variant is estimated to have a R_0 of 10, due to a shorter viral incubation period and greater transmissibility, where each person infected by the Omicron variant is estimated to infect 10 people. The Delta variant had an R_0 of 7, compared with an R_0 of 2 or 3 for the original. (A R_0 , pronounced R-naught, is an estimate of how many people one contagious person is likely to infect on average.)⁹ The overwhelming majority of COVID-19 cases in the United States are now caused by the Omicron variant. As of January 15, 2022, over 99 percent of COVID-19 cases in the United States are estimated to have been caused by Omicron.¹⁰ Daily case records have quintupled in the last month from the previous high point as Omicron has spread, with an average of 726,820 new cases each day in the past seven days.¹¹
10. Although many cases of Omicron infection may cause “mild” illness, this is hardly the case for certain populations, including those with underlying medical conditions, those who are immunocompromised, or those who have not received full vaccination or booster doses. There has been a significant increase in hospitalizations among fully vaccinated individuals with immunocompromising conditions including those who have received transplanted organs. The vast majority of hospitalizations and deaths that have occurred since the emergence of the Omicron variant have occurred among those who are unvaccinated, not fully vaccinated, or those at risk for poor vaccine response due to immunocompromising conditions.¹² Added to the issue of a critical shortage of healthcare

⁸ Benjamin Barsky, Eric Reinhart, Paul Farmer, and Salmaan Keshavjee, *Vaccination Plus Decarceration—Stopping COVID-19 in Jails and Prisons*, New England Journal of Medicine, Apr. 29, 2021, <https://www.nejm.org/doi/full/10.1056/NEJMp2100609>.

⁹ Talha Khan Burki, *Omicron Variant and Booster COVID-19 Vaccines*, The Lancet Respiratory Medicine, Dec. 17, 2021, [https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(21\)00559-2/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(21)00559-2/fulltext); Jansen L, Tegomoh B, Lange K, et al. Investigation of a SARS-CoV-2 B.1.1.529 (Omicron) Variant Cluster — Nebraska, November–December 2021. MMWR Morb Mortal Wkly Rep 2021;70:1782–1784. DOI: <http://dx.doi.org/10.15585/mmwr.mm705152e3>external icon.

¹⁰ CDC, CDC COVID Data Tracker, *Variant Proportions*, <https://covid.cdc.gov/covid-data-tracker/#variant-proportions> (Jan. 15, 2022).

¹¹ CDC, CDC COVID Data Tracker, *Trends in Number of COVID-19 Cases and Deaths in the U.S. Reported to CDC, by State/Territory*, https://covid.cdc.gov/covid-data-tracker/#trends_dailycases (last visited Jan. 23, 2022).

¹² Emily Barone, *These Charts Show That COVID-19 Is Still the Pandemic of the Unvaccinated*, Time, Jan. 12, 2021, <https://time.com/6138566/pandemic-of-unvaccinated/>; David Leonardt and Ashley Wu, *The Growing Gap*, N.Y. Times, Jan. 11, 2021, <https://www.nytimes.com/2022/01/11/briefing/omicron-deaths-vaccinated-vs-unvaccinated.html>.

workers, we have now approached an unprecedented crisis.¹³ Although recent reports suggest that COVID cases are beginning to decline from record highs in some regions, the pandemic has yet to reach its peak in others, and hospitals remain overwhelmed, even in areas where numbers are decreasing.¹⁴

11. The Omicron variant, moreover, is less responsive to established treatments for COVID-19, including monoclonal antibody treatments. Most therapeutic monoclonal antibody treatments available against SARS-CoV-2 are ineffective against Omicron.¹⁵ The antibody treatment that works best with the Omicron variant, Sotrovimab, is in extremely short supply in the United States.¹⁶ Furthermore, the oral antiviral Paxlovid, which is as effective as Sotrovimab, has many drug interactions which preclude its use in many patients including those who have undergone transplants (who need certain medication to prevent organ rejection) and those on blood thinners. Due to current scarcity, these treatments have been prioritized for those who meet criteria for the highest risk of progression to severe COVID-19, including immunocompromised individuals not expected to mount an adequate immune response to COVID-19 and unvaccinated individuals of advanced age with additional risk factors.¹⁷
12. Combined with a greater infection rate, Omicron has led to an exponential rise in hospitalizations across the U.S. As a result of the Omicron variant, the number of U.S. patients hospitalized with COVID-19 has reached record levels. As of January 11, 2022, more than 145,900 people were hospitalized with COVID-19, almost twice the number two weeks before.¹⁸ At that point, the seven-day average of daily hospitalizations was 132,086 people, an increase of 83 percent from two weeks before.¹⁹ As of January 20,

¹³ Rong-Gong Lin, Luke Money, Emily Alpert Reyes, *California Approaches Pandemic Record Hospitalizations*, L.A. Times, Jan. 19, 2022, <https://www.latimes.com/california/story/2022-01-19/california-approaches-pandemic-record-for-all-hospitalizations>.

¹⁴ Kathy Park, *Hospitals Overwhelmed by Omicron Despite Reports of COVID-19 Cases Peaking*, NBC News, Jan. 22, 2022, <https://www.today.com/video/hospitals-overwhelmed-by-omicron-despite-reports-of-covid-19-cases-peaking-131457605732>; Jessica Glenza, *U.S. Hospitals Struggle as Omicron COVID Surge Delays Other Treatments*, The Guardian, Jan. 23, 2022, <https://www.theguardian.com/world/2022/jan/22/us-hospitals-omicron-covid-surge-treatments-vaccines-cdc-walensky>.

¹⁵ Planas, D., Saunders, N., Maes, P. *et al.* Considerable Escape of SARS-CoV-2 Omicron to Antibody Neutralization. *Nature* (2021). <https://doi.org/10.1038/s41586-021-04389-z>; Ludwig Burger, *Lab Tests: Eli Lilly, Regeneron Antibody Therapies Lose Out Against Omicron*, Reuters, Dec. 14, 2021, <https://www.reuters.com/business/healthcare-pharmaceuticals/lab-test-eli-lilly-regeneron-antibody-therapies-lose-out-against-omicron-2021-12-14/>.

¹⁶ Christina Jewett, Carl Zimmer, Rebecca Robbins, *Hospitals Scramble as Antibody Treatments Fail Against Omicron*, NY Times, Dec. 21, 2021, <https://www.nytimes.com/2021/12/21/health/covid-monoclonal-antibodies-omicron.html>.

¹⁷ See National Institutes of Health, *COVID-19 Treatment Guidelines Panel's Interim Statement on Patient Prioritization for Outpatient Anti-SARS-CoV-2 Therapies or Preventative Strategies When There Are Logistical or Supply Constraints*, (Dec. 23, 2021), <https://www.covid19treatmentguidelines.nih.gov/therapies/statement-on-patient-prioritization-for-outpatient-therapies/>; UCLA Health, *COVID19 Outpatient Treatment*, (Jan. 18, 2022); <https://www.uclahealth.org/conditions-we-treat/coronavirus/covid-19-outpatient-treatment>.

¹⁸ Department of Health and Human Services, HHS Protect Public Data Hub: Hospital Utilization, (Jan. 14, 2022), <https://protect-public.hhs.gov/pages/hospital-utilization>.

¹⁹ New York Times, *COVID News: U.S. Hospitalizations Break Record as Omicron Surges*, Jan. 13, 2022, <https://www.nytimes.com/live/2022/01/10/world/omicron-covid-testing-vaccines>.

2021, this number has only increased, with 160,113 people nationwide hospitalized with COVID-19.²⁰ Hospitals nationwide have become overwhelmed,²¹ leading to significant staffing shortages,²² incapacitating emergency rooms,²³ and delaying surgeries.²⁴

13. Omicron is only the newest SARS-CoV-2 variant of concern to emerge since the start of the COVID-19 pandemic. New variants will continue to occur as the virus adapts genetically and as the vast majority of the world's population remains unvaccinated. It is unclear as to whether future variants will be equally virulent or transmissible, but there is little doubt that the public is likely to face similar surges in infection rates following a new variant's introduction in the future.²⁵ Even if these variants are less likely to cause severe disease to the general population, those who remain unvaccinated or are not likely able to mount an adequate response to vaccination will continue to be at risk for severe disease and hospitalization.

IV. The Danger of COVID-19 in Carceral Settings, Including Immigration Detention Facilities

14. SARS-CoV2 is easily transmitted from person to person. The predominant mode of transmission of SARS-CoV-2 is via respiratory droplets. The risk of severe disease also increases with exposure to a higher viral inoculum (or amount of virus to which one is exposed).²⁶ A person who is in a prison or jails, by nature of the living arrangements and density of people, may be frequently exposed to a high viral inoculum, given poor ventilation and difficulty achieving social distancing in shared living and sleeping areas.

²⁰ Department of Health and Human Services, *HHS Protect Public Data Hub: Hospital Utilization*, <https://protect-public.hhs.gov/pages/hospital-utilization> (Jan. 20, 2022).

²¹ Paulina Firozi and Paulina Villegas, *States and Health Systems Activate Crisis Standards, New Protocols as Omicron Strains U.S. Hospitals*, Washington Post, Jan. 10, 2022, <https://www.washingtonpost.com/health/2022/01/10/colorado-crisis-standards-omicron-strain-hospitals/>.

²² Dakin Andone and Susannah Cullianane, *Nearly a Quarter of Hospitals Are Reporting a Critical Staff Shortage as Omicron Drives a Rise in COVID-19 Cases*, CNN, Jan. 9, 2022, <https://www.cnn.com/2022/01/09/health/us-coronavirus-sunday/index.html>.

²³ Will Stone, *ERs Are Overwhelmed As Omicron Continues to Flood Them with Patients*, NPR News, Jan. 13, 2022, <https://www.npr.org/sections/health-shots/2022/01/13/1072902744/ers-are-overwhelmed-as-omicron-continues-to-flood-them-with-patients>.

²⁴ Ahmed Aboulenein, *Overwhelmed by Omicron Surge, U.S. Hospitals Delay Surgeries*, Reuters, Jan. 7, 2022, <https://www.reuters.com/world/us/overwhelmed-by-omicron-surge-us-hospitals-delay-surgeries-2022-01-07/>.

²⁵ CDC, *What You Need to Know About Variants* (Dec. 13, 2021), <https://www.cdc.gov/coronavirus/2019-ncov/variants/about-variants.html>; Ewen Callaway, *Beyond Omicron: What's Next for COVID's Viral Evolution*, Nature, Jan. 5, 2022, <https://www.nature.com/articles/d41586-021-03619-8>; Amy McKeever, *COVID-19 Variants Will Keep Coming Until Everyone Can Access Vaccines*, Nat'l Geographic, Dec. 28, 2021, <https://www.nationalgeographic.com/science/article/covid-19-variants-will-keep-coming-until-everyone-can-access-vaccines>.

²⁶ Monica Gandhi, MD, MPH & George W. Rutherford, MD, *Facial Masking for Covid-19 - Potential for "Variolation" as We Await a Vaccine*, 383 New Eng. J Med. e101(1) (Oct. 29, 2020), <https://www.nejm.org/doi/pdf/10.1056/NEJMp2026913?articleTools=true>.

15. Transmission increases in closed spaces, particularly those with poor ventilation.²⁷ By design, prisons, jails, and detention centers have poor ventilation, and lack of windows and doors that bring in outside air able to diffuse viral particles.²⁸ One helpful analogy for how some particles can linger is to compare them to how cigarette smoke can linger and permeate an area, especially an enclosed space.²⁹ The longer the person with COVID-19 is in an enclosed space, the more the droplets containing virus in the space will build up and the more probable transmission becomes. The CDC reports that people can be infected even when they have not had close contact with an infected person, especially where there are: (1) “[e]nclosed spaces with inadequate ventilation or air handling within which the concentration of exhaled respiratory fluids . . . can build-up in the air space,” (2) “[i]ncreased exhalation of respiratory fluids if the infectious person is engaged in physical exertion or raises their voice,” and (3) “[p]rolonged exposure to these conditions, typically more than 15 minutes.”³⁰
16. As noted above, the Omicron variant, now the most common variant in the United States, is estimated to be five times more transmissible than the original wild-type SARS-CoV-2.³¹ The risk of respiratory transmission in congregate environments, like prisons, is correspondingly much greater. Recent COVID-19 outbreaks in prisons and jails illustrate this risk. For example, in late December 2021, the Rikers Island Jail in New York experienced a rapid rise of COVID-19 in the space of three days. Although the COVID-19 positivity rate had been at 1 percent within ten days it increased to 9.5 percent, and one day later to over 17 percent of the facility.³²
17. The number of COVID-19 infections in ICE detention facilities among detainees has surged by 520% in the first two weeks of January 2022 alone.³³ As reported by U.S. Immigration and Customs Enforcement (“ICE”), there are at least 2,748 active cases of COVID-19 among people in ICE detention centers—over 12.6% of the total current detained population as of January 18, 2022. This does not include numbers among ICE and correctional staff working at these facilities, which is not publicly reported.³⁴ Vaccination rates in ICE custody also appear to be low. Of the over 22,000 people detained in ICE detention facilities daily, as of January 5, 2022, only 671 immigrants in ICE custody had received a booster shot. Moreover, approximately 5,200 immigrants

²⁷ Maogui Hu, et al., *The Risk of COVID-19 Transmission in Train Passengers: an Epidemiological and Modelling Study*, 72 *Clinical Infectious Diseases* 604 (Feb. 15, 2021), <https://doi.org/10.1093/cid/ciaa1057>.

²⁸ Joseph Darius Jaafari, *Prison Design Creates Ideal Environment for Coronavirus*, WSKG News, Apr. 17, 2020, <https://wskg.org/news/prison-design-creates-ideal-environment-for-coronavirus/>.

²⁹ Byron Erath, et al., *What a Smoky Bar Can Teach Us About the ‘6-Foot Rule’ During the COVID 19 Pandemic*, *Discover Magazine*, Sept. 10, 2020, <https://www.discovermagazine.com/health/what-a-smoky-bar-can-teach-us-about-the-6-foot-ruleduring-the-covid-19>.

³⁰ Centers for Disease Control and Prevention, *SARS-CoV-2 Transmission* (May 7, 2021), <https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html>.

³¹ Talha Khan Burki, *Omicron Variant and Booster COVID-19 Vaccines*, *The Lancet Respiratory Medicine*, Dec. 17, 2021, [https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(21\)00559-2/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(21)00559-2/fulltext).

³² Letter from Commissioner Vincent Schiraldi, New York City Department of Correction, Dec. 21, 2021, <https://pbs.twimg.com/media/FHLZd69XEAM3qe7.jpg>.

³³ Camilo Montoya-Galvez, *Coronavirus Infections inside U.S. Immigration Detention Centers Surge by 520% in 2022*, *CBS News* (Jan. 14, 2022), <https://www.cbsnews.com/news/immigration-detention-covid-cases-surge/>.

³⁴ U.S. Immigration & Customs Enf’t, *ICE Guidance on COVID-19: Detainee Statistics* (last visited Jan. 20, 2022), <https://www.ice.gov/coronavirus#detStat>.

in ICE custody have health issues or age that place them at higher risk of serious illness or death from COVID-19.³⁵ If immigrant detainees experience serious illness from COVID-19 because they have failed to receive vaccination and booster shots, they will undoubtedly be hospitalized in local facilities, impacting already overwhelmed health care infrastructure. Given staffing shortages and increased needs for medical care of detained people during a COVID-19 outbreak, a robust vaccination and booster strategy within detention facilities would also benefit ICE's ability to conserve vital health care and staffing resources.

18. Moreover, it is widely understood that infections among staff who work in correctional and detention centers are high, especially given low rates of vaccination among staff. High rates of infection among staff simultaneously increases the risk of infection among prisoners and detainees within a correctional facility, as they act as a primary vector of the virus.³⁶ COVID-19 infection among correctional facility staff has risen rapidly. For example, almost one-fifth of all correction staff in the state of Connecticut tested positive for COVID-19 on January 6, 2022.³⁷ In California, prison staff infections increased 212%, with more than 3,800 prison staff testing positive for COVID-19 in January 2022.³⁸

V. The Critical Importance of COVID-19 Vaccines and Booster Shots

19. The main goals for providing booster doses to individuals who have received their primary COVID-19 vaccine doses are to prevent hospitalization and death, and to reduce the spread of COVID-19. Given this, COVID-19 booster doses are especially important for individuals who remain at highest risk of hospitalization including older individuals or those with severe health conditions.
20. The greatest danger of COVID-19 is to people who have not yet been vaccinated, those who have not responded to the vaccine (as in individuals with immunocompromising conditions), or medically vulnerable people who have been vaccinated and are eligible for a booster, but have not received a booster. Vaccination, including booster shots, radically decrease the likelihood of hospitalization and death due to COVID-19. The risk of hospitalization for unvaccinated people due to COVID-19 is 4 times higher than vaccinated people without a booster dose (who would be otherwise eligible for a booster), and 14 times higher than fully vaccinated people with booster shots. The death rate among unvaccinated persons is 12.7 times greater than that of persons who are vaccinated

³⁵ Camilo Montoya-Galvez, *Coronavirus Infections Inside U.S. Immigration Detention Centers Surge by 520% in 2022*, CBS News, Jan. 14, 2022, <https://www.cbsnews.com/news/immigration-detention-covid-cases-surge/>.

³⁶ Erika Tyagi and Joshua Manson, *Prison Staff Are Refusing Vaccines. Incarcerated People Are Paying the Price*, UCLA COVID Behind Bars, Aug. 12, 2021, <https://uclacovidbehindbars.org/prison-staff-vaccine-refusals>.

³⁷ Kelan Lyons, *As Omicron Spreads, CT's Prison System Isn't Spared*, CT Mirror, Jan. 7, 2022, <https://ctmirror.org/2022/01/07/as-omicron-spreads-cts-prison-system-isnt-spared/>.

³⁸ Dani Anguiano, *Omicron Wreaks Havoc Across California Prison Facilities As Staff Cases Surge*, The Guardian, Jan. 11, 2022, <https://www.theguardian.com/us-news/2022/jan/11/omicron-covid-california-prisons-staff-cases-surge-us>.

without a booster and 53.2 times greater than persons who have been vaccinated with a booster.³⁹ Moreover, vaccination is a critical tool in preventing transmission of the virus, a particularly important factor in congregate environments.⁴⁰

21. Booster shots are critically important protection against COVID-19 given waning immunity of vaccines over time, and even more so in light of the Omicron variant. Patients who have the strongest protections against the recent variant are what has been colloquially called “triple vaccinated,” meaning vaccinated with two doses of an mRNA vaccine (such as Pfizer or Moderna) and a booster. mRNA booster shots are 90 percent effective against hospitalization due to the Omicron variant, in comparison to 57 percent effectiveness for vaccinated people without boosters and whose last dose was >180 days prior.⁴¹ Therefore the booster results in a 37% increase in efficacy in preventing hospitalization in this population. Studies have shown that two doses of mRNA vaccines, or one dose of viral vector (such as Johnson & Johnson) COVID-19 vaccines, alone, are insufficient to create an adequate antibody response to Omicron. This is because traditional vaccine dosing regimens do not produce sufficient quantity and quality of antibodies against the Omicron variant.⁴² Recent data show that the Johnson & Johnson vaccine also does not produce sufficient quantities of antibodies against Omicron⁴³ and considered a second-line vaccine compared with the mRNA vaccines.
22. Prior COVID-19 infection is also insufficient to provide immunity to Omicron, because it is less sensitive to neutralizing antibodies than prior variants.⁴⁴ The risk of COVID-19

³⁹ Johnson AG, Amin AB, Ali AR, et al., *COVID-19 Incidence and Death Rates Among Unvaccinated and Fully Vaccinated Adults with and Without Booster Doses During Periods of Delta and Omicron Variant Emergence — 25 U.S. Jurisdictions, April 4–December 25, 2021*, MMWR Morb Mortal Wkly Rep. ePub: 21 January 2022. DOI: <http://dx.doi.org/10.15585/mmwr.mm7104e2>.

⁴⁰ Paul C Adamson, Michael A Pfeffer, Valerie A Arboleda, Omai B Garner, Annabelle de St Maurice, Benjamin von Bredow, Jonathan Flint, Leonid Kruglyak, Judith S Currier, *Lower Severe Acute Respiratory Syndrome Coronavirus 2 Viral Shedding Following Coronavirus Disease 2019 Vaccination Among Healthcare Workers in Los Angeles, California*, 8 Open Forum Infectious Diseases 11 (November 2021), <https://doi.org/10.1093/ofid/ofab526>.

⁴¹ Thompson MG, Natarajan K, Irving SA, et al., *Effectiveness of a Third Dose of mRNA Vaccines Against COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults During Periods of Delta and Omicron Variant Predominance — VISION Network, 10 States, August 2021–January 2022*, MMWR Morb Mortal Wkly Rep. ePub: 21 January 2022. DOI: <http://dx.doi.org/10.15585/mmwr.mm7104e3>.

⁴² Wilfredo F. Garcia-Beltran, Kerri J. St. Denis, Angelique Hoelzemer, Evan C. Lam, Adam D. Nitido, Maegan L. Sheehan, Cristhian Berrios, Onosereme Ofoman, Christina C. Chang, Blake M. Hauser, Jared Feldman, Alex L. Roederer, David J. Gregory, Mark C. Poznansky, Aaron G. Schmidt, A. John Iafrate, Vivek Naranbhai, Alejandro B. Balazs, *mRNA-based COVID-19 Vaccine Boosters Induce Neutralizing Immunity against SARS-CoV-2 Omicron Variant*, Cell, 2022, ISSN 0092-8674, <https://doi.org/10.1016/j.cell.2021.12.033>. (<https://www.sciencedirect.com/science/article/pii/S0092867421014963>); The Harvard Gazette, *No Omicron Immunity Without Booster, Study Finds*, Jan. 7, 2022, <https://news.harvard.edu/gazette/story/2022/01/no-omicron-immunity-without-booster-study-finds/>.

⁴³ Bloomberg News, *Sinopharm, J&J, Sputnik Vaccines Are Weaker Against Omicron in New Study*, Dec. 17, 2021, <https://www.bloomberg.com/news/articles/2021-12-17/sinopharm-j-j-sputnik-shots-weaken-against-omicron-study-sees#:~:text=Covid%2D19%20shots%20made%20by,variant's%20vaccine%2Devading%20abilities%20mount..>

⁴⁴ Planas, D., Saunders, N., Maes, P. et al., *Considerable Escape of SARS-CoV-2 Omicron to Antibody Neutralization*, Nature (2021). <https://doi.org/10.1038/s41586-021-04389-z>.

reinfection with Omicron is 5.4 times greater than the Delta variant, meaning that people who have already had COVID-19 are still at high risk of contracting the virus again.⁴⁵

23. A booster shot of the Moderna or Pfizer mRNA-based vaccine is necessary to provide effective immunity against Omicron. The CDC has now recommended COVID-19 booster shots to all people who received the Johnson & Johnson COVID-19 vaccine two or more months ago, and to all people ages 18 or older who received either the Pfizer or Moderna COVID-19 vaccine five or more months ago.⁴⁶ It is now abundantly clear that mRNA vaccines, such as the Pfizer or Moderna vaccine, are the most effective at reducing transmission and controlling COVID-19 related infection, as compared to a Johnson & Johnson booster. mRNA vaccines (such as Pfizer or Moderna) produce an immunologically superior response compared to all other types of vaccines when used as a booster dose, regardless of the original type of vaccine.⁴⁷ mRNA vaccine boosters, such as Pfizer, have up to 90% protection against hospitalization for COVID-19, even against Omicron.⁴⁸ For this reason, mRNA vaccines are highly preferable to the Johnson & Johnson vaccine for both initial and booster vaccination. The highest level of protection comes from three mRNA doses, which elicit a potent variant cross-neutralization. For individuals who received only one dose of the Johnson & Johnson vaccine, an mRNA booster shot produces substantially higher protection than the initial dose, although it is less effective than a three-dose regimen of an mRNA vaccine.⁴⁹ As a recent study in the New England Journal of Medicine showed, for people who have received an initial Johnson & Johnson vaccine, the immune response benefit of an mRNA booster is much higher than a Johnson & Johnson booster.⁵⁰ Some suggest that individuals who initially received the Johnson & Johnson vaccine may even need *two* additional mRNA vaccine doses to achieve maximum protection against infection.⁵¹

⁴⁵ Neil Ferguson et al., *Growth, Population Distribution and Immune Escape of Omicron in England*, MRC Centre for Global Infectious Disease Analysis, Dec. 16, 2021, <https://www.imperial.ac.uk/mrc-global-infectious-disease-analysis/covid-19/report-49-Omicron/>.

⁴⁶ CDC, *COVID-19 Vaccine Booster Shots* (last visited Jan. 19, 2022), <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/booster-shot.html>.

⁴⁷ Munro APS, et al. *Safety and Immunogenicity of Seven COVID-19 Vaccines as a Third Dose (booster) Following Two Doses of ChAdOx1 nCov-19 or BNT162b2 in the UK (COV-BOOST): A Blinded, Multicentre, Randomised, Controlled, Phase 2 Trial*, *Lancet*, 2021 Dec 18;398(10318):2258-2276. doi: 10.1016/S0140-6736(21)02717-3. Epub 2021 Dec 2.

⁴⁸ Tartof, Sara Y., et al., *BNT162b2 (Pfizer–Biontech) mRNA COVID-19 Vaccine Against Omicron-Related Hospital and Emergency Department Admission in a Large US Health System: A Test-Negative Design*, Jan. 18, 2022, <http://dx.doi.org/10.2139/ssrn.4011905>.

⁴⁹ Garcia-Beltran et al.; Doria-Rose NA et al, *Booster of mRNA-1273 Vaccine Reduces SARS-CoV-2 Omicron Escape from Neutralizing Antibodies*, medRxiv, Dec. 15, 2021, <https://www.medrxiv.org/content/10.1101/2021.12.15.21267805v2>.

⁵⁰ S.G. Roos, et al., *Immunogenicity and Reactogenicity of Vaccine Boosters after Ad26.COV2.S Priming*, *New Engl. J. Med.* Jan. 19, 2022, DOI 10.1056/NEJMoa2116747, <https://www.nejm.org/doi/full/10.1056/NEJMoa2116747>.

⁵¹ Garcia-Beltran et al.

24. For these reasons, the established standard of care is to provide an mRNA booster shot to eligible patients. Offering only a Johnson & Johnson vaccine booster to an eligible patient would fall below the established professional standard of care unless there was a contraindication to the mRNA vaccination. Indeed, the CDC has emphasized that non-mRNA vaccines are not clinically preferred, particularly in light of links between the Johnson & Johnson and a rare blood clotting disorder and the relatively reduced efficacy compared with mRNA vaccines.⁵²
25. COVID-19 vaccines, including mRNA vaccines, are now widely available in the U.S.⁵³ The CDC took into consideration the supply of mRNA vaccines when it issued its recommendation for mRNA boosters and noted that “the U.S. supply of mRNA vaccines is abundant – with nearly 100 million doses in the field for immediate use.”⁵⁴ Given the clear, demonstrated, and superior protection that mRNA booster shots provide, particularly for those who have previously received Johnson & Johnson vaccines, there is no reason that ICE cannot provide mRNA boosters to detained people, particularly in light of the increased risk of exposure faced in detention facilities.
26. The overwhelming public health consensus is that everyone should receive a COVID-19 booster as soon as they become eligible.⁵⁵ Because a booster shot takes up to two weeks to become fully effective, prompt vaccination is especially critical for those who reside in congregate environments such as prisons, jails, and detention centers, where the risk of exposure to COVID-19 is even higher.

VI. Conclusion and Recommendations

27. It is my professional opinion that people held in congregate facilities, such as ICE detention facilities, are at increased risk of exposure to COVID-19. In light of increased transmission rates by the Omicron variant, all detained people, particularly those who are vulnerable to serious illness or death from COVID-19 should immediately be provided with mRNA booster shots as soon as they are eligible.

⁵² CDC, *Use of COVID-19 Vaccines Currently Approved or Authorized in the United States* (Jan. 6, 2022), <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html>.

⁵³ Bloomberg, *More Than 9.81 Billion Shots Given: COVID-19 Tracker*, <https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/> (last visited Jan. 19, 2022) (“More than half of the U.S. population has been fully vaccinated, and supply of shots is plentiful The U.S. is sending some of its excess supply to other hard-hit regions of the world.”); cf. Alexandra Topping, *UK, EU, and US ‘Get More COVID Vaccine in Six Weeks Than Africa Has All Year’*, *The Guardian*, Dec. 23, 2021, <https://www.theguardian.com/world/2021/dec/23/uk-eu-us-get-more-covid-vaccines-six-weeks-africa-all-year> (“G7 countries will have 1.4 billion surplus doses by March 2022, even after giving all adults a booster.”).

⁵⁴ CDC, *CDC Endorses ACIP’s Updated COVID-19 Vaccine Recommendations* (Dec. 16, 2021), <https://www.cdc.gov/media/releases/2021/s1216-covid-19-vaccines.html>.

⁵⁵ CDC, *CDC Expands COVID-19 Booster Recommendations* (Nov. 29, 2021), <https://www.cdc.gov/media/releases/2021/s1129-booster-recommendations.html>; NYC Health, *COVID-19 Booster Shot Recommendations* (Jan. 13, 2022), <https://www1.nyc.gov/assets/doh/downloads/pdf/covid/covid-19-booster-dose-faq.pdf> (“Everyone age 12 and older should get a COVID-19 booster shot as soon as they are eligible”).

28. Given the barriers to information in detention or correctional settings, detained people should be immediately identified and notified of their eligibility for booster shots, and be provided with culturally and linguistically appropriate education on the importance and benefit of vaccination by trained medical officials. Vaccination and boosters should be widely encouraged.
29. In addition, ICE should continue to limit the overall number of people in detention, including by identification of people who are medically vulnerable to COVID-19 for release. Reduction in population numbers allow facilities to decrease the risk of rapid transmission, and permit facilities with limited staff to more adequately take protections in light of the pandemic.

I declare, under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the foregoing is true and correct.

Executed on this 26th day of January, 2022, at Los Angeles, California.



Tara Vijayan, MD, MPH