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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

ANGEL DE JESUS ZEPEDA RIVAS,
BRENDA RUBI RUIZ TOVAR,
LAWRENCE KURIA MWAURA,
LUCIANO GONZALO MENDOZA
JERONIMO, CORAIMA YARITZA
SANCHEZ NUÑEZ, JAVIER ALFARO,
DUNG TUAN DANG,

Petitioners-Plaintiffs,

v.

DAVID JENNINGS, Acting Director of the
San Francisco Field Office of U.S. Immigration
and Customs Enforcement; MATTHEW T.
ALBENCE, Deputy Director and Senior
Official Performing the Duties of the Director
of the U.S. Immigration and Customs
Enforcement; U.S. IMMIGRATION AND
CUSTOMS ENFORCEMENT; GEO GROUP,
INC.; NATHAN ALLEN, Warden of Mesa
Verde Detention Facility,

Respondents-Defendants.

CASE NO. 3:20-CV-02731-VC

**DECLARATION OF SALMAAN
KESHAVJEE, MD, PHD, SCM**

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DECLARATION OF SALMAAN KESHAVJEE, MD, PHD, SCM

I, Salmaan Keshavjee, declare as follows:

1. I am a professor in the Department of Global Health and Social Medicine and Department of Medicine at Harvard Medical School, director of Harvard Medical School's Center for Global Health Delivery, and a co-faculty dean at Harvard College's Adams House. I also work at the Brigham and Women's Hospital in Boston, Massachusetts, as an attending physician in the Department of Medicine and in the Division of Global Health Equity.
2. I received my medical degree from Stanford University, a doctorate in Anthropology and Middle Eastern Studies from Harvard University, and a master's degree in immunology and infectious diseases from the Harvard School of Public Health. I completed my physician-scientist residency in Internal Medicine and a fellowship in Social Medicine at Brigham and Women's Hospital. My scholarship focuses on health policy and healthcare delivery, specifically as they pertain to global tuberculosis treatment and control.
3. I have published on infectious disease management and transmission, immunology and drug resistance, and health policy in international medical journals including *The New England Journal of Medicine*, *Journal of the American Medical Association*, *Lancet*, *Lancet Infectious Diseases*, *Lancet Respiratory Medicine*, *Lancet Global Health*, *PLoS One*, *Clinical Infectious Diseases*, *Emerging Infectious Diseases*, *American Journal of Respiratory and Critical Care Medicine*, *European Respiratory Journal*, *Journal of Internal Medicine*, and *Tuberculosis*.
4. I worked with Brigham and Women's Division of Global Health Equity and the Boston-based non-profit, Partners In Health, where I am the senior tuberculosis specialist, to establish a multidrug-resistant tuberculosis (MDR-TB) treatment program in Tomsk, Russia, and the first community-based treatment program to treat patients co-infected with HIV and MDR-TB in Lesotho. I also served as the chair of the Green Light Committee Initiative, a joint initiative of the Stop TB Partnership and the World Health Organization which helped countries gain access to high-quality second-line anti-TB drugs so they can provide treatment for people with MDR-TB.
5. I am a co-founder of Advance Access & Delivery, a non-profit committed to addressing critical challenges in access to medicines and the delivery of comprehensive healthcare, particularly for economically and socially marginalized groups.
6. I am not being compensated for providing my testimony in this case. I also submitted an expert declaration in the *Hernandez Roman v. Mayorkas* case in the U.S. District Court for the Central District of California, but have otherwise not previously served as an expert witness.
7. In support of this declaration, I have relied on my scientific and specialized knowledge, skill, experience, training, and education. I have also reviewed the following materials from *Zepeda Rivas v. Jennings*:
 - a. Court orders granting a temporary restraining order and preliminary injunctions, ECF 53, 357, and 867;

- b. Declaration of Dr. Robert Greifinger, dated May 22, 2020, at ECF 229-19, including details about the two facilities at issue in this litigation;
 - c. Declaration of Dr. Sean Henderson, dated Mar. 25, 2021, at ECF 1082-1.
8. Further, I have been informed that:
- a. Defendants in this case have made the Janssen/Johnson & Johnson COVID-19 vaccine available to class members at Mesa Verde. At Mesa Verde, the initial vaccination acceptance rate was approximately 57% though some additional class members subsequently agreed to be vaccinated, increasing the acceptance rate to more than 70% at the time of this declaration.
 - b. The majority of those detained by Defendants at Mesa Verde have been transferred from jails or prisons. That is expected to continue to be true if new intakes resume at the facilities, though Defendants might also increasingly transfer people to Mesa Verde who have been arrested at or near the U.S.-Mexico border and who are seeking humanitarian relief.
 - c. Defendants have provided no information about the vaccination of staff and contractors at Mesa Verde or plans for subsequent vaccination of new class members should intakes resume at either facility.
9. I am further aware that:
- a. In Kern County, where Mesa Verde is located, 36.2% of County residents are fully vaccinated.¹ By contrast, 70.2% of San Francisco County residents are fully vaccinated.²
 - b. Kern County is currently averaging 128 new cases and 1.1 deaths per day, both substantial increases over where those figures stood two weeks ago. This amounts to approximately 102 cases per 100,000 residents.³

Summary of Opinions

10. Vaccination alone will be insufficient to stop COVID-19 outbreaks in detention facilities at this time. At present, due to epidemiological characteristics particular to SARS-CoV-2 (the virus that causes COVID-19) and immigration detention facilities, there will continue to be a significant risk of SARS-CoV-2 transmission and related illness or death in congregate facilities if depopulation and other mitigation measures are relaxed or ended. While this has been my long-standing opinion, it is bolstered by recent information about the course of the pandemic and the effectiveness of vaccines, including evidence that vaccines provide lesser protection against the transmission of the “Delta variant” and that viral loads in vaccinated people who are infected with COVID-19 may be as high as viral loads in unvaccinated infected people.

¹ Tracking coronavirus vaccinations in California, at <https://www.latimes.com/projects/california-coronavirus-cases-tracking-outbreak/covid-19-vaccines-distribution/>, accessed July 31, 2021.

² *Id.*

³ Tracking the coronavirus in Kern County, Los Angeles Times, July 30, 2021, at <https://www.latimes.com/projects/california-coronavirus-cases-tracking-outbreak/kern-county/>, accessed July 31, 2021.

11. Continued COVID-19 mitigation measures are necessary – generally and especially in detention facilities – to increase the real-world effectiveness of vaccination, disrupt wide-ranging viral transmission chains, and turn off the epidemiologic pump that jeopardizes the health of detained individuals and broader surrounding communities that are put at risk by the spillover of outbreaks from detention facilities. This is consistent with the conclusion in a recent CDC document that, “[g]iven increased transmissibility, lower [vaccine effectiveness], and current vaccine coverage, [non-pharmaceutical interventions (“NPIs”) are] needed to reduce transmission of Delta variant.”⁴
12. Vaccines are safe and effective, and a critical part of a multi-layered set of interventions that are needed to respond to the COVID-19 pandemic. Yet there are significant obstacles to achieving adequately high rates of vaccination among those staff and detainees in immigrant detention facilities for a variety of reasons, including inadequate education and guidance regarding vaccine risks; resistance to vaccination documented among guards; and limited trust of health professionals and detention center authorities among detainees. Indeed, early studies show limited vaccine uptake with the SARS-CoV-2 vaccines inside and outside of detention facilities, including among staff and guards employed by detention facilities, and people in custody.
13. Exposure to SARS-CoV-2 in crowded settings even after some people have been vaccinated may still pose significant and serious health risks since it is unclear to what degree the vaccines prevent the transmission of SARS-CoV-2. The clinical trials that led to FDA approval for the three vaccines currently approved in the U.S. did not demonstrate to what extent vaccination prevents individuals from transmitting the virus to others. Alarming, a recent CDC study of hundreds of people infected in a Massachusetts county in July 2021 indicates that vaccinated people can harbor large amounts of the virus and are *apparently substantially involved in the transmission of the Delta variant*. That study found 75% of the infected people were vaccinated and 90% of them were infected with the Delta variant. Notably, PCR tests of people infected in this chain of outbreaks showed similar values for both vaccinated and unvaccinated people, which “might mean that the viral load of vaccinated and unvaccinated persons infected with SARS-CoV-2 is also similar.”⁵ The reality that vaccinated people bear a significant viral load and transmit the Delta variant suggests that at this point and with our current vaccines, vaccine-derived herd immunity may no longer be sufficient to control the spread of SARS-CoV-2, a conclusion that would be even stronger in congregate settings where herd immunity as a concept is already of diminished utility.
14. Exposure to SARS-CoV-2 in crowded settings even after some people have been vaccinated may also pose significant and serious health risks because vaccine

⁴ CDC, “Improving communications around vaccine breakthrough and vaccine effectiveness,” July 29, 2021 (slide 20), at <https://context-cdn.washingtonpost.com/notes/prod/default/documents/8a726408-07bd-46bd-a945-3af0ae2f3c37/note/57c98604-3b54-44f0-8b44-b148d8f75165.#page=1>, accessed July 31, 2021

⁵ CDC, “Outbreak of SARS-CoV-2 Infections, Including COVID-19 Vaccine Breakthrough Infections, Associated with Large Public Gatherings — Barnstable County, Massachusetts, July 2021” (July 30, 2021), at https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e2.htm?s_cid=mm7031e2_w, accessed July 31, 2021.

effectiveness is linked to the reproduction number, which increases as the contact rate between people (population density) increases. Thus, even after some people are vaccinated, infections can occur among the vaccinated and non-vaccinated.

15. Preliminary studies have shown excellent vaccine results in preventing death and ICU admission, and some other severe COVID-19 symptoms. However, clinical trials of all three vaccines and recent studies of outcomes for the vaccinated have demonstrated that they are not perfect, with some vaccinated individuals progressing to severe disease. When one considers that vaccine effectiveness can be markedly reduced in congregate settings with a higher reproduction number, that those in detention facilities represent a vulnerable population with potential co-morbidities, and that emerging variants of the COVID-19 virus that have higher “resistance” to the available vaccines are increasingly circulating in the general population, it is clear that vaccination should not be the only mitigation layer being deployed during the pandemic.
16. While “mild” disease from COVID-19 is popularly viewed as without detriment, studies have confirmed that long-term consequences of SARS-CoV-2 infection—what is called “long COVID”—can appear in individuals who did not initially show signs of a serious infection. For example, a large recent study found that 27% of people who experienced only mild or moderate COVID-19 symptoms and 19% of people who experienced asymptomatic COVID-19 infection sought medical treatment for new health problems one month or more after their infection.⁶ These new health problems included nerve and muscle pain; breathing difficulties; high cholesterol; malaise and fatigue; high blood pressure; migraines; skin problems; heart abnormalities; sleep disorders; anxiety; and depression.⁷ Because of the recency of the studies, there is not yet evidence that allows scientists to determine whether vaccines prevent so-called long COVID, the symptoms of which can be debilitating for an as-yet-unknown period of time lasting at least months.
17. Until more is known about the effectiveness of the vaccines in response to the COVID-19 variants and long COVID, and until there can be greater vaccination of staff and detainees, as well as the broader public, it is very important that existing measures of mitigating COVID-19 transmission exist alongside vaccination of facility staff and detained people. These include, critically, the following NPIs:
 - a. Population Reduction/Social Distancing: Ensuring the populations of facilities and individual housing units are sufficiently low to allow for adequate social distancing;
 - b. Testing: Regular testing of both staff and detainees;
 - c. Quarantine: Effective quarantine and/or isolation of COVID-positive people, symptomatic individuals, and close contacts;

⁶ Pam Beluck, “Many Post-Covid Patients Are Experiencing New Medical Problems, Study Finds,” New York Times, June 15, 2021, at <https://www.nytimes.com/2021/06/15/health/covid-19-patients.html>.

⁷ *Id.*

- d. Access to Personal Protective Equipment: Guaranteed access to masks and PPE for all detainees and staff; and the encouragement of their use by detainees, and requirement of their use by staff;
 - e. Sanitation and Hygiene: Continued free access to sufficient quantities of soap and personal hygiene supplies, and a heightened focus on sanitation at the facilities;
 - f. Ventilation: Appropriate ventilation for infection control, including, where appropriate, the use of upper-room UV-C germicidal lighting to increase the number of effective air exchanges in congregate settings;
 - g. Effective medical care: Medical care effective in responding to the pandemic, and up-to-date with the evolving science and public health recommendations;
 - h. Reporting: Timely public disclosure of information concerning vaccination, testing rates, positive tests, hospitalizations, deaths, and facility and dormitory population levels.
18. While testing for COVID-19 is important, it is often not enough to stop transmission of the virus. First, the window between infection and the presence of the virus on a test can be a few days. There is some suggestion that even with a negative test, people may still be infected.⁸ Since approximately 45% of individuals have asymptomatic disease, symptoms are also not a reliable marker of whether an individual can transmit the disease to others. Further, because vaccine effectiveness in a given setting depends on the efficacy of the vaccine, the reproduction number, and other factors such as population density, vaccination itself cannot be used as a proxy for not having active disease. Thus, although testing is useful as a layer of protection, testing alone at Mesa Verde (or testing only those who are unvaccinated) is not enough to mitigate the risk of disease in this vulnerable population.⁹
19. Although individuals detained in congregate settings are at higher risk of airborne disease transmission, when rates in the community and facilities are sufficiently low as to present a minimal risk to the population, mitigation measures can be relaxed. However, it is presently not clear at what point the current pandemic can be considered contained and of low risk to the population.

COVID-19 Variants

20. The Centers for Disease Control (CDC) and World Health Organization have been identifying and monitoring new variants of COVID-19.¹⁰ They have classified “variants

⁸ Xi He, *et al.*, “Temporal Dynamics in Viral Shedding and Transmissibility of COVID-19,” *Nature Medicine*, Apr. 15, 2020, at <https://www.nature.com/articles/s41591-020-0869-5?fbclid=IwAR3x2cKnIDqZfFIpOn6R04KCFDkd7y2Fn1jVlQHC1G8Uq9iCt0w8H7OXmpk>.

⁹ Michael Mina, *et al.*, “Rethinking Covid-19 Test Sensitivity—A Strategy for Containment,” *New England Journal of Medicine*, Sept. 30, 2020, at <https://www.nejm.org/doi/full/10.1056/nejmp2025631>.

¹⁰ See, e.g., CDC, “SARS-CoV-2 Variant Classifications and Definitions,” rev’d June 14, 2021, accessed June 14, 2021, at <https://www.cdc.gov/coronavirus/2019-ncov/variants/variant-info.html>.

of concern” where there is scientific evidence that the variant is more contagious, causes more severe disease, and/or may cause vaccines to be less effective. The following variants of concern are currently circulating in the United States, including in California¹¹:

- A. B.1.1.7 was first identified in the United Kingdom and was detected in the United States in December 2020. It is now the most common variant in the United States. Early studies indicate that it is approximately 50% more transmissible and is also associated with increased risk of hospitalization and death.
 - B. B.1.351 was first identified in South Africa in October 2020. It was detected in the United States in January 2021 and is approximately 50% more transmissible.
 - C. B.1.427/B.1.429 was first identified in California in the winter of 2020 and rapidly became responsible for more than half of the infections in the state.¹² The CDC estimates that it is approximately 20% more transmissible.
 - D. B.1.617.2 (the Delta variant) was first identified in India and has been linked to the country’s recent devastating surge. As described throughout this declaration, evidence suggests it is more transmissible and better at evading immunity. The Delta variant is now dominant in California, representing 83% of COVID-19 cases sampled in July 2021.¹³
 - E. P.1 was first identified in Brazil. Research indicates that it is up to twice as transmissible and is better at evading immunity.¹⁴
21. The Delta variant has caused devastation around the world and is now causing similar devastation in the United States.¹⁵ It is currently understood that the Delta variant is as transmissible as chicken pox and more transmissible than MERS, the flu, the common cold, Ebola, and smallpox. Delta variant infections are characterized by a higher viral load, longer duration of viral shedding, and a higher risk of reinfection.¹⁶ Based on the study of the July 2021 outbreaks in Massachusetts described above, a CDC researcher concluded, “Delta variant vaccine breakthrough cases may be as transmissible as

¹¹ See California Department of Public Health, “Tracking Variants,” June 10, 2021 at <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/COVID-Variants.aspx>, accessed June 15, 2021.

¹² Joel Achenbach, et. al., “New research shows California coronavirus variant is more transmissible,” The Washington Post, Feb. 24, 2021, at https://www.washingtonpost.com/health/california-covid-variant/2021/02/24/0fb75550-76a3-11eb-948d-19472e683521_story.html.

¹³ Michael McGough, “Delta made up 83% of California’s recently sampled COVID cases, matching U.S. rate,” Sacramento Bee, July 22, 2021, at <https://www.sacbee.com/news/coronavirus/article252928578.html>

¹⁴ See Tina Hesman Saey, “The P.1 coronavirus is twice as transmissible as earlier strains,” ScienceNews, April 14, 2021, at <https://www.sciencenews.org/article/covid-coronavirus-p1-variant-brazil-strain-transmission-immunity>.

¹⁵ See, e.g., Talha Burki, “No end in sight for the Brazilian COVID-19 crisis,” The Lancet, May, 2021, at [https://www.thelancet.com/journals/lanmic/article/PIIS2666-5247\(21\)00095-1/fulltext](https://www.thelancet.com/journals/lanmic/article/PIIS2666-5247(21)00095-1/fulltext); Gayathri Vaidyanathan, “Coronavirus variants are spreading in India – what scientists know so far,” Nature, May 11, 2021, at <https://www.nature.com/articles/d41586-021-01274-7>.

¹⁶ CDC, “Improving communications around vaccine breakthrough and vaccine effectiveness,” July 29, 2021, at <https://context-cdn.washingtonpost.com/notes/prod/default/documents/8a726408-07bd-46bd-a945-3af0ae2f3c37/note/57c98604-3b54-44f0-8b44-b148d8f75165.#page=1>, accessed July 31, 2021

unvaccinated cases.”¹⁷ There is also some evidence that the Delta variant causes more severe disease and presents higher odds of hospitalization than the ancestral or Alpha variants.¹⁸

COVID-19 Vaccines

22. There are three vaccines which have been authorized for emergency use by the U.S. Food and Drug Administration in the United States. These are produced by Pfizer-BioNTech, Moderna, and Janssen/Johnson & Johnson, respectively (and will be identified here, for the sake of clarity, by the name of the producer).
23. The Pfizer-BioNTech and Moderna vaccines are two-dose vaccines provided 21 and 28 days apart, respectively. An individual is considered to be fully vaccinated two weeks after their second dose of the Pfizer-BioNTech or Moderna vaccines, or after the single dose of the Janssen vaccine.
24. Of these vaccines, the Janssen vaccine has the fewest obstacles to effective vaccine distribution because it can be stored longer and in more readily available conditions. The Pfizer-BioNTech vaccine requires ultra-cold refrigeration; the Moderna vaccine can be kept in normal freezer temperatures; and the Janssen vaccine can be stored in normal refrigeration temperatures. The Pfizer-BioNTech vaccine has the shortest period of use of the three vaccines—five days while being refrigerated and only six hours once mixed. The Moderna vaccine may be stored for up to 30 days before being punctured, and only six hours once the first dose is withdrawn. The Janssen vaccine can be stored for a longer period of time—three months at normal refrigerator temperatures or two years if frozen. However, it may only be used for up to two or six hours after the vial is punctured, depending on whether it is stored at room temperature or refrigerated during that time.
25. In controlled studies that involved individuals largely infected with the B.1.1.7 (Alpha) strain of COVID-19, the strain first detected in the United States in December 2020, the Moderna vaccine showed a 94.1% efficacy at preventing symptomatic COVID-19,¹⁹ the Pfizer-BioNTech vaccine showed 95% efficacy at preventing symptomatic COVID-19,²⁰ and the Janssen vaccine showed a 66% efficacy in preventing moderate to severe COVID-19 and an 85% efficacy in preventing severe/critical COVID-19.²¹
26. Recent unpublished preliminary data from the Israeli Ministry of Health has shown that when rolled out in a real-world setting, vaccine efficacy for preventing transmission of

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ See Lindsay R. Baden, M.D., *et. al.*, “Efficacy and Safety of the mRNA-1273 SARS-CoV-2 Vaccine,” *New England Journal of Medicine*, Feb. 4, 2021, at <https://www.nejm.org/doi/full/10.1056/nejmoa2035389>.

²⁰ See Fernando P. Polack, M.D., *et. al.*, “Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine,” *New England Journal of Medicine*, Dec. 31, 2020, at https://www.nejm.org/doi/10.1056/NEJMoa2034577?url_ver=Z39.88-2003&rft_id=ori:rid:crossref.org&rft_dat=cr_pub%20%20pubmed.

²¹ See FDA, Janssen COVID-19 Vaccine Frequently Asked Questions, “How well does Janssen COVID-19 Vaccine prevent COVID-19?”, rev’d April 27, 2021, accessed June 15, 2021.

the Delta variant of COVID-19 drops to 39.0%.²² While the vaccine does continue to protect individuals from hospitalization (88.0%) and severe COVID-19 (91.4%), these data suggest significant potential for ongoing transmission and is much lower than the efficacy shown in the original clinical trials. Other data from the United Kingdom, while a little more optimistic than the large Israeli study, demonstrate that vaccine efficacy drops from 48.7% to 30.7% for people infected with the Delta variant who have received one dose of vaccine.²³ Those who have received two doses appeared to have a vaccine efficacy of 88% with the Delta variant (as compared to 93.7% with the Alpha variant). Both the Israeli and United Kingdom data suggest that *current vaccines are less efficacious for the Delta variant* and that their efficacy can vary markedly based on the population being vaccinated.

27. Even before the emergence of the Delta variant, there was reasonable uncertainty about the exact level of protection of the currently approved vaccines. For example, there is some evidence that the Janssen vaccine may have decreased efficacy in preventing moderate to severe COVID against the South African variant that has circulated in the United States.²⁴
28. The vaccines available in the United States prevent death, ICU admission, and some of the most severe symptoms of COVID-19 disease in most vaccinated individuals beginning about two weeks after full vaccination. Although the vaccines have all exceeded the threshold efficacy of preventing 50% of those vaccinated from getting disease or getting “severe” disease, their efficacy outside of clinical trials in diverse populations and congregate settings is still emerging. mRNA vaccines appear to be less effective at protecting immunocompromised people and elderly nursing home residents²⁵ and their protection may also begin to wane after six months, possibly increasing the risk of infection by up to 80% at that point.²⁶ There are several examples of outbreaks causing substantial hospitalization of the vaccinated. For example, in the cases studied from the recent Massachusetts outbreaks, four of the five people hospitalized had been fully

²² Israeli Ministry of Health, Vaccine Efficacy Report (slide 7), July 18, 2021, at https://www.gov.il/BlobFolder/reports/vaccine-efficacy-safety-follow-up-committee/he/files_publications_corona_two-dose-vaccination-data.pdf, accessed Aug. 2, 2021.

²³ Jamie Lopez Bernal, et al., “Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant,” *New England Journal of Medicine*, July 21, 2021, at <https://www.nejm.org/doi/10.1056/NEJMoa2108891>

²⁴ See, e.g., CDC, “Science Brief: Background Rationale and Evidence for Public Health Recommendations for Fully Vaccinated People,” rev’d May 27, 2021, accessed June 15, 2021, at <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/fully-vaccinated-people.html> (“Clinical trial data suggest that the Johnson & Johnson/Janssen COVID-19 vaccine may have reduced overall efficacy against the B.1.351 variant.”).

²⁵ CDC, “Improving communications around vaccine breakthrough and vaccine effectiveness,” July 29, 2021 (slides 9-10), at <https://context-cdn.washingtonpost.com/notes/prod/default/documents/8a726408-07bd-46bd-a945-3af0ae2f3c37/note/57c98604-3b54-44f0-8b44-b148d8f75165.#page=1>, last accessed July 31, 2021.

²⁶ Dvir Aran, “Are we seeing immunity waning in Israel?” July 21, 2021 (string of tweets analyzing raw data released by Israel’s Ministry of Health), at https://twitter.com/dvir_a/status/1417813556888735750, accessed July 31, 2021

vaccinated. In another example, from an outbreak at a homeless shelter in Sonoma County, California, six of nine people hospitalized had been fully vaccinated.²⁷

29. The real-world effectiveness of vaccination programs depends on the context in which they are implemented, including population density. For example, prior to the introduction of the Delta variant, the Pfizer-BioNTech vaccine was shown to have an effectiveness against SARS-CoV-2 infection and symptomatic disease ranging from 86 to 96% in adult populations in the United States.²⁸ This dropped to 87% when looking at healthcare workers and residents in a skilled nursing facility.
30. Recent studies also suggest that the vaccines are much less effective for individuals who are immunocompromised.²⁹ For example, a study of transplant recipients found that only 46% had an antibody response (indicating immunity to COVID-19) after receiving two doses of an mRNA vaccine such as the Pfizer-BioNTech or Moderna.³⁰ A similarly reduced response was found in patients with certain blood cancers.³¹
31. It is still unclear how much any of the vaccines prevent or limit COVID *transmission*, rather than disease progression. Some studies show promising results suggesting that at least some of the vaccines have some effect on reducing transmissibility of the virus.³² However, as described above, newer evidence shows that vaccinated people can harbor large amounts of the virus and are apparently substantially involved in the transmission of the Delta variant.

Continued COVID-19 Risks in Immigration Detention Despite Vaccines and the Need for Non-Pharmaceutical Interventions

32. The context in which a COVID-19 vaccine is introduced substantially impacts the effectiveness of the vaccine. Even a highly efficacious vaccine – i.e., one with 90%

²⁷ Aidin Vaziri, “COVID outbreak sweeps through Sonoma County homeless shelter, including many vaccinated residents,” San Francisco Chronicle, June 14, 2021, at <https://www.sfchronicle.com/health/article/COVID-outbreak-sweeps-through-Sonoma-County-16315571.php>.

²⁸ Pawlowski C LP, Puranik A, et. al. FDA-authorized COVID-19 vaccines are effective per real-world evidence synthesized across a multi-state health system. medRxiv. 2021; <https://www.medrxiv.org/content/10.1101/2021.02.15.21251623v1.full.pdf>. Andrejko K. PJ, Myers JF., et al. Early evidence of COVID-19 vaccine effectiveness within the general population of California. MedRxiv. 2021; <https://www.medrxiv.org/content/10.1101/2021.04.08.21255135v1>. Vahidy FS. PL, Tano ME., et al. Real World Effectiveness of COVID-19 mRNA Vaccines against Hospitalizations and Deaths in the United States. medRxiv. 2021; <https://www.medrxiv.org/content/10.1101/2021.04.21.21255873v1>

²⁹ See Ariana Eunjung Cha, *Coronavirus vaccines may not work in some people. It’s because of their underlying conditions*, The Washington Post, May 18, 2021, at <https://www.washingtonpost.com/health/2021/05/18/immunocompromised-coronavirus-vaccines-response/>.

³⁰ See Brian J. Boyarsky, et. al., “Antibody Response to 2-Dose SARS-CoV-2 mRNA Vaccine Series in Solid Organ Transplant Recipients,” JAMA, May 5, 2021, at <https://jamanetwork.com/journals/jama/fullarticle/2779852>.

³¹ See Mounzer Agha, et. al., “Suboptimal response to COVID-19 mRNA vaccines in hematologic malignancies patients,” April 7, 2021 (pre-print), at <https://www.medrxiv.org/content/10.1101/2021.04.06.21254949v1>.

³² Noa Dagan, et al., “BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Mass Vaccination Setting,” New England Journal of Medicine, Feb. 24, 2021, at <https://www.nejm.org/doi/full/10.1056/NEJMoa2101765>.

efficacy – will have suboptimal preventive effects in high-spread, congregate settings such as immigration detention centers.³³

33. For this reason, vaccination efforts must *complement*, and not *replace*, existing mitigation measures (also known as nonpharmaceutical interventions, or NPIs). The most important NPI with which to effectively prevent COVID-19 in carceral institutions and detention facilities is population reduction, followed by social distancing, regular testing, effective quarantine and isolation, access to personal protective equipment, and sanitation and hygiene. The diminution of NPIs upon the availability of vaccines would undermine the benefit of the vaccines and would ensure sustained risk of transmission and resulting illness, despite increasing vaccine access.
34. Even in the event that relatively high rates of vaccination are achieved and maintained (e.g. over 75% among both detainees and staff), stemming the risk of COVID-19 outbreaks with vaccination alone is likely to remain out of reach in most detention facilities at this time because of the high transmissibility of COVID-19, especially the Delta variant; the risks presented by new, more contagious and more deadly COVID-19 variants; the limitations of the vaccines in preventing transmission; and the greater risks of infectious spread in congregate facilities (due to, *i.e.*, limited capacity for social distancing, regular transfers, daily staff movements, and limitations in personal protective equipment, testing and healthcare). In almost any congregate setting, but most notably prisons and other detention facilities, the reproduction number (R_0)— which tells you the average number of people who will contract a contagious disease from one person who has the disease—is higher than that of the general population. The reason the reproduction number is higher is that it is a dynamic value that depends on the rate of human-human interactions. Any factor having the potential to influence the contact rate (e.g. population density) or the ability of the virus to infect with each contact (e.g. a mutation with higher or lower infectiousness) will have an effect on the reproduction number. In congregate settings that are densely populated the reproduction number increases.
35. It is also important to consider the seasonal nature of COVID-19. Because COVID-19 is seasonal, the reproduction number varies over seasons, becoming higher in the winter and lower in the summer, though because of the increased transmissibility of the Delta variant and the relaxation of mitigation measures in society at large, California (and much of the world) are seeing a spike in infections and hospitalizations. The seasonality of COVID-19 combined with the pandemic’s ongoing surge is further reason not to relax mitigation measures leading into the upcoming fall and winter. Moreover, some experts have predicted that COVID-19 may become a chronic seasonal disease, with fall or winter surges every year.³⁴

³³ Benjamin Barsky, Eric Reinhart, Paul Farmer, & Salmaan Keshavjee, “Vaccination Plus Decarceration — Stopping Covid-19 in Jails and Prisons,” *New England Journal of Medicine*, Mar. 3, 2021, at https://www.nejm.org/doi/10.1056/NEJMp2100609?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed.

³⁴ See Christopher Murray and Peter Piot, “The Potential Future of the COVID-19 Pandemic,” *JAMA*, March 3, 2021, at <https://jamanetwork.com/journals/jama/fullarticle/2777343>.

36. In a model presented in the American Journal of Preventive Medicine examining the efficacy needed for a COVID-19 vaccine to stop an epidemic if it were the sole intervention, Sarah Bartsch and colleagues point out that with a reproduction number of 3.5 (similar or lower than some prison settings in the United States) one would need a vaccine with a minimal 80% efficacy and 75% coverage to prevent an ongoing epidemic.³⁵ This model was developed before the emergence of the Delta variant, which is estimated to be 1.4 to 1.6 times as transmissible as the early strains,³⁶ and has a basic reproduction number of estimated at least 7.0,³⁷ a figure that would likely be even higher in a congregate detention center like Mesa Verde.
37. Early modeling has demonstrated the effect of the premature relaxation of NPIs outside of detention centers. A recent mathematical model predicted high risks of continued COVID-19 transmission and severe disease “with early or rapid relaxation of NPIs.” Even assuming a very high degree of “vaccine uptake” (75-95% depending on age) and very high vaccine efficacy (88%), a recent mathematical model identified that “vaccination alone is insufficient to contain the outbreak” without continued implementation of NPIs.³⁸ This was true even among the general population. The risk factors unique to carceral institutions and detention centers heighten the concerns identified in the model.
38. There is also already information showing a correlation between increased population in immigration detention centers and increased rates of infection with COVID-19 in those immigration detention centers. Over the past six months, the number of people in immigration detention in the United States has roughly doubled. In that time, “[w]hile the national COVID-19 positivity rate has dropped to below 0.1 percent, the rates among people in immigration detention have climbed to as high as 10 percent, according to ICE’s own published data.”³⁹ Based on that data, which was collected before the emergence of the Delta variant in the United States, social scientists projected that even while levels of COVID-19 were declining in the community, there remained considerable potential for explosive outbreaks inside ICE facilities. “[S]lowing viral spread in ICE detention will continue to require implementing aggressive public health measures inside facilities to affect conditions for those detained, beginning with population reduction.”⁴⁰

³⁵ Sarah Bartsch, *et al.*, “Vaccine Efficacy Needed for a COVID-19 Coronavirus Vaccine to Prevent or Stop an Epidemic as the Sole Intervention,” *American Journal of Preventive Medicine*, July 15, 2020, at [https://www.ajpmonline.org/article/S0749-3797\(20\)30284-1/fulltext](https://www.ajpmonline.org/article/S0749-3797(20)30284-1/fulltext).

³⁶ Kimihito Ito, *et al.*, “Predicted dominance of variant Delta of SARS-CoV-2 before Tokyo Olympic Games, Japan, July 2021,” *Eurosurveillance*, July 8, 2021, at <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2021.26.27.2100570?crawler=true>

³⁷ Talha Khan Burki, “Lifting of COVID-19 restrictions in the UK and the Delta variant,” *The Lancet*, July 12, 2021, at [https://www.thelancet.com/pdfs/journals/lanres/PIIS2213-2600\(21\)00328-3.pdf](https://www.thelancet.com/pdfs/journals/lanres/PIIS2213-2600(21)00328-3.pdf)

³⁸ Sam Moore, *et al.*, “Vaccination and Non-Pharmaceutical Interventions for COVID-19: A Mathematical Modelling Study,” *The Lancet*, Mar. 18, 2021, at [https://doi.org/10.1016/S1473-3099\(21\)00143-2](https://doi.org/10.1016/S1473-3099(21)00143-2).

³⁹ Andrea Allen, Minali Aggarwal, and Neal Marquez, “As Long as There is COVID-19, Immigration Detention Centers Will be Poised for Disaster,” *UCLA Law COVID Behind Bars Data Project*, July 27, 2021, at <https://uclacovidbehindbars.org/ice-outbreaks-report>, accessed July 31, 2021.

⁴⁰ *Id.*

39. There are various reasons for the limited effectiveness of vaccines introduced in isolation (or as replacement for NPIs) in immigration detention facilities like Mesa Verde. I lay these reasons out below.

- a. **High reproduction number of the virus (generally and especially in congregate settings).** One of the reasons that COVID-19 has been so devastating in the United States and globally is its high reproduction number. The reproduction number of the virus is even greater in carceral institutions and detention centers because it depends on the rate of human-human interactions. Any factor having the potential to influence the contact rate (e.g. population density) will have an effect on the reproduction number. In congregate settings that are densely populated the reproduction number increases. A vaccine's effectiveness is markedly diminished where the reproduction number is higher.⁴¹ A vaccine with low efficacy (e.g., 25%) can have a powerful preventive effect in areas where the effective reproduction number of the virus is low (e.g., $R_0=1.5$, a reproduction number classified as outbreak control through mitigation measures). By contrast, a vaccine with much higher efficacy (e.g., 75%; similar to the Janssen vaccine) can nonetheless fail to prevent a large proportion of severe cases and deaths when deployed in areas where the effective reproduction number is high (e.g., $R_t=2.1$).

COVID-19 has been found to have higher reproduction numbers in certain high-population jails than anywhere in the world.⁴² Only where aggressive mitigation measures have been implemented in carceral institutions and scrupulously adhered to has there been documented effective viral control (*i.e.*, decreased rates of COVID transmission).

So, where immigration detention centers relax mitigation measures – *i.e.*, increasing population density, reducing social distancing, etc. – the COVID reproduction number will likely increase, and the positive impact of the vaccine will correspondingly diminish. Therefore, as explained in an article by David Paltiel et al., and co-authored by current CDC Director Rochelle Walensky: “Managing and reducing [the reproductive rate] requires a sustained commitment to the public health practices and tools known to reduce the spread of COVID-19. Investment in these activities remains imperative not simply until the arrival of a vaccine but throughout the likely prolonged period during which a vaccine is being deployed [in the general population].”⁴³

⁴¹ See David Paltiel, Jason Schwartz, Amy Zheng, & Rochelle Walensky, “Clinical Outcomes of a COVID-19 Vaccine: Implementation Over Efficacy,” *Health Affairs*, Vol. 40, No. 1, pp. 42-52, at <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.02054> (“All other things being held equal, the proportional power of any vaccine to reduce infections, deaths, and peak hospitalization was greatest at lower values of R_t .”).

⁴² See, e.g., Lisa Puglisi, *et al.*, “Estimation of COVID-19 Basic Reproduction Ratio in a Large Urban Jail in the United States,” *Annals of Epidemiology*, Jan. 2021, Vol. 53, pp. 103-105, at <https://www.sciencedirect.com/science/article/abs/pii/S1047279720303471?via%3Dihub>.

⁴³ Paltiel *et al.*, *supra*, note 31.

- b. **Reluctance to receive the vaccine.** Reluctance to take the COVID-19 vaccine is a problem within society as a whole because of, among other things, issues of trust, often inadequate public health messaging about the value and safety of vaccination and the politicization of COVID and vaccines.⁴⁴

This reluctance may be heightened in immigration detention settings because of particular factors unique to this environment. Detained individuals are typically offered little to no educational material about COVID-19 vaccines. The materials provided often lack cultural sensitivity and may not match with literacy and education levels of detained individuals. There is also a long history of understandable distrust which typically exists between those who are detained and their jailers.

Some prison systems, including California state prisons, have nonetheless managed to achieve relatively high rates of vaccination among incarcerated individuals, showing that involving incarcerated individuals in vaccine outreach and reoffering vaccines to those who initially declined have been important to increasing vaccine uptake in the state's prisons.⁴⁵

Even in prison systems such as California's that have achieved relatively high rates of vaccination among incarcerated individuals, vaccination rates among prison staff remain low.⁴⁶

Before the emergence of the Delta variant, an estimated rate of vaccination of 70-90% was considered necessary to achieve herd immunity in non-congregate settings.⁴⁷ The higher transmissibility of the Delta variant likely requires an even higher rate, if herd immunity is achievable at all with our current vaccines. Yet prevalent vaccine distrust makes this threshold difficult to achieve, further suggesting that vaccines should not be used as the sole intervention.⁴⁸

⁴⁴ Anya van Wagtenonk, "The Partisan Divide on Vaccination, Explained in 3 Charts," Vox, Mar. 21, 2021, at <https://www.vox.com/2021/3/21/22342184/democrats-republicans-covid-19-vaccine-hesitancy-polls>.

⁴⁵ See Elizabeth T. Chin, *et. al.*, "COVID-19 Vaccine Acceptance in California State Prisons," *New England Journal of Medicine*, May 12, 2021, at <https://www.nejm.org/doi/full/10.1056/NEJMc2105282> ("Among the residents who had initially declined but were subsequently reoffered vaccination, 45.9% (901 of 1962) accepted at least one dose."); Ann Hinga Klein, "Some U.S. states have higher vaccination rates inside prisons than outside," *N.Y Times*, June 7, 2021, at <https://www.nytimes.com/2021/06/01/us/vaccine-prison-covid.html> ("At one California prison, inmates held a town-hall-style meeting in which medical experts answered questions about the safety of the vaccines.")

⁴⁶ Rhonda Lyons, "Most prison staff refuse COVID vaccine – should California let them?," *CalMatters*, May 11, 2021, at <https://calmatters.org/health/coronavirus/2021/05/prison-workers-refuse-covid-vaccine-california/> (57% of California prison employees have refused free vaccinations offered on the job); Jean Trounstein, "Why Are Half of Mass Correction Officers Refusing the COVID Vaccine?," *DIG Boston*, at <https://digboston.com/why-are-half-of-mass-correction-officers-refusing-the-covid-vaccine/>.

⁴⁷ See, e.g., Donald McNeil, "How Much Herd Immunity Is Enough?," *NY Times*, Dec. 24, 2020; WHO, "Coronavirus Disease (COVID-19): Herd Immunity, Lockdowns and COVID-19," Dec. 31, 2020, at https://www.who.int/news-room/q-a-detail/herd-immunity-lockdowns-and-covid-19?gclid=Cj0KCQjwo-aCBhC-ARIsAAkNQiuZfHrK69QjyRTeAArQzU2YR_FbEvtAj3eZ5XubNcf2GtvKGvDcb78aAmcSEALw_wcB#.

⁴⁸ Christie Aschwanden, "Five Reasons Why COVID Herd Immunity Is Probably Impossible," *Nature*, Mar. 18, 2021, at <https://www.nature.com/articles/d41586-021-00728-2>.

In sum, a campaign of vaccination alone will not stop viral transmission in facilities with high turnover, multiple families, individuals with different comorbidities, and high population density. Vaccines need to be viewed as one layer in a responsible, multi-layered mitigation strategy to stop the transmission of COVID-19 to individuals in detention facilities.

- c. **Limitations of vaccines—some serious COVID-19 symptoms.** The available vaccines have a high efficacy in limiting death, ICU admission, and some other severe symptoms of COVID disease. They are nonetheless imperfect: for example, in clinical trials, the Janssen vaccine had an 85% efficacy in preventing what the trial study classified as “severe” COVID. The vaccines also have a quite high efficacy in preventing what the study classified as “moderate” COVID, though the Janssen vaccine is significantly lower than the rate of preventing severe COVID—with rates of preventing moderate and severe COVID of 72% in the United States, 66% in Latin America, and 57% in South Africa at the time of the tests (when different variants of concern were dominant in Latin America and South Africa than in the United States).⁴⁹
- d. **Limitations of vaccines—likely continued transmissibility of the virus.** Vaccine effectiveness incorporates both the vaccine’s effect in limiting COVID transmission and the vaccine’s effect on limiting disease progression and mortality. Although there are some indications that people vaccinated with mRNA vaccines (Pfizer-BioNTech and Moderna) are less likely to transmit SARS-CoV-2 to other, the extent of this protection, or its variation in different populations and settings, is not clearly understood. Effectiveness in preventing transmission was not required for the FDA’s emergency use authorization of the three vaccines approved for use in the United States. Also, because the vaccines also are not authorized for use in children under 12 years of age, even with very high vaccine uptake, there will likely be virus circulating for some time. Recent data from the CDC suggests that viral loads may remain high in the nares of vaccinated individuals thereby allowing transmission to continue even from this group of individuals.
- e. **Limitations of vaccines—no evidence on certain COVID risks including “long COVID.”** The studies did not define either moderate or severe COVID to include so-called “long COVID.” Long COVID is defined as a set of symptoms that can last months or more after the initial COVID infection. Long COVID symptoms include, i.e., extreme tiredness, memory and concentration problems, shortness of breath, insomnia, heart palpitations, migraine-like headaches, cognitive disturbances, depression and anxiety, and decline in quality of life. Long COVID can occur even for people who have mild symptoms at the outset (and in fact does not seem linked to the severity of the initial symptoms). Studies have demonstrated that long COVID

⁴⁹ Heather McKenzie, “Johnson & Johnson COVID-19 Vaccine’s 66% Efficacy Rate Not the Entire Story,” BioSpace, Jan. 29, 2021, at <https://www.biospace.com/article/j-and-j-covid-19-vaccine-66-percent-effective-against-all-strains/>.

presents a significant risk for those infected. A comprehensive review of the literature identified various studies reporting that between 30% and 87% of patients reported recurring symptoms months after acute COVID infection.⁵⁰

- f. **Existence of (current and likely new) variants with high reproduction numbers and diminished vaccine efficacy.** Some concerning new COVID-19 variants, in particular the Delta variant, have greater infectiousness and produce a more severe disease. The CDC and the WHO have all identified the risks of these new variants in contributing to “another avoidable surge” of COVID-19 if there is a relaxation of mitigation measures in the wake of greater vaccine access.⁵¹
- g. **The greater risks of infectious spread in congregate facilities (due to, *i.e.*, limited capacity for social distancing, regular transfers, staff movements, and limitations in personal protective equipment, testing and healthcare).** The factors that have contributed to prisons, jails and detention centers becoming hotspots for COVID-19 outbreaks since the start of this pandemic are the same factors that limit the effectiveness of vaccines in isolation at this stage of the pandemic.
 - i. Inadequate social distancing ensures that there will be continued and rapid spread if mitigation measures are relaxed and COVID is introduced into the facilities.
 - ii. The high-volume daily inflow and outflow of staff and detainees, when mitigation measures are relaxed, ensures continued spread even as vaccines become more available. Immigration detention centers, much like jails, are dynamic populations which regular population shifts. Cycling of individuals through detention facilities, and back into the community, has been recognized to be a significant factor in COVID-19 transmission. The extraordinarily high risk of transmission associated with transfers is why the CDC has consistently advised strongly against any transfers between detention facilities or correctional institutions unless strictly necessary.⁵² Similarly, the fact that staff and contractors (as well as vendors) come and go on a daily basis increases the risk of COVID transmission to those who operate within or are in the custody of immigration detention centers. The inflow and outflow of both detainees and staff presents heightened risks of transmission, new and more dangerous COVID-19 variants, and exposure to unvaccinated individuals.
 - iii. The lack of consistent personal protective equipment; and inadequacies in testing and health care increase the risk of rapid COVID-19 spread in the event of the

⁵⁰ See Ani Nalbandian, *et al.*, “Post-Acute COVID-19 Syndrome,” *Nature*, Mar. 22, 2021, at <https://www.nature.com/articles/s41591-021-01283-z>.

⁵¹ See, e.g., Jacqueline Howard & Christina Maxouris, “CDC Director Warns Coronavirus Variants Could Spark Another Avoidable Surge,” *CNN*, Mar. 23, 2021, at <https://www.cnn.com/2021/03/22/health/us-coronavirus-monday/index.html>; Maggie Fox, “A More Contagious Coronavirus Variant Is Spreading Across the US. Can Vaccines Stop It?,” *CNN*, Mar. 20, 2021, at <https://www.cnn.com/2021/03/20/health/variant-b117-vaccines-work/index.html>.

⁵² See, e.g., CDC, “Interim Guidance on Management of Coronavirus Disease 2019 (COVID-19) in Correctional and Detention Facilities,” rev’d June 9, 2021, accessed June 15, 2021 (“Limit transfers of incarcerated/detained persons to and from other jurisdictions and facilities unless necessary. . .”).

introduction of the virus into the facility. Any delays in vaccination of new intakes, or unwillingness to test asymptomatic individuals, ensures delayed identification of COVID-19 in the facility and an increased risk of outbreak.

Public Health Effects of Premature Repopulation of Detention Facilities

40. There is constant movement in and out of jails and detention centers, and typically high population density and limited capacity for social distancing. As a result, infectious diseases transmit very easily in such contexts. These facilities are known to operate as epidemiologic pumps that amplify infectious diseases into surrounding communities. Thus, not only do carceral conditions lead to rapidly multiplying COVID-19 cases among detained persons and staff, these institutions also operate as high-pressure disease reservoirs that spread the virus into surrounding communities.⁵³
41. Stopping the epidemic in correctional institutions and detention centers is vital for protecting staff and incarcerated people; it is also critical for curbing the spread of COVID-19 into surrounding communities. The premature relaxation of NPIs at Mesa Verde would dramatically increase the risks for those unvaccinated, and significantly for those who are vaccinated within the facilities. It would also increase the risk to the community at large because of the characteristics at detention facilities which make them incubators for widespread transmission.
42. The premature relaxation of restrictions – coupled with “pandemic fatigue” and the growing presence of new and more easily transmissible variants – are believed to have contributed to an increased incidence of COVID-19 in certain places.⁵⁴
43. Relaxation of restrictions are also likely to create conditions in which new, vaccine resistant variants of SARS-CoV-2 will emerge. The Strategic Advisory Group of Experts – the U.K. government’s advisory group that provides scientific and technical advice to support policy makers – issued a paper last week finding that “reducing transmission” is a necessary step to avoid the emergence of vaccine evading variants.⁵⁵ Using sophisticated stochastic modeling, other researchers recently noted that the “lack of non-pharmaceutical interventions” can “increase the probability of establishment of vaccine-resistant strains.”⁵⁶

⁵³ See, e.g., Eric Lofgren, *et al.*, “The Epidemiological Implications of Jails for Community, Corrections Officer, and Incarcerated Population Risks from COVID-19,” medRxiv (preprint), Jan. 7, 2021, at <https://doi.org/10.1101/2020.04.08.20058842>; Brendan Saloner, “COVID-19 Cases and Deaths in Federal and State Prisons,” JAMA, Aug. 11, 2020, at COVID-19 Cases and Deaths in Federal and State Prisons (nih.gov).

⁵⁴ See, e.g., Melissa Quinn, “Fauci Warns Against Potential New COVID-19 Surge as Cases Remain High,” CBS News, Mar. 28, 2021, at <https://www.cbsnews.com/news/anthony-fauci-coronavirus-vaccine-covid-19-surge-face-the-nation/>.

⁵⁵ SAGE, “Can we predict the limits of SARS-CoV-2 variants and their phenotypic consequences?,” at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007566/S1335_Long_term_evolution_of_SARS-CoV-2.pdf, accessed Aug. 1, 2021.

⁵⁶ Simon A. Rella, Yuliya A. Kulikova, Emmanouil T. Dermitzakis & Fyodor A. Kondrashov, “Rates of SARS-CoV-2 transmission and vaccination impact the fate of vaccine-resistant strains,” Nature Scientific Reports, at <https://www.nature.com/articles/s41598-021-95025-3>, accessed July 31, 2021.

44. For these reasons, national and international public health experts have strongly advised against the premature relaxation of NPIs in the wake of the introduction of vaccines. As the World Health Organization warned:

Safe and effective vaccines are a game-changing tool: but for the foreseeable future we must continue wearing masks, cleaning our hands, ensuring good ventilation indoors, physically distancing and avoiding crowds. Being vaccinated does not mean that we can throw caution to the wind and put ourselves and others at risk, particularly because research is still ongoing into how much vaccines protect not only against disease but also against infection and transmission.⁵⁷

45. NPIs have been found to be highly effective in reducing COVID-19 transmission in correctional facilities and detention centers.⁵⁸ These are the environments where there will likely remain very high epidemic risk even after a declared end of this pandemic in the community. Models suggest that early removal of NPIs in high-risk settings may be detrimental.⁵⁹
46. Epidemiologists have long recognized the relationship between infectious disease outbreaks in correctional institutions and the broader community in connection with other diseases, including influenza, viral hepatitis, HIV/AIDS, and tuberculosis.⁶⁰ So far, two modeling studies and one empirical analysis suggest that such a carceral-community transmission dynamic exists in the context of COVID-19 as well.⁶¹
47. The cycling into and out of immigration detention centers – of both detained people and staff – ensures that the continued spread of COVID-19 in detention centers will both be

⁵⁷ See, e.g., WHO, “COVID-19 Vaccines,” at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines> (last visited June 15, 2021).

⁵⁸ See, e.g., Giovanni Malloy, *et al.*, “The Effectiveness of Interventions to Reduce COVID-19 Transmission in a Large Urban Jail,” medRxiv, June 18, 2020, at <https://doi.org/10.1101/2020.06.16.20133280> (preprint, accepted for publication in British Medical Journal Open) (concluding that “depopulation efforts should be a primary strategy for COVID-19 mitigation” in correctional institutions, alongside social distancing and asymptomatic testing).

⁵⁹ Moore, *et al.*, *supra*, note 6.

⁶⁰ See, e.g., Kate Dolan, *et al.*, “Global Burden of HIV, Viral Hepatitis, and Tuberculosis in Prisoners and Detainees,” *The Lancet*, Sept. 10, 2016, Vol. 388, Issue 10049, pp. 1089-1112, at [https://doi.org/10.1015/S0140-6736\(16\)30466-4](https://doi.org/10.1015/S0140-6736(16)30466-4); David Stuckler, *et al.*, “Mass Incarceration Can Explain Population Increases in TB and Multidrug-Resistant TB in European and Central Asian Countries,” *Proceedings of the National Academy of Sciences*, Sept. 9, 2008, Vol. 105, pp. 13280-13285, at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2533181>.

⁶¹ Eric Reinhart & Daniel Chen, “Incarceration and its Disseminations: COVID-19 Pandemic Lessons from Chicago’s Cook County Jail,” *Health Affairs*, June 4, 2020, Vol. 39, No. 8, at <https://doi.org/10.1377/hlthaff.2020.00652>; Eric Lofgren, *et al.*, “The Epidemiological Implications of Incarceration Dynamics in Jails for Community, Corrections Officer, and Incarcerated Population Risks from COVID-19,” medRxiv (preprint), Jan. 7, 2021, at <https://doi.org/10.1101/2020.04.08.20058842>; Gipsy Escobar & Sema Taheri, “Incarceration Weakens a Community’s Immune System: Mass Incarceration and COVID-19 Cases in Milwaukee,” *Measures for Justice*, June 2, 2020, at https://measuresforjustice.org/about/docs/Incarceration_Weakens_Community_Immune_System_Preliminary_Results.pdf.

affected by, and continue to affect, the surrounding communities. One study found, for instance, that the cycling between correctional institutions and the community was one of the strongest predictors of COVID-19 rates in ZIP codes across Illinois.⁶² Indeed, this study found that one in six cases in Illinois had resulted from transmission linked to a single jail. The extraordinarily high rate of infection and transmission in correctional institutions and detention centers heightens the risk that they present to the control of the virus more broadly.⁶³

Conclusion

48. The premature relaxation of multi-layered mitigation measures at immigration detention centers, including Mesa Verde, risks the health and safety of those detained, and also the broader community. With the emergence of new variants, some of which are highly infectious, transmission of COVID-19 remains a significant problem. Continued transmission in detention centers increases the risk for transmission in surrounding communities. Mitigation measures should remain in place until certain identified thresholds are reached because of the limitations of the existing vaccines (despite their overall efficacy), the high transmissibility of COVID-19 in detention facilities, the community spread of newer COVID-19 variants that may evade the protective effects of the vaccine, inability to achieve sufficient vaccine coverage due to high turnover and issues of vaccine distrust on the part of detainees and prison staff, and the potential long-term effects of mild and moderate COVID-19 infection. Vaccines should be viewed as one component of a multi-layered strategy to stop viral transmission. Even when an initial relaxation of NPIs may be warranted, such relaxation should be done cautiously, in a limited way at the outset, and with continued monitoring of the effects of the evolving pandemic at the facilities.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my information and belief.

Executed this 2nd day of August 2021 in Cambridge, Massachusetts.



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⁶² Eric Reinhart & Daniel Chen, “Incarceration and its Disseminations: COVID-19 Pandemic Lessons from Chicago’s Cook County Jail,” *Health Affairs*, June 4, 2020, Vol. 39, No. 8, *at* <https://doi.org/10.1377/hlthaff.2020.00652>.

⁶³ Brendan Saloner, *et al.*, “Covid-19 Cases and Deaths in Federal and State Prisons,” *JAMA*, Aug. 11, 2020, Vol. 324(6), pp. 602-03, *at* <http://jamanetwork.com/journals/jama/fullarticle/2768249> (incarcerated individuals have quintuple the risk of COVID-19 transmission as compared to the general population and triple the mortality, after adjusting for other variables).