Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Notice of Motion and Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

TO: THE COURT, ALL PARTIES, AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that Plaintiffs Tiffany Roe, Terry Roe, Taylor Roe, Andrew Poe, and Adrian Poe, by and through counsel, will and hereby do apply to this Court pursuant to Fed. R. Civ. P. 65(b) for a preliminary injunction against Defendants San Diego Unified School District ("SDUSD"); Richard Barrera, individually and in his official capacity as Board member; Sharon Whitehurst-Payne, in her official capacity as Board President; Michael McQuary, in his official capacity as Board member; Kevin Beiser, in his official capacity as Board member; Sabrina Bazzo, in her official capacity as Board Vice President; and Lamont Jackson, individually and in his official capacity as Superintendent ("Defendants"), as follows:

- Defendants, their agents, employees, and successors in office, are restrained and enjoined from enforcing their COVID-19 vaccination mandate against Plaintiffs Terry Roe, Taylor Roe, and Adrian Poe, minor children, to preclude them from participating in in-person schooling or in-person extracurricular activities.

This motion is made on the grounds that Plaintiffs are likely to succeed on the merits of this case, they will suffer irreparable harm without injunctive relief, the balance of equities tips sharply in their favor, and the relief sought is in the public interest. Good cause exists to issue the requested Order to preserve Plaintiffs' rights under the Constitution of the United States and to avoid irreparable harm to those rights.

Further, at the same time that this Court rules on this motion, Plaintiffs request that the Court rule on whether a stay or injunction pending appeal is appropriate, so that the appealing party is not forced to file contemporaneous motions with both this Court and the Ninth Circuit, and can instead proceed directly to the Ninth Circuit.

Further, Plaintiffs request that the Court waive any bond requirement in issuing the injunction, because enjoining Defendants from unconstitutionally burdening religious practices will not financially affect Defendants.

This motion is supported by the accompanying Memorandum of Points and Authorities, by the Verified First Amended Complaint, by the declarations of Plaintiffs Terry Roe, Taylor Roe, and Adrian Poe, by the expert declarations of Richard Scott French, M.D., and Jayanta Bhattacharya, M.D., Ph.D., by the accompanying Request for Judicial Notice, and by such further argument and evidence that may be adduced at any hearing on this matter or of which the Court may take judicial notice.

Respectfully submitted,

LiMANDRI & JONNA LLP

Dated: May 11, 2022 By: _____

Charles S. LiMandri
Paul M. Jonna
Mark D. Myers
Jeffrey M. Trissell
Robert E. Weisenburger
Milan L. Brandon II
Attorneys for Plaintiffs

CERTIFICATE OF SERVICE

John Doe, et al. v. San Diego Unified School District, et al.

USDC Court Case No.: 3:21-cv-1809-CAB-LL

I, the undersigned, declare under penalty of perjury that I am over the age of eighteen years and not a party to this action; my business address is P.O. Box 9120, Rancho Santa Fe, California 92067, and that I served the following document(s):

- **Notice of Motion and Plaintiffs' Motion for a Preliminary Injunction;**
- **Memorandum of Points & Authorities in Support of Plaintiffs' Motion for a Preliminary Injunction;**
- **Declaration of Plaintiff Terry Roe in Support of Plaintiffs' Motion for a Preliminary Injunction;**
- **Declaration of Plaintiff Taylor Roe in Support of Plaintiffs' Motion for a Preliminary Injunction;**
- **Declaration of Plaintiff Adrian Poe in Support of Plaintiffs' Motion for a Preliminary Injunction;**
- **Declaration of Richard Scott French, M.D., Plaintiffs' Motion for a Preliminary Injunction;**
- **Declaration of Jayanta Bhattacharya, M.D., Ph.D., in Support of Plaintiffs' Motion for a Preliminary Injunction;**
- **Request for Judicial Notice in Support of Plaintiffs' Plaintiffs' Motion for a Preliminary Injunction; and**
- **Order Granting Plaintiffs' Motion for a Preliminary Injunction.**

on the interested parties in this action by placing a true copy in a sealed envelope, addressed as follows:

Mark R. Bresee, Esq.
Atkinson, Andelson, Loya, Ruud & Romo
4275 Executive Square, Ste. 700
La Jolla, CA 92037
Tel: (858) 485-9526; Fax: (562) 653-3658
E-Mail: MBresee@aalrr.com
Attorneys for Defendants

X **(BY MAIL)** I am "readily familiar" with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid at Rancho Santa Fe, California in the ordinary course of business. The envelope was sealed and placed for collection and mailing on this date following our ordinary practices. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

____ **(BY ELECTRONIC MAIL)** I served a true copy, electronically on designated recipients via electronic transmission of said documents.

X **(BY ELECTRONIC FILING/SERVICE)** I caused such document(s) to be Electronically Filed and/or Service using the ECF/CM System for filing and transmittal of the above documents to the above-referenced ECF/CM registrants.

I declare under penalty of perjury, under the laws of the State of California, that the above is true and correct.

Executed on May 11, 2022, at Rancho Santa Fe, California.

Kathy Denworth

Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Memorandum of Points & Authorities in Support of Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

TABLE OF CONTENTS

TABLE OF CONTENTS—CONTINUED

TABLE OF AUTHORITIES

CASES

TABLE OF AUTHORITIES—CONTINUED

CASES

TABLE OF AUTHORITIES—CONTINUED

CASES

TABLE OF AUTHORITIES—CONTINUED

CASES

TABLE OF AUTHORITIES—CONTINUED

CASES

TABLE OF AUTHORITIES—CONTINUED

FEDERAL RULES

CONSTITUTIONAL PROVISIONS

COURT DOCKETS

INTRODUCTION

As explained in the introduction to the First Amended Complaint, eleven Ninth Circuit judges have already determined that San Diego Unified School District's ("SDUSD") COVID-19 vaccine mandate is unconstitutional. *See Doe v. San Diego Unified Sch. Dist.*, 19 F.4th 1173 (9th Cir. 2021) (Ikuta, J., dissenting from denial of injunction pending appeal) ("*Doe I*"); *Doe v. San Diego Unified Sch. Dist.*, 22 F.4th 1099 (9th Cir. 2022) (Bumatay, J., dissenting from denial of reconsideration en banc) ("*Doe II*"). The mandate only applies to a fraction of the on-campus population; it has exemptions for age, administrative convenience, medical condition, status as a teacher, Superintendent discretion, and many others. It is the antithesis of a generally applicable regime. *See Doe I*, 19 F.4th at 1184-86 (Ikuta, J., dissenting); *Doe II*, 22 F.4th at 1104-08 (Bumatay, J., dissenting); *id.* at 1114-15 (Bress, J., dissenting); *id.* at 1115 (Forrest, J., dissenting). It is also the antithesis of a neutral mandate—explicitly targeting religious students for worse treatment. *See Doe II*, 22 F.4th at 1103-04 (Bumatay, J., dissenting).

With over a third of the Ninth Circuit clamoring for the Supreme Court to reverse a clear error, SDUSD equivocated, informing the High Court that it might pull the plug on its mandate, modify it, or delay it. (FAC Ex. 28.)[1] This gambit worked. On Thursday, February 18, 2022, the Supreme Court denied Plaintiffs here emergency injunctive relief, but "without prejudice to applicants seeking a new injunction" if the mandate continued to contain the same constitutional infirmities. *See Doe v. San Diego Unified Sch. Dist.*, 142 S. Ct. 1099, 1100 (2022) ("*Doe III*"). SDUSD did not get the message, and on Monday, February 22, 2022, SDUSD's Board of Education discussed re-imposing a virtually identical mandate, with only a few minor tweaks, simply delayed from the Spring semester to the Summer semester.

[1] *See also* Letter from Paul M. Jonna, Esq., Counsel for Applicants, to the Hon. Scott S. Harris, Clerk of the Supreme Court of the United States, re: *Doe v. San Diego Unified School District*, No. 21A217 (Feb. 11, 2022), https://bit.ly/3gR5Pxz.

(FAC ¶ 55 & Ex. 30.) In other words, SDUSD pulled its mandate just before the Supreme Court was set to strike it down, and then reinstated it the week after.

In *Diocese of Brooklyn*, *South Bay United Pentecostal Church*, and *Tandon*, the Supreme Court made clear that COVID-19 can never be used as an excuse to trample on religious rights. This means that if exemptions to COVID-19 rules are made for secular purposes, equal or greater exemptions must be made for religious purposes. This is a simple rule, and following five rebukes of the Ninth Circuit, California and Governor Newsom finally chose to follow it. As Judge Bumatay noted in dissent, "[w]ith this case, our court is gunning for a sixth." *Doe II*, 22 F.4th at 1100. This Court should not let that happen.

SDUSD's COVID-19 vaccine mandate is unconstitutional, both facially and as applied, and is causing real harm to real students—including Plaintiffs Terry Roe, Taylor Roe, and Adrian Poe—with no justification for why their religious beliefs cannot be accommodated. Plaintiffs Terry Roe, Taylor Roe, and Adrian Poe, and their parents Plaintiffs Tiffany Roe and Andrew Poe, thus now move this Court for a preliminary injunction preventing Defendants from enforcing their COVID-19 vaccine mandate against the children.

FACTUAL & PROCEDURAL HISTORY

A. The Roe and Poe Families

Terry, Taylor and Adrian are three minors attending high school within the San Diego Unified School District. (FAC ¶¶ 33-38.) Terry and Taylor Roe are siblings attending high school together. Terry is 16, but Taylor is only 15. Taylor will not turn 16 until sometime during the Fall 2022 semester and before the Spring 2023 semester. Both Terry and Taylor participate in and enjoy their high school's extracurricular performing arts programs. They are represented in this action by their mother, Tiffany Roe. (FAC ¶¶ 33-35; Terry Decl., ¶¶ 2-13; Taylor Decl., ¶¶ 2-10.)

Like Terry, Adrian Poe is also 16. Adrian is in sports, not performing arts. Adrian's father, Andrew Poe, is representing Adrian in this action. (FAC ¶¶ 36-38.)

Terry, Taylor, and Adrian are all excited to attend school in the fall, in-person, and to participate in their school's extracurricular activities. (Terry Decl., ¶¶ 11-12; Taylor Decl., ¶¶ 9-10; Adrian Decl., ¶¶ 8-10.) Terry, Taylor, and Adrian are also all devout Christians with strong pro-life and anti-abortion views. (FAC ¶ 27; Terry Decl., ¶¶ 2-5; Taylor Decl., ¶¶ 2-4; Adrian Decl., ¶¶ 2-7.) All three have already contracted and recovered from COVID-19, developed natural immunity, and were therefore happy to put the threat of COVID-19 behind them. (FAC ¶¶ 28, 35, 38; Terry Decl., ¶¶ 6-7; Taylor Decl., ¶¶ 5-6; Adrian Decl., ¶ 11.)

B. The COVID-19 Pandemic & Vaccines

In response to the SARS-CoV-2 virus, the U.S. Food and Drug Administration has approved three COVID-19 vaccines, produced by Pfizer-BioNTech, Moderna, and Johnson & Johnson. The Pfizer vaccine was approved for emergency use with individuals age 16 and up, but the Moderna and Johnson & Johnson vaccines were only approved for individuals age 18 and up. (FAC ¶ 39 & Exs. 1-3.)

Subsequently, emergency use of the Pfizer vaccine was expanded to include children age 12 and up, and full approval was granted for the Pfizer vaccine for individuals age 16 and up. The Moderna and Johnson & Johnson vaccines remain available solely for adults on an emergency basis. (FAC ¶ 40 & Exs. 1-4.) Pfizer boosters have also been approved, with a single dose available for children age 12 and up, and two boosters available for individuals age 50 and up. (FAC ¶ 40 & Ex. 1.) All three of these vaccines have been manufactured or tested using material derived from stem cell lines from aborted fetuses, tainting them as unavailable to many people of devout faith with religious objections to abortion. (FAC ¶ 41 & Ex. 5; Bhattacharya Decl., § I.)

C. SDUSD Imposes a COVID-19 Vaccine Mandate

On Tuesday, September 28, 2021, the Board of Trustees of San Diego Unified School District voted to impose a COVID-19 vaccination requirement for both students and staff—and offered a religious exemption to staff only, not students. (FAC ¶¶ 42-45 & Exs. 6-15.) According to that mandate, students who had turned

age 16 before November 1, 2021 would need to be fully vaccinated in advance of the Spring 2022 semester. (FAC ¶ 43 & Ex. 7.)

When the COVID-19 vaccine mandate was announced, SDUSD then-Board President Barrera stated in interviews that no religious student would be accommodated. (FAC ¶ 7 & Ex. 8.) This was repeated in the text of the mandate itself. (FAC ¶ 43 & Ex. 7 at Slide 15.) But the vaccine mandate oddly was full of holes and exemptions for nearly every other conceivable group. This resulted in immediate lawsuits filed in October 2021, including both the present action based on the Free Exercise clause of the First Amendment (*see* Dkt. 1), and another action in California Superior Court based on state law preemption. *See Let Them Choose v. San Diego Unified Sch. Dist.*, No. 37-2021-43172-CU-WM-CTL (Cal. Super. Ct. Oct. 12, 2021).

Ultimately, however, in early January 2022, SDUSD decided to delay implementing its COVID-19 vaccine mandate. On February 22 and March 8, 2022, the SDUSD Board then voted on setting a new timeline for implementation of the mandate. Beginning with Summer 2022, students who turn age 16 before the first day of school (or the first day of practices if the student participates in extracurricular activities) will need to be vaccinated to attend school or participate in those extracurricular activities. (FAC ¶¶ 51-56 & Exs. 27-33.) The new, closest deadline for students to obtain their first dose of the Pfizer vaccine is **June 28, 2022**. (FAC ¶ 60.)

Substantively, the new COVID-19 vaccine mandate is largely the same as before, with its excessive holes and exemptions—it just has a new implementation timeline. (FAC ¶¶ 57-58.) Just as before, students under age 16 are exempt, representing 87% of all SDUSD students and 56.6% of SDUSD high schoolers (FAC ¶ 58(a)); students who turn age 16 in the middle of a semester are exempt until the start of the next semester (FAC ¶ 58(b)); students and staff can obtain medical exemptions (FAC ¶ 58(c)); staff (but not students) can obtain religious exemptions (FAC ¶ 58(d)); the Superintendent has discretion to impose any exemption he wants, except for a religious exemption (FAC ¶ 58(e)); and many other people without

immunity can also come onto campus (and students can leave campus for field trips), including community members visiting performing arts shows or athletic events, and individuals who are not boosted. (FAC ¶ 58(f).)

The only change in the contours of the COVID-19 vaccine mandate is the withdrawal of certain discretion given to SDUSD staff. Previously, staff could exempt foster youth, homeless youth, migrant youth, and youth from military families if they determined that their individual circumstances made getting vaccinated difficult—or alternatively, that online learning was not feasible for them. (FAC Ex. 7 at Slide 15; FAC Ex. 9 at 22:22-23:1, 28:2-18; FAC Ex. 15 at 3.) Now, such students are treated no differently than other students who move into the District, and must show proof of vaccination on the same timeline. (FAC Ex. 29.1 at 5:20-24; FAC Ex. 30 at Slide 11; FAC Ex. 31 at 4, ¶ 6; FAC Ex. 32 at 11-12; FAC Ex. 33 at 15.) SDUSD previously argued that enrollment of such students was *required* by California statutory law, and so it had no discretion to exclude them on the basis that they were not vaccinated against COVID-19. (*See* Dkt. 15, Opp. to Ex Parte re TRO, § II.C.1; Dkt. 15-4, Barndollar Decl., ¶ 6.) But SDUSD has now apparently reached a different legal conclusion.

D. Procedural History

Immediately after initiating this action, Plaintiff Jill Doe, and her parents Plaintiffs John and Jane Doe, applied for a temporary restraining order and an OSC re: preliminary injunction (Dkt. 7, 18), which the Hon. Cathy Ann Bencivengo denied on November 18, 2021. (Dkt. 20.) The Doe Family then appealed and filed a motion for an injunction pending appeal. On November 28, 2021, the Ninth Circuit motion's panel granted the motion in part, but denied it in part. The panel ordered that SDUSD could not extend an exemption to pregnant students while refusing to extend an exemption to religious students. (Dkt. 24.) In response, SDUSD withdrew its pregnancy exemption and the Ninth Circuit then denied the Doe Family's motion in full. (Dkt. 25.) The panel split in both orders, with Circuit Judge Ikuta dissenting and arguing that the Doe Family's motion should be granted in full. (Dkt. 24, 25); *Doe I*, 19 F.4th 1173.

The Doe Family then applied to the Ninth Circuit for reconsideration en banc and applied to the Supreme Court for an emergency writ of injunction. On January 14, 2022, the Ninth Circuit denied reconsideration en banc, with ten active judges dissenting in three separate dissenting opinions. Judge O'Scannlain also submitted a statement respecting the denial of en banc review. (Dkt. 32); *Doe II*, 22 F.4th 1099.

On February 18, 2022, in light of SDUSD's voluntary delay in implementing its COVID-19 vaccine mandate, the Supreme Court denied the Doe Family's application. The Supreme Court stated, "[b]ecause respondent have delayed implementation of the challenged policy, and because they have not settled on the form any policy will now take, emergency relief is not warranted at this time…. The Court's denial is without prejudice to applicants seeking a new injunction if circumstances warrant." *Doe III*, 142 S. Ct. 1099.

Despite eleven Ninth Circuit judges holding that SDUSD's COVID-19 vaccine mandate is unconstitutional, as noted above, on March 8, 2022, SDUSD set a new timeline for its implementation without significant modification. (FAC ¶¶ 54-58.) On April 21, 2022, the Ninth Circuit dismissed the Doe Family's appeal so that renewed proceedings in this Court could occur. (Dkt. 33.) On April 29, 2022, Plaintiffs filed a First Amended Complaint, which added the Roe and Poe Families to the action. (Dkt. 34.) Plaintiffs the Roe and Poe Families now move for a preliminary injunction.

LEGAL STANDARD

Plaintiffs seeking a preliminary injunction must establish (1) that they are likely to succeed on the merits, (2) that they are likely to suffer irreparable harm without injunctive relief, (3) that the balance of harms tips in their favor, and (4) that a preliminary injunction is in the public interest. *See All. for the Wild Rockies v. Cottrell*, 632 F.3d 1127, 1131 (9th Cir. 2011) (citing *Winter v. Natural Res. Def. Council*, 555 U.S. 7, 20 (2008)). Courts in the Ninth Circuit evaluate these factors through a "sliding scale approach." *Id.* So, for example, "a stronger showing of irreparable harm to plaintiff might offset a lesser showing of likelihood of success on the merits." *Id.*

ARGUMENT

I. LIKELIHOOD OF SUCCESS ON THE MERITS

The Free Exercise Clause of the First Amendment provides that "Congress shall make no law respecting an establishment of religion, or *prohibiting the free exercise thereof*." U.S. Const., amend. I (emphasis added). "Throughout the ages men have suffered death rather than subordinate their allegiance to God to the authority of the State. Freedom of religion guaranteed by the First Amendment is the product of that struggle." *Girouard v. United States*, 328 U.S. 61, 68 (1946).

If a law or regulation burdens religious exercise and implicates parental rights, *Employment Div. v. Smith*, 494 U.S. 872, 881 (1990), or is "not neutral or not of general application," *Church of the Lukumi Babalu Aye, Inc. v. City of Hialeah*, 508 U.S. 520, 546 (1993), then it "must satisfy 'strict scrutiny,' and this means that they must be 'narrowly tailored' to serve a 'compelling' state interest." *Roman Catholic Diocese of Brooklyn v. Cuomo*, 141 S. Ct. 63, 67 (2020). In contrast, with respect to a rule that is simply "a neutral, generally applicable regulatory law," that does not implicate "other constitutional protections, such as … the right of parents … to direct the education of their children," and "merely [has] the incidental effect" of burdening religion, courts review it solely to determine whether it is "otherwise valid." *Smith*, 494 U.S. at 879-81. In other words, courts review whether the law is "rationally related to [the government's] legitimate interests" or not. *Miller v. Reed*, 176 F.3d 1202, 1206 (9th Cir. 1999).

As discussed below, SDUSD's COVID-19 vaccine mandate is both subject to, and cannot survive, strict scrutiny. But even under rational basis review, in the unique context of this case, refusing to extend an exemption to Plaintiffs lacks any rational connection to a legitimate government interest.

A. The Mandate Burdens Plaintiffs' Sincere Religious Exercise.

No claim under the Free Exercise Clause can be made unless complying with the government regulation burdens the sincere exercise of a religious belief. *See*

Wisconsin v. Yoder, 406 U.S. 205, 215-16 (1972). Establishing this is the religious claimant's burden. *See id.* at 235. In the Free Exercise context, the plaintiff "needs to show a burden, but not a substantial one." *Booth v. Bowser*, No. 21-CV-01782 (TNM), 2022 WL 823068, at *15 (D.D.C. Mar. 18, 2022).

"Where the state conditions receipt of an important benefit upon conduct proscribed by a religious faith, or where it denies such a benefit because of conduct mandated by religious belief, thereby putting substantial pressure on an adherent to modify his behavior and to violate his beliefs, a burden upon religion exists." *Thomas v. Review Board of Indiana*, 450 U.S. 707, 717-18 (1981); *see also Trinity Lutheran Church of Columbia, Inc. v. Comer*, 137 S. Ct. 2012, 2022 (2017) ("It is true the Department has not criminalized the way [plaintiff] worships…. But … the Free Exercise Clause protects against indirect coercion or penalties on the free exercise of religion, not just outright prohibitions."); *Sherbert v. Verner*, 374 U.S. 398, 404 (1963) ("It is too late in the day to doubt that the liberties of religion and expression may be infringed by the denial of or placing of conditions upon a benefit or privilege."); *Jones v. Slade*, 23 F.4th 1124, 1142 (9th Cir. 2022) (quoting and applying *Thomas*).

Here, the Plaintiffs have met their burden. All three of the COVID-19 vaccines approved by the U.S. Food and Drug Administration have connections to abortion. (FAC ¶ 41 & Ex. 5; Bhattacharya Decl., § I.) Presently, there is an ongoing debate within many religious traditions about the morality of taking these vaccines, with respected authorities coming to different conclusions. (*See* Bhattacharya Decl., ¶ 12.) But Plaintiffs' faith traditions accept the longstanding objection to vaccines that were developed or tested using material derived from abortions. Thus, none of them can receive the vaccines without violating their sincere religious beliefs. (FAC ¶ 27; Terry Decl., ¶¶ 2-5; Taylor Decl., ¶¶ 2-4; Adrian Decl., ¶¶ 2-7.)

Forcing the parents to choose between having their children violate their sincere religious beliefs in order to attend school, or adherence to those beliefs and exclusion from school, is a substantial burden on the free exercise of their religious

beliefs. *See Dahl v. Bd. of Trustees of W. Michigan Univ.*, 15 F.4th 728, 732 (6th Cir. 2021) ("Application of these benchmarks leads us to conclude that the University's failure to grant religious exemptions to plaintiffs burdened their free exercise rights. The University put plaintiffs to the choice: get vaccinated or stop fully participating"); *Warsoldier v. Woodford*, 418 F.3d 989, 994 (9th Cir. 2005) ("sanctions designed to coerce him to comply with that policy constitute a substantial burden on the exercise of his religious beliefs").

B. The Vaccination Mandate Triggers Strict Scrutiny Review In At Least Five Ways

1. The Vaccination Mandate triggers strict scrutiny because of its Categorical Exemptions

SDUSD's vaccine mandate triggers strict scrutiny because the school district has created a series of categorical exemptions from mandatory vaccination. The Supreme Court has long recognized that categorical exemptions from government-created burdens trigger strict scrutiny under the Free Exercise Clause. The *Lukumi* Court called this the problem of "underinclusiv[ity]": "categories of selection are of paramount concern" when a law burdens religious practice. *Lukumi*, 508 U.S. at 542-543. In *Lukumi*, the Supreme Court found the City of Hialeah's rules governing animal killing substantially "underinclusive" and thus not generally applicable with regard to conduct that undermined the government's asserted interests "in a similar or greater degree." *Id.* at 543-44.

Similarly, in *Tandon* and *South Bay United Pentecostal Church*, the Supreme Court recognized that government actions—like selective burdens on home worship—that "treat ***any*** comparable secular activity more favorably than religious exercise" trigger strict scrutiny under the Free Exercise Clause. *Tandon v. Newsom*, 141 S. Ct. 1294, 1296 (2021) (original italics; bolding added) (citing *Diocese of Brooklyn*, 141 S. Ct. at 67-68). Governmental action is not generally applicable if the government "impose[s] more stringent regulations on religious" activity than secular activity.

South Bay United Pentecostal Church v. Newsom, 141 S. Ct. 716, 717 (2021) (Statement of Gorsuch, J.); *see id.* (Barrett, J., concurring).[2] "[W]hether two activities are comparable for purposes of the Free Exercise Clause [is] judged against the asserted government interest that justifies the regulation at issue." *Tandon*, 141 S. Ct. at 1296. Thus, a law "lacks general applicability if it prohibits religious conduct while permitting secular conduct that undermines the government's asserted interests in a similar way." *Fulton v. City of Philadelphia*, 141 S. Ct. 1868, 1877 (2021).

Here, SDUSD enrolls more than 121,000 students, and more than 36,000 high school students. (FAC ¶ 58(a) & Exs. 34-35.) But SDUSD only requires approximately 15,700 students to get vaccinated. (FAC ¶ 58(a) & Ex. 30 at Slide 7.) Unlike the few other school districts that mandate COVID-19 vaccination (FAC ¶¶ 46-50 & Exs. 16-26), SDUSD has chosen to exempt thousands of students—and many of its own employees—from its COVID vaccine mandate because of their age, medical condition, secular status, or simply its own administrative convenience. (FAC ¶ 58 & Exs. 30-33.) Each of these exemptions presents "similar risks" to SDUSD's interest in protecting health and safety because each of them results in unvaccinated people present during in-person learning. *Tandon*, 141 S. Ct. at 1296. Such an "exception-riddled policy" is the "antithesis of a neutral and generally applicable policy." *Roberts v. Neace*, 958 F.3d 409, 413-414 (6th Cir. 2020).

In short, because SDUSD's policy "contains myriad exceptions and accommodations for comparable activities," *Tandon*, 141 S. Ct. at 1298—allowing 15,000+ high school students and many employees to attend school in person while unvaccinated—it is not generally applicable and strict scrutiny applies. *See Doe I*, 19

[2] The reasoning in Justice Gorsuch's statement was joined by four other Justices, making it a binding opinion. *See Roman Catholic Archbishop of Washington v. Bowser*, 531 F. Supp. 3d 22, 42 n.15 (D.D.C. 2021) (noting that five Justices joined); *id.* at 32 n.5; *see also Tandon*, 141 S. Ct. at 1296-97 (citing Justice Gorsuch's statement as if it were binding authority).

F.4th at 1184-86 (Ikuta, J., dissenting); *Doe II*, 22 F.4th at 1104-08 (Bumatay, J., dissenting); *id.* at 1114-15 (Bress, J., dissenting); *id.* at 1115 (Forrest, J., dissenting).

2. The Vaccination Mandate triggers strict scrutiny because of its Discretionary Exemptions

SDUSD's vaccine mandate also triggers strict scrutiny because it contains a system of discretionary exemptions. For several decades, the Supreme Court has recognized that where government imposes a burden on a large category of people but then creates a mechanism for individually exempting some people from the ambit of the burden, the exemption must be extended to religious people as well, unless the government has a compelling reason not to. Relying on *Bowen v. Roy*, 476 U.S. 693 (1986), and *Smith*, the *Lukumi* Court held that "in circumstances in which individualized exemptions from a general requirement are available, the government may not refuse to extend that system to cases of religious hardship without compelling reason." 508 U.S. at 537 (cleaned up).

In *Fulton*, the Supreme Court further explained that where a law "incorporates a system of individual exemptions," or includes "a formal system of entirely discretionary exceptions," strict scrutiny is triggered. 141 S. Ct. at 1878. Importantly, it does not matter whether the system of exceptions has ever been used: "The creation of a formal mechanism for granting exceptions renders a policy not generally applicable, regardless whether any exceptions have been given[.]" *Id.* at 1879.

Here, SDUSD has created a system that allows Superintendent Jackson discretion to grant exemptions when he sees fit. After instituting a COVID-19 vaccine mandate in October 2021, Superintendent Jackson demonstrated his discretionary authority by unilaterally inserting an exemption for pregnant students without consulting the Board of Education. In response to this litigation, Superintendent Jackson "authorized and directed that the option for pregnant students to request a deferral of the vaccine mandate be removed from the vaccine mandate program and requirements." In doing so, he explained that because the exemption had been

initially approved on his own authority, he could rescind it on his own authority, and implied that such discretion will not be used in the future. (FAC, ¶ 58(e) & Ex. 37 at 2-3, ¶¶ 2, 3.) But like the unused discretion in *Fulton*, the existence of this discretion makes SDUSD's COVID-19 vaccination policy subject to strict scrutiny. *See Dahl*, 15 F.4th at 733 (university's COVID-19 vaccination mandate triggered strict scrutiny due to system of individualized exemptions).

3. The Vaccination Mandate triggers strict scrutiny because of its Interference with Parental Rights

SDUSD's vaccination mandate also triggers strict scrutiny under the rule of the *Yoder* line of cases. In *Yoder*, the Supreme Court held that a rule impinging on parents' rights to control "the religious upbringing and education of their minor children" triggered strict scrutiny under the Free Exercise Clause. 406 U.S. at 231. *Yoder* drew on two earlier cases that have been treated as proto-Free Exercise cases because they predated incorporation of the Free Exercise Clause against the states: *Meyer v. Nebraska*, 262 U.S. 390 (1923), and *Pierce v. Society of the Sisters of the Holy Names of Jesus & Mary*, 268 U.S. 510 (1925).

Meyer and *Pierce* were thus formally decided on due process grounds, but both nevertheless later supported *Yoder*'s conclusion that parents have a "fundamental" interest "with respect to the religious upbringing of their children." 406 U.S. at 213-14. *See*, *e.g.*, *Griswold v. Connecticut*, 381 U.S. 479, 481 (1965) (discussing *Meyer* and *Pierce* as First Amendment cases). *Smith* reaffirmed this line of precedent, describing "the right of parents … to direct the education of their children," recognizing that these claims still receive heightened scrutiny, and citing *Yoder* and *Pierce* for the point. *Smith*, 494 U.S. at 881.

More recently, the Supreme Court has repeatedly reaffirmed the unique role of religious education. For example, *Espinoza* reaffirmed as an "'enduring American tradition' … the rights of parents to direct 'the religious upbringing' of their children." *Espinoza v. Montana Dept. of Revenue*, 140 S. Ct. 2246, 2261 (2020)

(quoting *Yoder*, 406 U.S. at 213-14). And pending before the Supreme Court is yet another case that concerns the right of parents to direct the religious upbringing of their children. *See Carson v. Makin*, No. 20-1088 (argued Dec. 8, 2021).

Here, SDUSD's mandate triggers strict scrutiny under the *Yoder* line of cases because it interferes directly with the ability of the parent-plaintiffs to direct the upbringing of their children. By forcing the parents to have their children vaccinated—a medical procedure both they and their children have sincere religious objections to—SDUSD is directly interfering both with the parents' right to direct the religious upbringing of their children, and with the children's right to have their upbringing controlled by their parents rather than a local government, thus triggering strict scrutiny.

4. The Vaccination Mandate triggers strict scrutiny because of its Lack of Facial Neutrality

"[T]he minimum requirement of neutrality is that a law not discriminate on its face." *Lukumi*, 508 U.S. at 533. "A law lacks facial neutrality if it refers to a religious practice," *id.*, and "single[s] out" religious activity for "harsh treatment." *Diocese of Brooklyn*, 141 S. Ct. at 66 & n.1, or "openly impose[s] more stringent regulations on religious" activity than secular activity. *South Bay*, 141 S. Ct. at 717 (Statement of Gorsuch, J.). In other words, government conduct that fails to operate "without regard to religion" and "single[s] out the religious" for disadvantages "clear[ly] … imposes a penalty on the free exercise of religion that triggers the most exacting scrutiny." *Trinity Lutheran*, 137 S. Ct. at 2020-21. Even if the government later attempts to identify a purportedly neutral explanation for reference to religion, strict scrutiny is still required. "Status-based discrimination remains status based even if one of its goals or effects is" a valid goal. *See Espinoza*, 140 S. Ct. at 2256, 2260.

Here, SDUSD's vaccine mandate lacks facial neutrality by outright stating that "religious or personal belief exemptions will not be permitted." (FAC ¶ 57 & Ex. 30 at Slide 10.) SDUSD's officials have also repeatedly stated in interviews that religious

students will not be accommodated. (FAC ¶ 43 & Ex.8.) In other words, SDUSD's Superintendent has wide discretion to accommodate students for any reason—including pregnancy (*see* § I.B.2, *supra*)—but SDUSD has limited his discretion in one area: religious objections. Thus, by not operating neutrally with respect to religion, the mandate triggers strict scrutiny. *See Doe II*, 22 F.4th at 1103 (Bumatay, J., dissenting) ("the District *expressly* targets the religious for worse treatment in direct violation of Supreme Court precedent."); *Booth v. Bowser*, No. 21-CV-01782 (TNM), 2022 WL 823068, at *15 (D.D.C. Mar. 18, 2022) ("Because the MCA 'refers to a religious practice' and thus is not facially neutral, the Court need not ask whether the law covertly targets religion.").

5. The Vaccination Mandate triggers strict scrutiny because of its Hostility and Distrust of Religion

Government action is also not neutral if it "stem[s] from animosity to religion or distrust of its practices." *Masterpiece Cakeshop Ltd. v. Colorado Civ. Rts. Comm'n*, 138 S. Ct. 1719, 1731 (2018), or when the government acts "in a manner intolerant of religious beliefs." *Fulton*, 141 S. Ct. at 1877. "[T]he protections of the Free Exercise Clause pertain if the law at issue discriminates against some or all religious beliefs or regulates or prohibits conduct because it is undertaken for religious reasons." *Lukumi*, 508 U.S. at 532; *see also Trinity Lutheran*, 137 S. Ct. at 2021 ("Nor may a law regulate or outlaw conduct because it is religiously motivated."). Any attempt to "impose special disabilities on the basis of religious views" is categorically forbidden. *Smith*, 494 U.S. at 877. Thus, "even slight suspicion" that state action against religious conduct is not neutral triggers strict scrutiny. *Masterpiece Cakeshop*, 138 S. Ct. at 1731. This lack of neutrality is apparent where the government "assume[s] the worst" about religious motivations for accommodation "but assume[s] the best" about secular ones. *Tandon*, 141 S. Ct. at 1297.

Here, SDUSD knew that at least some people of faith would need to be exempted from its COVID-19 vaccine mandate due to their religious beliefs, and used

this knowledge to instead specifically disclaim any intention to accommodate them. (FAC ¶ 57 & Ex. 30 at Slide 10.) SDUSD then-Board President Barrera explained that SDUSD would not exempt individuals with religious objections out of a fear that others would abuse the "loophole." (FAC ¶¶ 43, 58(d) & Ex. 15.) Calling a sincere religious belief a "loophole" is more than enough to show hostility to religion. *See Klein v. Oregon Bureau of Lab. & Indus.*, 317 Or. App. 138, 161 (2022) (referring to religious objection to same-sex marriage as a "prejudice" was hostility to religion).

Further, after imposing its COVID-19 vaccine mandate, SDUSD discovered that only 1.7% of its staff sought religious exemptions, and so the fear of an abused "loophole" was exaggerated. (FAC ¶ 58(d) & Ex. 36.) Yet, SDUSD has still not backed down. When given a choice by the Ninth Circuit to either extend its discretionary exemption for pregnant students to religious students, or extend neither, SDUSD chose to throw pregnant students out. (FAC ¶ 58(e) & Ex. 37.) Presumably recognizing that this reasoning also extended to foster youth, homeless youth, migrant youth, and youth from military families, SDUSD also abandoned them, but retained its administrative convenience exemption. (*See* § C, *supra*.) SDUSD's COVID-19 vaccination mandate did not "incidental[ly]" burden religion, but knowingly did. *Smith*, 494 U.S. at 878. It thus triggers strict scrutiny. *See Doe II*, 22 F.4th at 1104 (Bumatay, J., dissenting) ("And contrary to the District president's views, religious exercise isn't a 'loophole,' but a fundamental freedom.").

C. The Vaccination Mandate Cannot Satisfy Strict Scrutiny Review.

Once strict scrutiny is triggered, the government must show that "denying an exception" to "particular religious claimants," *Fulton*, 141 S. Ct. at 1882, is "'narrowly tailored' to serve a 'compelling' state interest." *Diocese of Brooklyn*, 141 S. Ct. at 66. Strict scrutiny is "the most demanding test known to constitutional law." *City of Boerne v. Flores*, 521 U.S. 507, 534 (1997).

"Once a plaintiff has made out his initial case …, it is the government that must show its policy 'is the least restrictive means of furthering [a] compelling

governmental interest.'" *Ramirez v. Collier*, 142 S. Ct. 1264, 1281 (2022) "This allocation of respective burdens applies in the preliminary injunction context." *Id.* at 1277; *see also NIFLA v. Becerra*, 138 S. Ct. 2361, 2376 (2018) (government flunked the narrow-tailoring test in a preliminary injunction motion where it had "identified no evidence" to "prove" tailoring).

The government's justification 'must be genuine, not hypothesized or invented post hoc in response to litigation.'" *Agudath Israel of Am. v. Cuomo*, 983 F.3d 620, 633 (2d Cir. 2020) (quoting *United States v. Virginia*, 518 U.S. 515, 533 (1996)). Even when the government has identified a problem in need of solving, the restriction "must be actually necessary to the solution," for the "government does not have a compelling interest in each marginal percentage point by which its goals are advanced." *Brown v. Entertainment Merchs. Ass'n*, 564 U.S. 786, 799, 803 n.9 (2011). "That is a demanding standard." *Id.* And "because [the government] bears the risk of uncertainty, ambiguous proof will not suffice." *Id.* at 799-800 (citations omitted). "[C]onjecture" and "hypothetical[s]," and other "'[s]uch speculation is insufficient to satisfy' [the government's] burden." *Ramirez*, 142 S. Ct. at 1280 (quoting *Fulton*, 141 S. Ct. at 1882).

The "least-restrictive-means standard is exceptionally demanding" in that it requires the government to show that "it lacks other means of achieving its desired goal." *Burwell v. Hobby Lobby Stores, Inc.*, 573 U.S. 682, 728 (2014). "[S]o long as the government can achieve its interests in a manner that does not burden religion, it must do so." *Fulton*, 141 S. Ct. at 1881. "[A]t a minimum," when other jurisdictions "offer an accommodation, [the government] must … offer persuasive reasons why it believes that it must take a different course." *Holt v. Hobbs*, 574 U.S. 352, 369 (2015). The government must "explore any relevant differences between [its] … process and those of other jurisdictions," and explain why it must diverge. *Ramirez*, 142 S. Ct. at 1279; *see also Dahl*, 15 F.4th at 735 (citing the fact that most universities allow

religious exemptions to COVID-19 vaccinations to show that university could not satisfy strict scrutiny).

In the COVID-19 context, "narrow tailoring requires the government to show that measures less restrictive of the First Amendment activity could not address its interest in reducing the spread of COVID. Where the government permits other activities to proceed with precautions, it must show that the religious exercise at issue is more dangerous than those activities even when the same precautions are applied. Otherwise, precautions that suffice for other activities suffice for religious exercise too." *Tandon*, 141 S. Ct. at 1296–97; *see also Dahl*, 15 F.4th at 735 (noting that allowing others to remain unvaccinated defeats strict scrutiny); *Biden v. Missouri*, 142 S. Ct. 647, 650 (2022) (noting that Medicare COVID-19 vaccine mandate properly has religious exemption).

Here, SDUSD's COVID-19 vaccination mandate is not narrowly tailored to further any compelling governmental interest for several reasons:

First, SDUSD's vaccination mandate is both underinclusive and overinclusive. The mandate is underinclusive with respect to "mitigating the spread of COVID-19" because SDUSD permits numerous exemptions to its vaccination mandate, allowing thousands of students to be unvaccinated if they are under age 16 for no reason at all, if they are over age 16 for administrative convenience, and allowing medical exemptions for students and staff, and religious exemptions for staff (but not students). (FAC ¶ 58.) It also does not require booster shots despite the compelling evidence that without them, COVID-19 vaccination immunity trails away to nothing. (FAC ¶ 58(f) & Exs. 38-39; French Decl., § E; Bhattacharya Decl., §§ III.B, III.C.)

It is equally underinclusive with respect to a broader interest in student "health and safety." Indeed, under such a broad interest, the mandate is essentially *per se* underinclusive for failing to take a limitless number of actions to protect student health and safety. Most analogously, the COVID-19 mortality rate for *children* is vanishingly small, so small in fact, that the mortality rate for regular influenza is greater. (French

Decl., § C; Bhattacharya Decl., § II.) By only mandating vaccination for COVID-19, and not influenza, SDUSD's policies are therefore underinclusive with respect to the goal of promoting student health and safety. (*See also* French, Decl., § A [noting that locking down children has led to a suicide epidemic].)

The mandate is overinclusive because SDUSD believes that "COVID-19 testing, masking, ventilation, screening, high quality sanitation measures, and requirement for all employees to be vaccinated … are effective at mitigating the spread of COVID-19." (FAC, Ex. 31 at 1.) It is SDUSD's burden to prove that these measures—which it used during the height of the pandemic, and which every other school district uses—are inadequate, but SDUSD actually admits that they are perfectly adequate. (*Id.*) In this respect, it is correct. (Bhattacharya Decl., § IV.)

The mandate is also overinclusive because Plaintiffs all have natural immunity, which provides protection that is at least as good as, if not better than, any vaccine. (*See* FAC ¶¶ 28, 35, 38; French Decl., §§ F-G; Bhattacharya Decl., § III); *Air Force Officer v. Austin*, No. 5:22-CV-00009-TES, 2022 WL 468799, at *10 (M.D. Ga. Feb. 15, 2022) ("Plaintiff's natural immunity coupled with other preventive measures begs the question: Does a COVID-19 vaccine really provide more sufficient protection? … Defendants have failed to explain why having Plaintiff … submit to a COVID-19 vaccine is the least restrictive means to achieve its compelling governmental interest in maintaining a healthy force."); *cf. also Garrett v. Murphy*, 17 F.4th 419, 433 & n.7 (3d Cir. 2021) (noting that convict who had recovered from COVID-19 not justify a compassionate release due to natural immunity); *United States v. Jordan*, No. 3:18-CR-04496-GPC, 2020 WL 6504958, at *3 (S.D. Cal. Nov. 5, 2020) (similar).

Second, SDUSD does not have a "compelling" interest. SDUSD alternatively describes its compelling interest as "mitigating the spread of COVID-19" or "provid[ing] the strongest protection to the health and safety of all students and staff in our schools and community." (FAC, Ex. 31 at 1.) For the former, narrower interest, SDUSD acknowledges that herd immunity is achieved through a vaccination

rate of 95% (FAC, Ex. 9, at 34:11), but the only known numbers indicate that only approximately 1.7% of students would seek a religious exemption. (FAC ¶ 58(d) & Ex. 36 at 2-4, ¶¶ 2, 6.) There is thus no compelling interest in "denying an exception" to "particular religious claimants." *Fulton*, 141 S. Ct. at 1882. Further, SDUSD's interest in curbing the spread of COVID-19 is not meaningfully served by mandating vaccinations of children generally, or through refusing religious exemptions. Children were never a major source of transmission (French Decl., § B), they themselves are not at risk (French Decl., §§ C-D; Bhattacharya Decl., § II.A), the COVID-19 vaccines are no longer effective at preventing transmission (French Decl., § E; Bhattacharya Decl., § III.C), and 75% of children already have natural immunity. (French Decl., § G; Bhattacharya Decl., § III.A.) The science is not "ambiguous," *Brown*, 564 U.S. at 799-800, it is against SDUSD.

For the latter, broader interest—"health and safety" generally—SDUSD fails to take into account known risks of its mandate, including known risks of myocarditis and auto-immune disorders from the mRNA vaccines (French Decl., §§ H-I; Bhattacharya Decl., § V) and the known risk of depression and suicide from locking down children who cannot get vaccinated. (French Decl., § A.) For this latter concern, SDUSD can only argue that its vaccine mandate even furthers "health and safety" by assuming that it will be able to coerce students into violating their religious beliefs, and that they will not actually be relegated into online learning. But such an assumption is legally inappropriate. *See Fulton*, 141 S. Ct. at 1882 (in strict scrutiny analysis, court did not assume that people of faith would succumb to pressure to violate their religious beliefs, but assumed that they would comply with their religious beliefs).

D. The Vaccination Mandate Cannot Satisfy Rational Basis Review.

In the alternative, SDUSD's vaccination policies also fail rational basis review. "To survive rational basis review, Defendants' disparate treatment of [religious objectors] must be 'rationally related to a legitimate state interest.'" *Arizona Dream Act Coal. v. Brewer*, 757 F.3d 1053, 1065 (9th Cir. 2014).

First, government policies can fail rational basis review if inspired, not by a legitimate state interest, but by animus. *United States v. Windsor*, 570 U.S. 744, 775 (2013) (finding that "no legitimate purpose" could overcome "the purpose and effect to disparage and to injure"). This can be shown directly, *Arizona Dream Act Coal.*, 757 F.3d at 1067 ("Defendants' policy appears intended to express animus toward DACA recipients themselves"); or where the severe "[over]breadth" of the policy implies animus. *Romer v. Evans*, 517 U.S. 620, 635 (1996). In this sense, a finding that government conduct is not neutral to religion is tantamount to finding that it cannot survive rational basis review. *See Masterpiece Cakeshop*, 138 S. Ct. at 1731 (striking down government conduct on Free Exercise grounds without discussing standard of review applied). Here, for the same reasons discussed above in Sections I.B.4 and I.B.5, there is no legitimate government purpose, solely a desire to coerce people of faith to violate their religious beliefs, and so refusing to accommodate people of faith cannot survive rational basis review.

Second, government policies can also fail rational basis review if "the statute is [actually] unrelated to the[government] interests," *Merrifield v. Lockyer*, 547 F.3d 978, 986 (9th Cir. 2008), such that applying the regulation is "irrational and wholly arbitrary." *Vill. of Willowbrook v. Olech*, 528 U.S. 562, 564-65 (2000). In sum, "while a government need not provide a perfectly logically solution to regulatory problems, it cannot hope to survive *rational* basis review by resorting to irrationality." *Merrifield*, 547 F.3d at 991.

In *Merrifield*, individuals working in the pest-control industry had to obtain a difficult and expensive "Branch II" license to engage in the removal of "mice, rats or pigeons," even if they only used non-pesticide methods to remove them. *Id.* at 980-81. The government explained that, although Branch II licensure was focused on ensuring pesticide knowledge, applying it to non-pesticide workers served important interests: (1) "the state creates a framework to monitor" all pest-control workers; and (2) even if one does not use pesticides, one should know about its risks and

effectiveness in order to protect oneself when entering sites where pesticides were used, and in order to advise customers. *Id.* at 988.

However, the government did not require Branch II licensure if the pest-control worker only engaged in non-pesticide removal of "bats, raccoons, skunks, and squirrels." *Id.* at 988-89. Some such pest-control workers had lobbied for a unique licensing category for themselves, arguing that Branch II licensure covered too large a field. But instead of creating a new license, the government decided to not license such workers at all, arguing that since such animals are only removed using non-pesticide methods, licensure was not needed. *Id.* 989-90. The Ninth Circuit noted that this was irrational: that the rationale for *requiring* licensure of non-pesticide mice removal, and the rational for *not requiring* licensure of non-pesticide bat removal, were directly contradictory, and so failed rational basis review. *Id.* at 991.

Here, similarly, the rationale behind SDUSD's COVID-19 vaccination mandate requirements and exemptions are directly contradictory. According to SDUSD, its "Expert Panel unanimously recommend[ed] that all persons be safely vaccinated against COVID-19;" it believes that "vaccination of all eligible students who can be safely vaccinated provides the strongest protection to the health and safety of all students and staff in our schools and community;" and thus it approved only "a narrow medical exemption … to protect students who cannot be safely vaccinated." (FAC ¶ 56 & Ex. 31, pp. 1-2.) But this directly undermines the exemptions for administrative convenience, the religious beliefs of staff, students under age 16, and visitors and field trippers. (*See* § C, *supra*.)

Further, there is no logical reason why students who cannot get vaccinated for medical reasons should be allowed to participate in class, but students who cannot get vaccinated for religious reasons should not. Both are equally unvaccinated and both are equally able to participate in online learning. *See Arizona Dream Act Coal.*, 757 F.3d at 1067 ("Defendants' professed concern applies with equal force to …"). SDUSD's "decision to deny a religious exemption in these circumstances doesn't

just fail the least restrictive means test, it borders on the irrational." *Does 1-3 v. Mills*, 142 S. Ct. 17, 22 (2021) (Gorsuch, J., dissenting).

II. THE OTHER INJUNCTION FACTORS ARE SATISFIED

The remaining preliminary injunction factors are irreparable harm, balance of harms, and the public interest. *All. for the Wild Rockies*, 632 F.3d at 1131. With respect to irreparable harm, because "[t]he loss of First Amendment freedoms, for even minimal periods of time, unquestionably constitutes irreparable injury," *Diocese of Brooklyn*, 141 S. Ct. at 67, "[r]eligious adherents are not required to establish irreparable harm independent of showing a Free Exercise Clause violation." *Agudath Israel*, 983 F.3d at 636. When forced to choose between religious beliefs and government benefits, "[p]laintiffs are being subjected to ongoing coercion based on their religious beliefs. That coercion is harmful in and of itself and cannot be remedied after the fact." *Sambrano v. United Airlines, Inc.*, No. 21-11159, 2022 WL 486610, at *3 (5th Cir. Feb. 17, 2022); *see also BST Holdings, LLC v. OSHA*, 17 F.4th 604, 618 n.21 (5th Cir. 2021) (OSHA COVID-19 mandate causes irreparable harm for to the extent it fails to have a religious exemption).

Next, when a party seeks a preliminary injunction against the government, the balance of harms and public interest factors merge, because the government's interest is the public interest. *Drakes Bay Oyster Co. v. Jewell*, 747 F.3d 1073, 1092 (9th Cir. 2014). On SDUSD's side, alleged adverse consequences are irrelevant because it is always in the public interest to make sure that the government is complying with the law. *NIFB v. Dep't of Lab.*, 142 S. Ct. 661, 666 (2022) (refusing to weigh allegation that OSHA vaccine mandate "will save over 6,500 lives" because "[i]n our system of government, that is the responsibility of those chosen by the people through the democratic process"); *BST Holdings*, 17 F.4th at 618 ("The public interest is [] served by maintaining our constitutional structure … even, or perhaps *particularly*, when those decisions frustrate government officials.").

///

On Plaintiffs' side, in a case involving Free Exercise rights, where the plaintiffs "have raised serious First Amendment questions," that "compels a finding that the balance of hardships tips sharply in Plaintiffs' favor." *Am. Beverage Ass'n v. City & County of San Francisco*, 916 F.3d 749, 758 (9th Cir. 2019) (cleaned up). This is because "it is always in the public interest to prevent the violation of a party's constitutional rights." *Id.* (cleaned up); *see also, e.g., California v. Azar*, 911 F.3d 558, 582 (9th Cir. 2018) ("Protecting religious liberty and conscience is obviously in the public interest."); *Dahl*, 15 F.4th at 736 ("[I]t is always in the public interest to prevent the violation of a party's constitutional rights").

Thus, in the context of a Free Exercise challenge to a COVID-19 restriction, the remaining three preliminary injunction factors essentially merge into an analysis of whether "the State has [] shown that 'public health would be imperiled' by employing less restrictive measures." *Tandon*, 141 S. Ct. at 1297 (quoting *Diocese of Brooklyn*, 141 S. Ct. at 68). Here, not only would protection for Plaintiffs not harm the public interest, it would *promote* the public interest. SDUSD already permits thousands of students under 16 to attend classes subject to testing, masking, and other mitigation measures; presumably, some of those students attend the same classes as Taylor, Terry, and Adrian. Yet SDUSD has not claimed that these students pose a health threat. Therefore, SDUSD "has not shown that 'public health would be imperiled' by employing less restrictive measures." *Tandon*, 141 S. Ct. at 1297. And it is well accepted in the medical literature that keeping children out of school results in worse health and social outcomes. (French Decl., § A.)

III. Request for Denial of a Stay Pending Appeal

In light of the impending vaccination deadlines that Defendants have imposed, regardless of how this Court rules, Plaintiffs expect that the losing party will immediately appeal, seek relief pending appeal, and seek an expedited appeal. To seek relief pending appeal, however, the moving party is required to seek such relief from this Court before seeking relief from the Ninth Circuit, or is required to seek

relief from both courts simultaneously. Fed. R. App. P. 8(a)(1)(C); *see Marlowe v. LeBlanc*, 810 F. App'x 302, 304 (5th Cir. 2020); *DiMartile v. Cuomo*, No. 1:20-CV-0859 (GTS/CFH), 2020 WL 4877239, *12 & n.8 (N.D.N.Y. Aug. 19, 2020).

In significant part, determining whether to stay an injunction pending appeal, or grant an injunction pending appeal, requires a similar analysis as the underlying motion for a preliminary injunction. *E. Bay Sanctuary Covenant v. Trump*, 932 F.3d 742, 769 (9th Cir. 2018). However, "[i]n deciding whether the court should stay the grant or denial of a preliminary injunction pending appeal," the court's task is to "predict[] the likelihood of success of the appeal." *E. Bay Sanctuary Covenant v. Biden*, 993 F.3d 640, 660 (9th Cir. 2021). In this context, where the district court's analysis of the underlying motion and its prediction of the likelihood of reversal is the same, it is appropriate for the district court to make this clear, so that no motion for relief pending appeal need be presented to it. *See Huisha-Huisha v. Mayorkas*, No. CV 21-100(EGS), 2021 WL 4206688, at *18 (D.D.C. Sept. 16, 2021) ("[T]he Court declines to stay this decision pending appeal for substantially the same reasons as those articulated in this Opinion."); *Doe v. San Diego Unified Sch. Dist.,* No. 21-CV-1809-CAB-LL, 2021 WL 5396136, at *6 (S.D. Cal. Nov. 18, 2021) ("For the same reasons, an injunction pending any appeal of this ruling is not warranted.").

Thus, at the same time that this Court rules on this motion, Plaintiffs request that the Court rule on whether a stay or injunction pending appeal is appropriate, so that the appealing party is not forced to file contemporaneous motions with both this Court and the Ninth Circuit, and can instead proceed directly to the Ninth Circuit.

IV. THE COURT SHOULD DISPENSE WITH A BOND REQUIREMENT

Finally, the federal rules provide that a preliminary injunction may be issued "only if the movant gives security in an amount that the court considers proper to pay the costs and damages sustained by any party found to have been wrongfully enjoined or restrained." Fed. R. Civ. P. 65(c). Even so, this Court has discretion over whether any security is required and, if so, the amount. *See, e.g.*, *Jorgensen v.*

Cassiday, 320 F.3d 906, 919 (9th Cir. 2003). The Ninth Circuit has "long-standing precedent that requiring nominal bonds is perfectly proper in public interest litigation," especially "where requiring security would effectively deny access to judicial review." *Save Our Sonoran, Inc. v. Flowers*, 408 F.3d 1113, 1126 (9th Cir. 2005) (citing *People of State of Cal. ex rel. Van De Kamp v. Tahoe Reg'l Planning Agency*, 766 F.2d 1319, 1325–26 (9th Cir. 1985); *Friends of the Earth, Inc. v. Brinegar*, 518 F.2d 322, 323 (9th Cir. 1975)).

Here, Plaintiffs request that the Court waive any bond requirement, because enjoining SDUSD from unconstitutionally enforcing its COVID-19 vaccine mandate in the face of religious objections will not financially affect SDUSD. A bond would, however, be burdensome on already burdened Plaintiffs under these circumstances. *See, e.g.*, *Bible Club v. Placentia-Yorba Linda Sch. Dist.*, 573 F. Supp. 2d 1291, 1302 n.6 (C.D. Cal. 2008) (waiving requirement of student group to post a bond where case involved "the probable violation of [the club's] First Amendment rights" and minimal damages to the District of issuing injunction); *Doctor John's, Inc. v. Sioux City*, 305 F. Supp. 2d 1022, 1043-44 (N.D. Iowa 2004) ("[R]equiring a bond to issue before enjoining potentially unconstitutional conduct by a governmental entity simply seems inappropriate, because the rights potentially impinged by the governmental entity's actions are of such gravity that protection of those rights should not be contingent upon an ability to pay."). In line with the above cases, recent Free Exercise cases enjoining unconstitutional vaccine mandates have waived the bond requirement. *See Air Force Officer*, 2022 WL 468799, at *13.

CONCLUSION

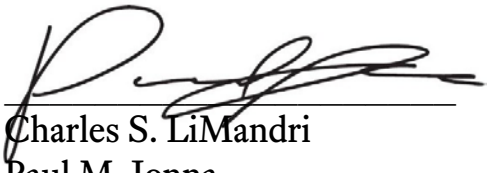
For the foregoing reasons, Plaintiffs respectfully request that this Court grant in full their motion for a preliminary injunction, dispense with a bond requirement, and deny any stay of its order pending appeal.

///

///

Respectfully submitted,

LiMANDRI & JONNA LLP

Dated: May 11, 2022 By: 

Charles S. LiMandri
Paul M. Jonna
Mark D. Myers
Jeffrey M. Trissell
Robert E. Weisenburger
Milan L. Brandon II
Attorneys for Plaintiffs

Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Declaration of Plaintiff Terry Roe in Support of Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

I, Terry Roe, declare as follows:

1. I am a plaintiff in this action. I am a 16 year old minor. I am a junior attending a high school within the San Diego Unified School District. I am identifying myself as "Terry Roe" to protect my privacy and safety, as explained further below. The matters discussed below are based on my own personal knowledge.

2. I've grown up in the church my entire life, and it's become my second home. My entire life and everything I do is centered around my church and my school. My family and I serve in many different Christian ministries in and outside our church. I have a great group of church friends that I spend time with in and outside of church on Sundays and during the week. As a teen, I was baptized by my church's youth pastor. Baptism is an outward expression of the faith I hold that Jesus is the Son of God and was sent to die on the cross for my sins and that I have eternal life with God, Father, Son and Holy Spirit, by my faith alone.

3. Jesus has always been my rock and my solid ground. I've never known life without Him. I try my best to live my life with Him in the center, to be able to have a true relationship with the Creator of the Universe. I get to talk to Him and listen to Him through prayer, I get to learn and grow through reading scripture and my Bible, and I get to spread His love and joy, peace and patience, kindness, goodness and gentleness to those around me, which has been extra important during these really difficult times. My faith and obedience in Jesus guides me into who I am to be each day and who I am going to be in the future.

4. Scripture teaches me, and I believe, that God formed everyone in their mother's womb and that everyone has a unique purpose and a plan designed by God for their lives. God doesn't make mistakes. For this reason, I am strongly against abortion. It's simply unacceptable to be killing innocent babies who were carefully crafted by God and given a plan for their life on this earth. There's no legitimate explanation and no justification for this murder. I refuse to be involved with anything

that has to do with abortion or the use of aborted baby parts. That is against my personal and Christian beliefs.

5. I have learned from my pastors and my parents, and even some reading and research on my own, about how all of the COVID-19 vaccines were developed using material from abortions. Some may be worse than others, but because I believe there's never a justification for participating in, cooperating with or thinking any good can come out of abortion, I cannot take any of the vaccines. That would be supporting or thinking there could be any benefit from abortion, which is the murder of babies.

6. As a Christian, I also believe that my body is a holy temple for God. For this reason, I don't drink, I don't smoke, I don't do drugs. My family believes that it's important to take care of the bodies that we were blessed with and we take steps to stay healthy and avoid sickness. I had COVID-19 when my parents and Taylor did, and it barely affected me. I have been around others with it. Even my sibling, Taylor, tested positive a second time and had no symptoms, but I did not catch it, did not have any symptoms and tested negative.

7. I believe God created my body with the ability to fight the virus in both of those situations and now I am stronger for the future. I don't believe I should introduce something into God's temple that is new, untested, unknown and could even possibly negatively affect my health. It is not necessary since I already have immunities as good or better than the vaccines.

8. Standing up for my beliefs is an act of courage, but I am doing this anonymously for my safety and privacy. I am very concerned about people finding out who I am because of how angry and mean people are about these issues. One of my teachers shared video clips of people with different opinions, my opinions, about masks and vaccines and ridiculed them in front of the whole class.

9. I also have friends that have stood up for their opinions on masks and vaccines and other students got angry and upset about it and at them. Some were so

upset that they claimed that they wanted to find out who they were and hurt them, so they stopped attending school.

10. This makes no sense to me because it's about my body and my beliefs and not their beliefs or their ability to do what they want. However, it shows that this situation is truly a spiritual battle against God and my religious beliefs. I will continue to have faith in God to protect me as I stand for my beliefs and those of others. But I also do not want my name or my family members' names, gender, school or even school classes or interests, revealed because I am (we all are) very concerned that people could figure out who we are and that we would receive negative backlash.

11. I truly hope that I am able to continue to go to high school in person, especially for my senior year of high school. It would be devastating to me if I was not able to attend in-person classes next year and graduate with my Class of 2023. I am an outgoing person and I want to be on campus with my friends and to participate in all the classes and all the campus clubs and memorable school activities that can only be done in-person, like Career and Technical Education classes, Performing Arts classes and after school activities, and ASB clubs and fun activities at lunchtime, after school and in the evenings, like football and other sports games and Prom. In person learning is a proper education. Missing all of that would be horribly upsetting and unfair.

12. I participate as both a member and leader in a few different clubs on campus and those could not be done at all during online distance learning. I participate in a few different performing arts on campus and those could not be done in a way that was fun or interesting during online distance learning. Teachers tried to do the best they could with Zoom, but it is very hard to focus at home, on the computer all the time. There is no substitute for hands-on, in person learning, group collaboration and performing together on a stage. I have taken and plan to take more Career and Technical Education classes to help me decide and prepare for what I want to do for college or as a career. There are no equivalents for those types of classes. And if I were singled out and had to do online distance learning when my classes and other students

were able to continue, then I would not be able to be a part of any of the classes or activities that I am used to, with the people that I am used to, with all the benefits that go along with it. That would actually be devastating for me.

13. I will not participate in any online distance learning. My family is not able to afford private school, so I would have to leave the San Diego Unified School District and start over in some other district to find acceptable schooling just to finish out my senior year of high school. I might even not attend another high school to do my senior year, but I might take some kind of equivalency exam and then go straight into college and that would suck because that's not my plan but I would be unfairly forced to change directions.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 9 th day of May, 2022, at San Diego County, California.

Terry Roe

Terry Roe, a pseudonym

Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Declaration of Plaintiff Taylor Roe in Support of Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

I, Taylor Roe, declare as follows:

1. I am a plaintiff in this action. I am a 15 year old minor. I am a freshman attending a high school within the San Diego Unified School District. I am identifying myself as "Taylor Roe" to protect my privacy and safety, as explained further below. The matters discussed below are based on my own personal knowledge.

2. I've been involved with my family's church for as long as I can remember. We have served in many Christian ministries and activities. Some of these are through our church and some are not. I also recently chose to be baptized by my church's youth pastor. This was my decision that I made. My best friend and her father were also baptized the same day. I had been bringing my best friend to our youth group for months and it meant so much to me that she shared my faith and that her family shared my family's faith. According to my church, baptism is an outward expression of our faith. Through being baptized, I announced publicly that I believe that Jesus Christ is the Son of God and died on the cross for my sins and so that I could have eternal life with God.

3. Jesus is very important to me. He has always been with me. He is how I know that things will always be alright, no matter what. I always try to place Him first and in the center. I pray to Him and try to read the Bible as often as I can. I also try to introduce others to Him by being a friend, showing people kindness and love or by inviting them to church, youth group, or summer camp. It is important to me to obey Jesus because I believe He is guiding me into the plan and purpose that He has already prepared for me, a plan for a good future. I know I can always obey Him or not, but I believe He knows better than I do what is best for me and I want that.

4. I want to follow what the Bible says. It says that every person that God formed is unique and has a purpose. He formed them at the moment of conception. Because of this, abortion is not okay. It's killing babies, period. No excuses. There's no excuse for ever having an abortion and there's no excuse for having anything to do with it. I hear kids and adults using the excuse about rape, but that is such a small

percentage of abortions and those are still babies that God has a good plan and purpose for because God brings good out of evil. That's why it's against my Christian beliefs to get a vaccine that had anything to do with abortion. That's why I don't want to get the COVID-19 vaccines.

5. I also believe that everybody's body is a temple of the Holy Spirit. Nobody in my family smokes or does any drugs. That would be to pollute God's temple. I don't drink alcohol. That would also be to pollute God's temple. I also think that taking a vaccine that had anything to do with abortion would be to defile God's temple. Because it's important to stay healthy and protect God's temple, we do what we can to avoid getting sick, taking vitamins and boosting our immunities and we did that when we had COVID-19.

6. I had COVID-19 already when my parents and Terry did and it barely affected me. I tested positive for COVID-19 a second time after being closely exposed to my best friends where everyone else was vaccinated but me. Although my friends tested positive and had symptoms, I tested positive, but I did not have symptoms. Nobody else in my family tested positive or had any symptoms this time even though we were all living in the same house. So it doesn't make sense why I need to get vaccinated since I already have immunity.

7. It is honestly scary to join this lawsuit and stand up for what's right. I had to think about it for a long time. I am only doing this if can do it without saying my name or even giving too much specific information about my classes and after school activities because I am afraid that people will figure out who we are and take revenge on us. Everybody in my family is concerned about that.

8. One of Terry's friends stood up for their opinions on masks and the vaccines and had to leave school because people got mad at them and were really mean to them. But that's crazy and wrong. This is my body and my belief in Jesus Christ. They can do what they want with their bodies and let us do what Jesus wants us to do.

9. I am a good student and am very active and involved in school. I have a

really good plan mapped out for high school and hopes for college so I would be totally lost if I had to stay home and learn online. In quarantine, school was hard to learn. I couldn't get any education in and I was staring at a black screen for hours and couldn't learn because I learn by talking and communicating with others, but others didn't participate. Kids had blank screens and didn't respond to the teacher. I would be totally lost without personal interactions and friends and teachers.

10. I want to be with my classmates. I want to be with my friends and be able to join in all the memorable school activities that can only be done in-person, like Science / Lab classes, Career and Technical Education classes, Performing Arts classes and fun lunchtime, after school and evening activities, like football and other sports games and Homecoming and Prom. Missing all of that would totally suck and I don't know what I would do if I couldn't follow my plan and hopes for my future over something like this.

11. Performing Arts, Career and Technical Education classes and Science/Lab classes cannot be done during online distance learning. Zoom was okay for a little bit, but it's not real learning. So I can't and won't go back to it. If my school district kicks me out, I'll need to go to a new high school outside of San Diego Unified School District. But my high school has unique classes that support what I want to pursue in college and I do not believe I would be able to find that in other high schools in other places anywhere that my parents would be able to drive me every day. Kicking me out of in-person learning for my religious beliefs would make me suffer for no reason and have a very negative effect on my whole high school experience and my future plans.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 9 th day of May, 2022, at San Diego County, California.

Taylor Roe

Taylor Roe, a pseudonym

Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Declaration of Plaintiff Adrian Poe in Support of Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

I, Adrian Poe, declare as follows:

1. I am a plaintiff in this action. I am a 16 year old minor. I am a junior attending a high school within the San Diego Unified School District. I am identifying myself as "Adrian Poe" to protect my privacy and safety, as explained further below. The matters discussed below are based on my own personal knowledge.

2. I have been raised Catholic since I was born. I was baptized in the Catholic Church, received First Communion, and am now getting ready for the Sacrament of Confirmation, which I will receive this month.

3. My family moved to San Diego when I was 10 years old and we have been attending the same church since then. Our family has become good friends with the two priests at our church, and through them and my father, I have really learned what it means to be a good Christian and Catholic. All three of them are role models for me.

4. To prepare for Confirmation I've had to take weekly classes for the past year. The priests at my church decided that I should attend the advanced classes for adults instead of the classes for high school students. This is because I've studied so much about my faith already that my priests decided that the adult classes would be better for my faith education level. I love learning about my faith and try to study it whenever I can.

5. My faith is important to me because I think God is essential to our lives, and without Jesus in our lives, our world and society would not be in a good place. Being able to pray and glorify God daily is essential to the meaning of life and our souls and our eternity in heaven.

6. I had no idea that any vaccines used cells from aborted babies. I only learned about this through hearing about the COVID-19 vaccines. After learning about this, I asked more questions and learned about how all of the COVID-19 vaccines either used fetal cell lines to be developed or tested. I think that's completely horrible. It's completely against my faith because abortion is a huge issue. Stated simply,

abortion is murder and the ends can never justify the means. By getting a COVID-19 vaccine I would be participating in a great evil that is against my faith.

7. Abortion is becoming a huge issue in our society but I know where I stand—with my faith. I believe that if God blesses you with a child, then you should take that responsibility and give them a happy life, and just be happy that you are able to have a child. Many people are infertile. I also don't think the government should be forcing it on us young people or kids who are perfectly healthy. That just doesn't make any sense.

8. In March 2020, I went to remote schooling. Before Christmas 2020, we came back to school, but it was only half days and we had to wear masks. We had the option of staying home and some kids chose to. But I wanted to go back to be with my teachers and classmates. I wanted to go back because I like the environment of being at an actual school and not being alone. It is very hard to learn online, and there are many things that you can't really do online. I am also involved in a bunch of extracurricular activities which can't be done online.

9. I just made the varsity squad for the team sport that I am in. I am really looking forward to that. My team will be travelling and it will be a great experience. In the School District's documents, it says that to participate in fall sports, I need to get my first vaccine shot by August 6, 2022, one week after the date that practices start, on July 30, 2022.

10. I have spoken with my coach, and we will be having practices starting this month. It is not clear to me if I have to get my first vaccine shot one week after *our* practices start, or one week after July 30. I am afraid of asking because I don't want anybody to retaliate against me, either my coach, my teammates, or my teachers.

///

///

///

///

11. In 2020, I also once tested positive for COVID-19. Like I was supposed to, I quarantined until I was better. My symptoms were mild and I quickly recovered.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 11 th day of May, 2022, at San Diego County, California.

Adrian Poe

Adrian Poe, a pseudonym

Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Declaration of Richard Scott French, M.D., in Support of Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

I, Richard Scott French, M.D., declare and state as follows:

1. I am a board-certified emergency medicine physician, licensed by the Medical Board of the State of California, with an active practice and thus significant experience in treating and managing COVID-19 patients in California and several other states. I have personal knowledge of the matters set forth below and could and would testify competently to them if called upon to do so.

2. I have been asked to provide an expert medical opinion in this matter regarding the COVID-19 vaccine mandate issued by the San Diego Unified School District ("SDUSD"), which requires most students to be vaccinated against COVID-19 in order to attend classes in-person.

Professional Background

3. I graduated from Harbor-UCLA Emergency Medicine Residency in June 1986. After completing my residency in Emergency Medicine, I joined the faculty of Stanford University Medical School as a full time Assistant Professor in the Department of Surgery, in the Division of Emergency Medicine, in July 1986.

4. Since that time, I have held full-time teaching faculty positions at Stanford University Medical School and University of North Carolina Medical School. I have also had several part time clinical faculty teaching appointments, including at the University of Washington, Oregon Health Systems University, Emory University, and the University of Washington. In my teaching capacities, I have given presentations on immunology, as well viral pathogen prevention, diagnosis, treatment, and management.

5. I have continuously held a California medical license since 1984, and practiced medicine off and on in the State of California since that time. I became Regional Medical Director of a large California physician group in 2018, and I oversaw eight California Emergency Departments.

6. I was personally involved as well as provided oversight in setting up COVID-19 transmission mitigation (to prevent the spread of COVID-19) for our

patients and staff in four California Emergency Departments. I also managed a mixed-age private community population (which included school aged children) in Hawaii with respect to COVID-19 prevention and transmission mitigation. Once transmission mitigation was fully implemented, there were no hospital-wide or community-wide outbreaks of COVID-19 caused by ER patients or staff.

7. I have had extensive prior experience in population management and disease management as Chief Medical Officer of a large health plan in California, with over 1 million senior members.

EXPERT OPINIONS

8. Based on my medical training, my years of practicing medicine, my experience in treating COVID-19 patients, my research and analysis of relevant studies, and other relevant information as discussed herein, I have developed the following opinions regarding the efficacy of SDUSD's Vaccine Mandate:

A. Children have suffered an alarming increase in adverse behavioral health and cognitive harm, due to the various public health and government mandates, including school closures and social isolation;

B. Schools are not a significant source of COVID-19 transmission and/or death in a community;

C. Recent CDC and worldwide data demonstrates that mortality of COVID-19 in healthy children under 17 years of age without significant risk factors is exceedingly low;

D. Obesity is a significant risk factor for COVID-19 morbidity and mortality in children under age 17;

E. The COVID-19 vaccines do not protect against transmission and require boosters whose long-term effects are unknown;

F. Natural Immunity is superior to COVID-19 vaccination in reducing transmission of COVID-19 variants, reducing rates of hospitalization and

death, and has a significantly longer duration of protection than the COVID-19 vaccines;

G. 75% of children have already acquired natural immunity to the Omicron variant, which also causes significantly less hospitalization and death than other variants, and for which vaccinations and boosters are less effective than natural immunity;

H. Myocarditis is a known autoimmune complication of COVID-19 vaccination, and long term studies are necessary to ensure that the benefit of vaccinating healthy 12–15 children without significant risk factors outweighs the risk of complications;

I. There is a significant risk of other serious autoimmune disorders due to COVID-19 vaccination, and thus long term studies are essential in order to ensure the safety and efficacy of the COVID-19 vaccine for children; and

J. COVID-19 vaccine mandates violate the ethical rule of obtaining informed consent.

Conclusion: There is no demonstrable benefit in vaccinating or excluding from school heathy children and unfortunately a significant risk of harm from either vaccination or exclusion.

OPINION A:

CHILDREN HAVE SUFFERED AN ALARMING INCREASE IN ADVERSE BEHAVIORAL HEALTH AND COGNITIVE HARM, DUE TO THE VARIOUS PUBLIC HEALTH AND GOVERNMENT MANDATES, INCLUDING SCHOOL CLOSURES AND SOCIAL ISOLATION

9. Public health policies that contain severe and long lasting lockdowns and mandates have inflicted a grave wound on our children.[1] Yet another lockdown

[1] Jorge V. Verlenden et al., *Association of Children's Mode of School Instruction with Child and Parent Experiences and Well-Being During the COVID-19 Pandemic—COVID Experiences Survey, United States, October 8–November 13, 2020*, 70 Morbidity and Mortality Weekly Report (MMWR) 369-376 (Mar. 19, 2021),

for students who cannot or will not get vaccinated will only cause more fear of death, anxiety, stress, depression, and suicidal behavior. If the trend continues, the deaths due to suicide and other behavioral health disorders may well exceed the excess deaths from COVID-19 in our youth.

10. Indeed, there have been several emergency declarations of a "mental health" crisis in K-12 children. On May 25, 2021 Jena Hausmann, CEO of Children's Hospital in Aurora, Colorado declared a state of emergency in youth mental health due to an "astronomical increase in pediatric mental health issues, including suicide, which has overwhelmed the institution." Suicide is now the number one cause of death among youth and occurs in children as young as 10 years of age.[2]

11. Similarly, in the October 2021 issue of AAP News, the American Association of Pediatrics (AAP), the American Academy of Child and Adolescent Psychiatry (AACAP), and the Children's Hospital Association (CHA) jointly declared a national emergency in children's mental health due to COVID-19.[3]

12. These emergency declarations are amply supported by the scientific literature.[4] (The factual background of these cited articles and studies is laid out

---

https://perma.cc/UV3W-52SN; *see also* Protecting Your Mental Health: The U.S. Surgeon General's Advisory (2021), https://perma.cc/94WM-UHYC (citing medical studies).

[2] Batya Swift Yasgur, *Child Suicides Drive Colorado Hospital to Declare State of Emergency*, MEDSCAPE (Jun. 4, 2021).

[3] Am. Acad. of Pediatrics, *AAP, AACAP, CHA declare national emergency in children's mental health*, AAP NEWS (Oct. 19, 2021).

[4] Andrea Petersen, *Loneliness, Anxiety and Loss: the Covid Pandemic's Terrible Toll on Kids*, WALL STREET J. (Apr. 9, 2021); C.S. Mott Children's Hospital, *How the Pandemic Has Impacted Teen Mental Health*, MOTT POLL REPORT (Mar. 15, 2021); Shweta Singh, et al., *Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations*, PSYCHIATRY RES. (23 Aug. 2020); Debora Marques de Miranda, et al., *How is COVID-19 pandemic impacting mental health of children and adolescents?*, INT. J. DISASTER RISK REDUCT. (Sep. 3, 2020); United Nations, *Pandemic impact 'tip of the iceberg' after years of neglecting child*

below in **Appendix A**.) Most clearly, the CDC's Morbidity and Mortality Weekly Report for June 11, 2021 confirmed our worst fears about the adverse effects of the lockdown and other public health policies imposed on our youth. Suicide attempts among girls aged 12–17 were up an unprecedented 50.6% in 2020 compared to 2019.[5] Since adolescent girls are more susceptible to peer pressure, there is a serious concern that an inability to get vaccinated, and a resulting exclusion from school, may cause yet another tragic spike in suicide attempts in this vulnerable population.

OPINION B:

SCHOOLS ARE NOT A SIGNIFICANT SOURCE OF COVID-19 TRANSMISSION AND/OR DEATH IN A COMMUNITY

13. A February 2021 CDC study involving eight Georgia elementary schools found that educators—not children—were central to in-school transmission. The study's findings indicate that there was spread of COVID-19 in schools when teachers did not follow basic COVID-19 mitigation measures. However, there was little spread from children to adults.[6]

14. A study of schools in Sweden similarly indicated that schools were not a significant cause of spread/transmission of COVID-19, or ICU admission of children with COVID-19. The authors noted: "Among the 1.95 million children who were 1 to 16 years of age, 15 children had COVID-19, MIS-C, or both conditions and were admitted to an ICU, which is equal to 1 child in 130,000." In a letter published in the New England Journal of Medicine, the Swedish authors noted that despite Sweden not mandating masks and their school systems not being closed, there was a low

---

mental health, U.N. NEWS (Oct. 4, 2021).

[5] Ellen Yard, et al., *Emergency Department Visits for Suspected Suicide Attempts Among Persons Aged 12–25 Years Before and During the COVID-19 Pandemic—United States, January 2019–May 2021*, MMWR (Jun. 11, 2021).

[6] Jenna Gettings, et al., *Mask Use and Ventilation Improvements to Reduce COVID-19 Incidence in Elementary Schools – Georgia, November 16 - December 11, 2020*, 70 Morbidity and Mortality Weekly Report 21 (May 28, 2021).

incidence of severe COVID-19 in children and adults. The incidence of ICU admission for adults was lower in teachers than other occupations not exposed to children.[7]

15. In February 2021 (prior to the widespread release of vaccines), the CDC published a study of Wisconsin schools that monitored 5,530 students and staff over a 3 month period, where a total of 191 COVID-19 cases were reported. Seven of the cases, 3.7%, resulted from in-school transmission and occurred among students. There were no reported instances of student to adult transmission, while the surrounding Wisconsin community positive rate ranged from 7% to 40%. The conclusion of this CDC study of unvaccinated children was that: "Attending school where recommended mitigation strategies are implemented might not place children in a higher risk environment than exists in the community."[8]

16. Another review of COVID-19 transmission in K-12 schools that was conducted by the CDC came to the same conclusion: children are not a significant source of COVID-19 transmission. Their analysis demonstrated that transmission of COVID-19 in schools was far more likely to come from adults (staffs and teachers) than children.[9]

///

///

///

///

[7] Jonas F. Ludvigsson, et al., *Open Schools, Covid-19, and Child and Teacher Morbidity in Sweden*, N. ENGL. J. MED. (Feb. 18, 2021).

[8] Amy Falk, et al., *COVID-19 Cases and Transmission in 17 K–12 Schools — Wood County, Wisconsin, August 31–November 29, 2020*, 70 Morbidity and Mortality Weekly Report 4 (Jan. 29, 2021).

[9] Ctrs. for Disease Control & Prevention, *Science Brief: Transmission of SARS-Cov-2 in K-12 schools* (Mar. 19, 2021 update).

OPINION C:

RECENT CDC AND WORLDWIDE DATA DEMONSTRATES THAT MORTALITY OF COVID-19 IN HEALTHY CHILDREN UNDER 17 YEARS OF AGE WITHOUT SIGNIFICANT RISK FACTORS IS EXCEEDINGLY LOW

17. The mortality risk for children diagnosed with COVID-19 without significant risk factors is exceedingly low. For clinicians, the concern is focused on death rate and ICU admission rate, not infection rate of a highly contagious virus in the very low-risk K-12 population.

18. The American Academy of Pediatrics published data indicating that more than 6.5 million children in the United States have tested positive for COVID-19. This data demonstrates that in those states reporting, the mortality rate for children with COVID-19 was 0.00%-0.03%. Children consisted of 0.00%-0.26% of all COVID-19 deaths, with 7 states reporting zero child deaths.[10]

19. Similarly, a CDC data set looked at death by age and sex, from January 4, 2020 through November 10, 2021, and the findings were as follows:

5–18 years	Female	218 deaths
5–18 years	Male	272 deaths

A total of 490 deaths in a 23 month window.[11]

20. In comparison, in the 2009 pandemic of H1N1, a total of 358 children died of the new H1N1 strain from April 2009 to September 2010, a 17 month period. At the time, there was no public health push for mandatory vaccination for children in the 2009 H1N1 pandemic, yet in 2021, the death rate was similar for COVID-19 and mandatory vaccinations are being imposed on our children.[12]

---

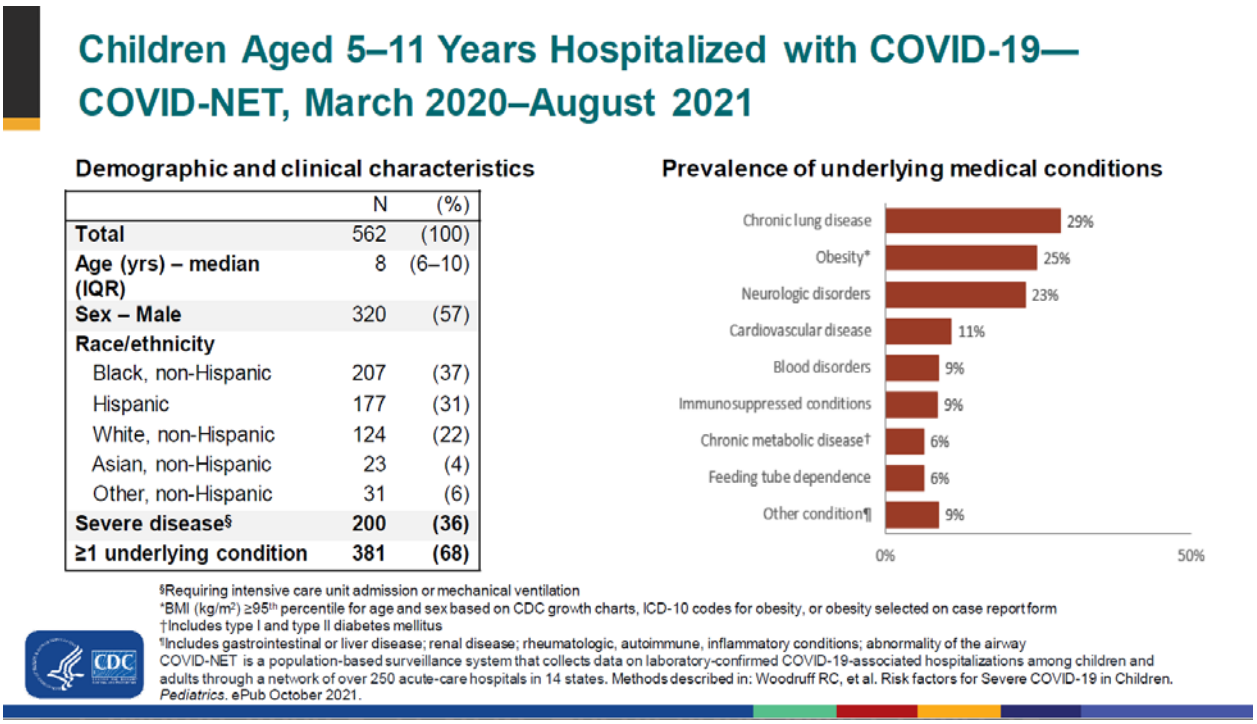
[10] Am. Acad. of Pediatrics, *Children and COVID-19: State-Level Data Report* (Nov. 8, 2021 update).

[11] Ctrs. for Disease Control & Prevention, *Deaths by Sex, Ages 0–18 years* (Jan. 4, 2020–Nov. 6, 2021).

[12] Ctrs. for Disease Control & Prevention, *2019–20 Season's Pediatric Flue Deaths Tie*

21. This data amply supports the conclusions of a British statistician and professor who engaged in a worldwide survey of mortality and concluded: "Mortality in children seems to be near zero (unlike flu) which is also reassuring and will act to drive down the IFR significantly."[13]

22. Finally, a CDC presentation of October 26, 2021 illustrates the relative risk of COVID-19 death in children as well as the contribution of risk factors and in comparison, to influenza:[14]



Children Aged 5–11 Years Hospitalized with COVID-19— COVID-NET, March 2020–August 2021

Demographic and clinical characteristics

	N	(%)
Total	562	(100)
Age (yrs) – median (IQR)	8	(6–10)
Sex – Male	320	(57)
Race/ethnicity		
Black, non-Hispanic	207	(37)
Hispanic	177	(31)
White, non-Hispanic	124	(22)
Asian, non-Hispanic	23	(4)
Other, non-Hispanic	31	(6)
Severe disease§	**200**	**(36)**
≥1 underlying condition	**381**	**(68)**

Prevalence of underlying medical conditions

§Requiring intensive care unit admission or mechanical ventilation
*BMI (kg/m²) ≥95th percentile for age and sex based on CDC growth charts, ICD-10 codes for obesity, or obesity selected on case report form
†Includes type I and type II diabetes mellitus
¶Includes gastrointestinal or liver disease; renal disease; rheumatologic, autoimmune, inflammatory conditions; abnormality of the airway
COVID-NET is a population-based surveillance system that collects data on laboratory-confirmed COVID-19-associated hospitalizations among children and adults through a network of over 250 acute-care hospitals in 14 states. Methods described in: Woodruff RC, et al. Risk factors for Severe COVID-19 in Children. *Pediatrics*. ePub October 2021.

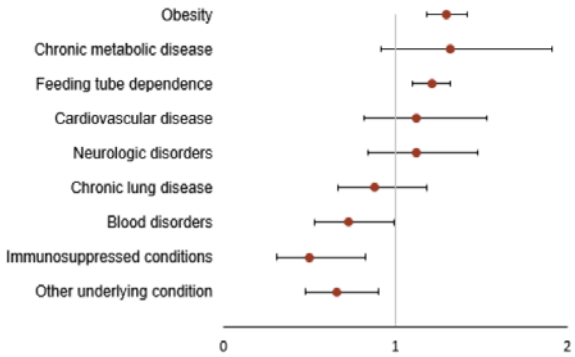
High Mark Set During 2017–18 Season (Aug. 21, 2020).

[13] Jason Oke & Carl Heneghan, *Global Covid-19 Case Fatality Rates*, CTR. FOR EVID.-BASED MED. (Oct. 7, 2020 update).

[14] Ctrs. for Disease Control & Prevention, *Epidemiology of COVID-19 in Children Aged 5–11 years*, VRBPAC MEETING (Oct. 26, 2021).

Underlying Conditions as Risk Factors in Hospitalized Children 5–11 Years—COVID-NET, March 2020–August 2021

Underlying medical conditions associated with severe disease:



Adjusted risk ratio and 95% confidence interval for select underlying medical conditions:

Obesity*

aRR=1.3 (95% CI: 1.2–1.4)

Feeding tube dependence

aRR=1.2 (95% CI: 1.1–1.3)

*BMI (kg/m^2) ≥95th percentile for age and sex based on CDC growth charts, ICD-10 codes for obesity, or obesity selected on case report form
†Includes type I and type II diabetes mellitus
¶Includes gastrointestinal or liver disease; renal disease; rheumatologic, autoimmune, inflammatory conditions; abnormality of the airway
Methods described in: Woodruff RC, et al. Risk factors for Severe COVID-19 in Children. *Pediatrics*. ePub October 2021.

Leading Causes of Death in Children 5-11 Years of Age, NCHS, 2019

Causes of Death	Death (n)	Crude rate per 100,000
Accidents (unintentional injuries)	969	3.4
Malignant neoplasms	525	1.8
Congenital malformations, deformations and chromosomal abnormalities	274	1.0
Assault (homicide)	207	0.7
Diseases of the heart	115	0.4
Chronic lower respiratory diseases	107	0.4
Influenza and pneumonia	84	0.3
Intentional self-harm (suicide)	66	0.2
Cerebrovascular diseases	56	0.2
Septicemia	48	0.2

66 COVID-19 associated deaths in children 5-11 10/3/20-10/2/2021

Total population 5-17 years, 2019: 52,715,248

CDC NCHS WONDER Online Database. Accessed at http://wonder.cdc.gov/ucd-icd10.html on May 6, 2021

OPINION D:

OBESITY IS A SIGNIFICANT RISK FACTOR FOR COVID-19 MORBIDITY AND MORTALITY IN CHILDREN UNDER AGE 17

23. An important study with respect to increased risk of severe COVD-19 was published in August 2021. For children under 17, the greatest risk factor for morbidity and mortality is obesity, as reflected by a BMI greater than 30. In fact, the data suggests a 5–10% higher risk for COVID-19 hospitalization for every kg/m2 higher BMI. While a novel interaction, the good news is that this risk factor is highly modifiable yet has not garnered any prompt action with respect to prevention and treatment from a public health standpoint. Vaccinations are only a holding pattern; the underlying risk factor of obesity must be addressed. The physiologic mechanism of the increased risk due to obesity is still being investigated; however, obesity often leads to diabetes, and over time diabetes destroys our immune system.[15]

24. We have long known in immunology that as we age our immune system's potency degrades: our bodies and our immune system follow natural laws. The second law of thermodynamics (entropy) is operative in our world: complex biological structures degrade to simple over time. In a JAMA article, Ig G immunoglobulin antibody response to COVID-19 infection was studied in pediatric and adult patients. Not surprisingly, the adult patients had produced significantly less Ig G immunoglobulin than the children. Since there were approximately 56 million school-aged children and adolescents in the United States in the 2020–2021 school year, the study highlights that both age and obesity are significant risk factors.[16]

---

[15] Naveed Sattar & Jonathan Valabhij, *Obesity as a Risk Factor for Severe COVID-19: Summary of the Best Evidence and Implications for Health Care*, CUR. OBES. REP. (Aug. 10, 2021).

[16] He S. Yang, et al., *Association of Age With SARS-CoV-2 Antibody Response*, JAMA NETWORK OPEN (Mar. 22, 2021).

25. In a study conducted at Kaiser Permanente in Southern California, the findings were as follows: BMI increased by 1.57 for 5–11 year old's and BMI increased by 0.91 for the 12–15 year old's. "Youths gained more weight during the COVID-19 pandemic than before the pandemic."[17] This is a very disturbing finding, since obesity is the biggest risk factor for death and ICU admissions among healthy youth. This means that the very public health mitigation methods used for COVID-19, are in fact only exacerbating the risk of death to the pediatric population, due to increasing obesity.

OPINION E:

THE COVID-19 VACCINES DO NOT PROTECT AGAINST TRANSMISSION, AND REQUIRE BOOSTERS WHOSE LONG-TERM EFFECTS ARE UNKNOWN

26. Since the summer of 2021, we have witnessed a failure of the COVID-19 vaccines to prevent transmission of COVID-19. As CDC Director Dr. Rochelle Walensky acknowledged in a CNN interview in August 2021, "What [the vaccines] can't do anymore is prevent transmission."[18] This has been confirmed by the published literature.[19] The factual background of these studies or articles is discussed below in **Appendix B**.

---

[17] Corinna Koebnick, *Research Letter: Changes in Body Mass Index Among Children and Adolescents During the COVID-19 Pandemic*, JAMA (Oct. 12, 2021).

[18] Tweet by The Situation Room @ CNNSitRoom (Aug. 5, 2021).

[19] The Lancet, *Lancet: 89% of new UK COVID cases among fully vaxxed*, PRINCIPIA SCIENTIFIC (Dec. 30, 2021); Anika Singanayagam, et al., *Community Transmission and Viral Load Kinetics of the SARS-Cov-2 delta (b.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study*, THE LANCET INFECTIOUS DISEASES (Oct. 28, 2021); Kasen K. Riemersma, et al., *Vaccinated and Unvaccinated Individuals Have Similar Viral Loads in Communities with a High Prevalence of the SARS-CoV-2 Delta Variant*, MEDRXIV (July 31, 2021); Nguyen Van Vinh Chau, et al., *An observational study of breakthrough SARS-CoV-2 Delta variant infections among vaccinated healthcare workers in Vietnam*, ECLINICALMEDICINE, vol. 41 (Nov. 2021); Carolyn Y. Johnson, et al., *CDC Study*

27. Further, as of April 28, 2022, Omicron has become the dominant variant in the United States. Today it represents 100% of U.S. COVID cases.[20] If Delta cast doubt on the notion that vaccines prevent transmission, Omicron totally eviscerated it. **Appendix C**.[21] As a result, the CDC notes that "anyone with Omicron infection can spread the virus to others, even if they are vaccinated."[22]

28. For example, in New York, widespread COVID vaccination—95% of adults have had at least one dose[23]—has utterly failed to prevent the spread of the disease. As of December 22, 2021, New York City was seeing a "staggering"

Shows Three-Fourths of People Infected in Massachusetts Coronavirus Outbreak Were Vaccinated But Few Required Hospitalization, THE WASHINGTON POST (July 30, 2021); *45,0929 New Breakthrough Cases in Mass., More Than Doubling Week Over Week*, NBC 10 Boston (Jan. 4, 2022).

[20] Ctrs. for Disease Control & Prevention, *COVID Data Tracker*, https://covid.cdc.gov/covid-data-tracker/#variant-proportions (accessed April 28, 2022).

[21] Christian Holm Hansen et al., *Vaccine effectiveness against SARS-CoV-2 infection with the Omicron or Delta variants following a two-dose or booster BNT162b2 or mRNA-1273 vaccination series: A Danish cohort study*, MEDRXIV (Dec. 23, 2021); Robert Koch Institute, *Wöchentlicher Lagebericht des RKI zur Coronavirus-Krankheit-2019 (COVID-19)* (Dec. 30, 2021); UK Health Security Agency, *SARS-CoV-2 variants of concern and variants under investigation in England*, Technical briefing 33 (Dec. 23, 2021), at 26–27; Emily Head, et al., *Omicron Largely Evades Immunity from Past Infection or Two Vaccine Doses*, IMPERIAL COLLEGE LONDON (Dec. 17, 2021); UK Health Security Agency, *COVID-19 vaccine surveillance report*, Week 10" (Mar. 10, 2022), at 40 (Table 10) (adults are all age cohorts 18 and older; doubly- and triply-vaccinated are individuals in "Second dose" and "Third dose" columns); Sarah Buchan et al., *Effectiveness of COVID-19 vaccines against Omicron or Delta infection*, MEDRXIV (Jan. 1, 2022) at 7.

[22] Ctrs. for Disease Control & Prevention, *Omicron Variant: What You Need to Know,* updated Feb. 2, 2022, https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html (accessed April 28, 2022).

[23] New York State, *Vaccine Progress to Date*, https://coronavirus.health.ny.gov/vaccination-progress-date (accessed March 14, 2022).

number of new COVID cases, and the CDC reported that "New York and New Jersey were detecting omicron at four times the national average rate."[24]

29. The COVID vaccines manifestly do not confer immunity or prevent transmission. Thus, strictly speaking, the COVID inoculations are not vaccines but merely therapeutics. That is why the CDC, recognizing the facts, changed the definition of "vaccine" **to eliminate the very concept of conferring immunity**.[25]

30. Instead of the traditional meaning of vaccination as "the act of introducing a vaccine into the body to produce immunity to a specific disease"—the classic definition that appeared on the CDC's website before the change[26]—the words "immunity to" have been replaced by merely "protection from."[27] The meaning of "vaccine" itself is likewise altered. No longer is "vaccine" defined as "a product that stimulates a person's immune system **to produce immunity** to a specific disease"—the classic definition that also appeared on the CDC website previously. Now, says the CDC, vaccines merely "stimulate the body's immune response against diseases."

31. As it becomes clear that the COVID vaccines are not doing what vaccines are supposed to do, the CDC is also considering whether to change the definition of "fully vaccinated" to require "booster shots" of the same vaccines that have failed to prevent transmission or infection or to confer immunity, and most

---

[24] Jennifer Millman, *NYC Sees 'Staggering' New Daily Cases as CDC Estimates Omicron Prevalence Tops 90%*, NBC NEW YORK (Dec. 23, 2021).

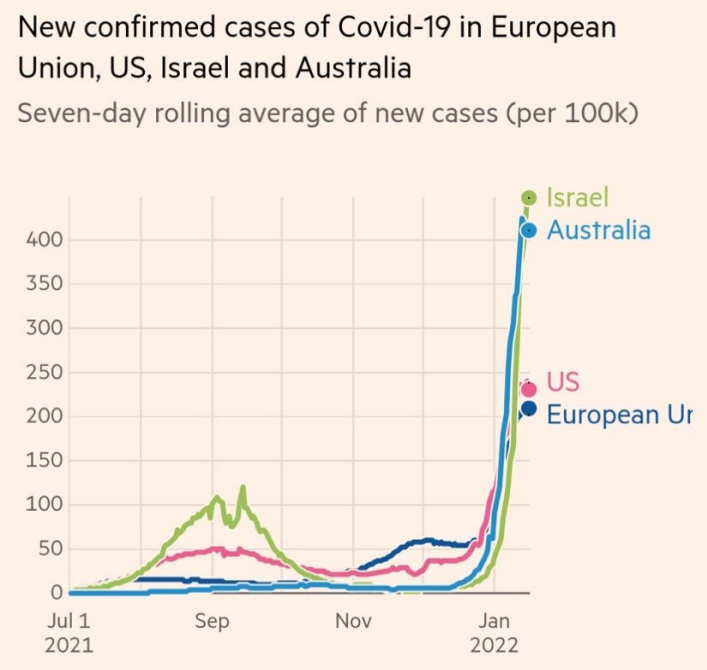
[25] Katie Camero, *Why Did CDC Change its Definition for 'Vaccine"? Agency Explains Move as Skeptics Lurk*, MIAMI HERALD (Sept. 27, 2021).

[26] Ctrs. for Disease Control & Prevention, *Immunization: The Basics - Definition of Terms* (August 26, 2021) (Wayback Machine archived page @ https://web.archive.org/web/20210826113846/https:/www.cdc.gov/vaccines/vac-gen/imz-basics.htm)

[27] Ctrs. for Disease Control & Prevention, *Immunization: The Basics - Definition of Terms* https://www.cdc.gov/vaccines/vac-gen/imz-basics.htm (accessed May 3, 2022).

glaringly with Omicron.[28] The CDC appears to be looking at the "health experts" of Israel, where a **fourth** shot is now being administered in a nation that is already 93% vaccinated.[29]

32. This situation has become a medical travesty without precedent in the history of public health. As the *Times of Israel* reported on January 17, 2022: "A study conducted at Sheba Medical Center indicates a fourth shot of the Pfizer coronavirus vaccine **provides insufficient protection against the Omicron variant of the virus.** The data appears to **raise serious questions regarding Israel's current strategy of boosting** all people over the age of 60."[30] In fact, Israel, the only "quadruple-vaxed country" in the world, had the world's highest seven-day rolling average of Omicron cases per 100,000[31]:



[28] Oriana Gonzalez, *CDC Director: U.S. May Change Definition of "Fully Vaccinated" as Boosters Roll Out*, AXIOS (Oct. 22, 2021).
[29] Toi Staff, *Health Minister Suggests Fourth Vaccine Does Amid Rising Fears of Fifth COVID Wave*, TIMES OF ISRAEL (Nov. 24, 2021).
[30] *Israeli Study Shows 4th Vaccine Shot 'Not Good Enough' Against Omicron*, TIMES OF ISRAEL (Jan. 17, 2022).
[31] Dr. Eli David, https://twitter.com/DrEliDavid/status/1483536533642747915, January 18, 2022.

33. EU health regulators have warned that "frequent Covid-19 booster shots could adversely affect the immune system" and "weaken" it over time.[32] According to Marco Cavaleri, head of biological health threats and vaccine strategy for the European Medicines Agency, "We will end up potentially having problems with immune response, and immune response may end up not being as good as we would like it to be, thus we must take care not to overload the immune system with repeated vaccines."

34. In summary, with the appearance of Omicron, but even before with Delta, the evidence of the failure of vaccines and "boosters" to accomplish the officially stated purpose of universal vaccination—stopping the spread of COVID-19—is indisputable. Accordingly, an article in the Wall Street Journal co-authored by Luc Montagnier, the Nobel Prize-winning virologist who isolated the AIDS virus, concludes as follows: "It would be irrational, legally indefensible and contrary to the public interest for government to mandate vaccines absent any evidence that the vaccines are effective in stopping the spread of the pathogen they target. Yet that's exactly what's happening here."[33]

OPINION F:

NATURAL IMMUNITY IS SUPERIOR TO COVID-19 VACCINATION IN REDUCING TRANSMISSION OF COVID-19 VARIANTS, REDUCING RATES OF HOSPITALIZATION AND DEATH, AND HAS A SIGNIFICANTLY LONGER DURATION OF PROTECTION THAN THE COVID-19 VACCINES

35. Both vaccine-based immunity and natural immunity protect against severe disease from subsequent COVID infection. Both are based on the same basic immunological mechanism—stimulating the immune system to generate an antibody

[32] Ido Efrati, *Four Vaccines a Year: Is This How Israel Will Go on Coping With COVID?*, HAARETZ (Jan. 16, 2022).

[33] Luc Montagnier, et al., *Omicron Makes Biden's Vaccine Mandates Obsolete,* WALLSTREET JOURNAL (Jan 8, 2022).

response. Yet multiple peer-reviewed studies have concluded that natural immunity provides equivalent or greater protection against infection and severe disease than the immunity generated by the mRNA vaccines.[34] These studies validate what is taught in medical schools across the country and the world: natural immunity is more effective than vaccine mediated immunity, and naturally acquired immunity lasts longer. Hence, there is a rush to get "booster" vaccines approved by the FDA. The factual context of these studies is discussed below in **Appendix D**.

36. There are several reasons for the superiority of natural immunity, and the key is to understand that the novel mRNA vaccines bypass or short circuit the more robust—incredibly complicated yet well-orchestrated and multifaceted—immune system that has evolved over eons. Immunity in mammals evolved to last a

[34] See, e.g., Roberto Bertollini et al., *Associations of Vaccination and of Prior Infection With Positive PCR Test Results for SARS-CoV-2 in Airline Passengers Arriving in Qatar*, JAMA, vol. 326(12), pp.185–88 (July 13, 2021); Aodhán Seán Breathnach et al., *Prior COVID-19 protects against reinfection, even in the absence of detectable antibodies*, THE JOURNAL OF INFECTION, vol. 83(2), pp.237–79 (May 31, 2021); Nabin K. Shrestha, et al., *Necessity of COVID-19 vaccination in previously infected individuals*, MEDRXIV PREPRINT (Jun. 19, 2021); Yair Goldberg et al., *Protection of previous SARSCoV-2 infection is similar to that of BNT162b2 vaccine protection: A three-month nationwide experience from Israel*, MEDRXIV (Apr. 24, 2021); Sivan Gazit et al., *Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: reinfections versus breakthrough infections*, MEDRXIV (Aug. 25, 2021); Stefan Pilz, et al., *SARS-CoV-2 re-infection risk in Austria*, Euro. J. of Clincal Invest. 13520 (Feb. 13, 2021); Megan M. Sheehan, et al., *Reinfection Rates Among Patients Who Previously Tested Positive for Coronavirus Disease 2019: A Retrospective Cohort Study*, CLINICAL INFECTIOUS DISEASES (Mar. 15, 2021); Peter Nordtröm, et al., *Association Between Risk of COVID-19 Infection in Nonimmune Individuals and COVID-19 Immunity in Their Family Members*, JAMA INTERN. MED. (Oct. 11, 2021); Veerle Stouten, et al., *Incidence and Risk Factors of COVID-19 Vaccine Breakthrough Infections: A prospective Cohort Study in Belgium*, VIRUSES (April 13, 2022); Jessica P. Ridgway, MD, et al., *Rates of COVID-19 Among Unvaccinated Adults With Prior COVID-19*, JAMA (April 20, 2022); Ellie Ivanova, et al., *Discrete Immune Response Signature to SARs-CoV-2 mRNA Vaccination Versus Infection*, MEDRXIV (May 3, 2021).

lifetime in most cases and have an array of weapons—not relying solely on antibodies.

37. The CDC also recognizes the importance of natural immunity. Its updated science brief observes that "SARS-CoV-2 infection decreased risk of subsequent infection by 80–93% for at least 6–9 months," with some studies showing "slightly higher protective effects (89–93%)," and "at least 50% protection against reinfection for 1–2 years following initial infection."[35]

38. The key to understanding the superiority of natural immunity comes from a study of UK health care workers who recovered from infection with COVID-19. In that study, it was found that "[t]he presence of anti-spike or anti-nucleocapsid IgG antibodies was associated with a substantially reduced risk of SARS-CoV-2 reinfection in the ensuing 6 months."[36] The fact that anti-nucleocapsid IgG antibodies were just as effective in reducing reinfection as anti-spike antibodies is significant. It is precisely because natural immunity does not rely solely on the spike protein, which also turns out to be highly mutagenic, that makes it superior. This is

---

[35] Ctrs. for Disease Control & Prevention, *Science Brief: SARS-CoV-2 Infection-Induced and Vaccine-Induced Immunity* (updated Oct. 29, 2021). The CDC does suggest that vaccine-induced immunity is stronger than immunity from natural infection, but the study it cites is weak authority. See ibid. (citing Catherine H. Bozio et al., *Laboratory confirmed COVID-19 among adults hospitalized with COVID-19-like illness*, Morbidity & Mortality Weekly Rpt. (Nov. 5, 2021), https://bit.ly/3KuVC6S). Among other problems, the study compared naturally-immune individuals who were 90–225 days out from infection with vaccinated individuals who were 45–213 days out from vaccination. Because immunity—regardless of how gained—wanes over time, the lack of comparability between these two time periods means the results are biased in favor of vaccine-induced immunity. The study itself admits this weakness. T cells, memory cells and the vast host of immune reinforcing systems are almost not mentioned by the CDC. It is as if all the teaching that we educators do for newly minted physicians has been thrown out the window.

[36] Sheila F. Lumley, et al., *Antibody Status and Incidence of SARS-CoV-2 Infection in Health Care Workers*, N. ENGL. J. MED. (Feb. 11, 2021).

why "booster" vaccinations are required for delta and other COVID-19 variants, but those with naturally required immunity do not require "boosters."

39. The mRNA vaccines induce the production of spike proteins by the human cells of the vaccinated individual. However, the mRNA vaccines only code for spike proteins, not capsid proteins. Our natural immune system is significantly attenuated by being trained to mount a response solely to the spike protein. Stated differently, the mRNA vaccines do not induce immunity to capsid proteins, and also are only "training" the immune system to respond to the original COVID-19 spike protein, not the mutated Delta variant or Omicron variant spike protein. In natural immunity, the virus is stopped at the nasal lining (mucosa), and that is where the T cells and other immune cells mount a response. By injecting into the arm, the first line of defense of the nasal lining is not being utilized. There are other immune factors in the immune system that are also bypassed by relying solely on antibody production.

40. As stated above, the natural immune system produces antibodies to many sites on a virus particle, and in addition natural immunity relies on other robust factors of the immune system including "killer T cells" that kill both virus and cells infected with viruses by direct physical contact. This direct killing of cells infected by a foreign protein, in this case spike protein mRNA, is also the smoking gun of why the mRNA induces the autoimmune disease myocarditis (discussed further below).

41. Again, this explains the superiority of those who have acquired natural immunity to COVID-19 versus those with vaccine induced immunity: the natural immune system is looking at other antigens of the COVID-19 virus in addition to the spike protein. In natural immunity, the immune cells have "learned" to attack the virus at its point of entry in the nasal passages, not waiting for the virus to get into the lungs. This also explains why natural immunity would be superior in the COVID-19 variant cases such as the Delta variant. The variation in the Delta variant appears to be specific to spike protein mutations (the capsid proteins are not mutated). Thus,

a vaccinated individual's immune system may not attack either a mutated virus spike protein, or a capsid protein of the virus. This is in contrast to the individual with natural immunity whose immune system has been trained to attack both the spike protein (mutated or not) and the capsid protein.

OPINION G:

75% OF CHILDREN HAVE ALREADY ACQUIRED NATURAL IMMUNITY TO THE OMICRON VARIANT, WHICH ALSO CAUSES SIGNIFICANTLY LESS HOSPITALIZATION AND DEATH THAN OTHER VARIANTS, AND FOR WHICH VACCINATIONS AND BOOSTERS ARE LESS EFFECTIVE THAN NATURAL IMMUNITY

42. On April 27, 2022 reporters were briefed by the CDC's Dr. Kristie Clarke who stated that almost 60% of everyone in the United States has antibodies to the Omicron virus in their blood. In addition, Dr. Clarke stated that almost 75% of children 11 and younger have antibodies to the virus in their blood.[37]

43. The CDC's Morbidity and Mortality Weekly Report on April 26, 2022 gave additional clarity on the significant increase in the percentage of children testing positive for antibodies due to an Omicron infection in the time period from September 2021 to February 2022. Over this time period, children from 0-11 years of age went from 45.6% with antibodies (demonstrating a prior infection), to 74.2% with antibodies. For 12-17 year old children, they went from 36.5% to 63.7% with antibodies demonstrating recovery from Omicron infection.[38]

---

[37] Joe Neel, *Most Americans have been infected with the COVID-19 virus, the CDC reports*, NPR (Apr. 26, 2022), https://www.npr.org/2022/04/26/1094817774/covid-19-infections-us-most-americans; Mike Stobbe, *CDC Estimates 3 in 4 Kids Have had Coronavirus Infections*, WEST HAWAII TODAY (April 27, 2022).

[38] Kristie E.N. Clarke, et al., *Seroprevalence of Infection-Induced SARS-CoV-2 Antibodies—United States, September 2021–February 2022*, 71 Morbidity and Mortality Weekly Report (MMWR) 606-608 (Apr. 29, 2022), https://www.cdc.gov/mmwr/volumes/71/wr/pdfs/mm7117e3-H.pdf.

44. That so many children have been infected with, and recovered from, the Omicron variant is not surprising as the symptoms for an Omicron infection are comparatively mild. For example, the CDC noted less severe illness in a segment published in JAMA on April 26, 2022. The CDC reported that "About half of unvaccinated children and adolescents with Omicron infections were asymptomatic compared with 34% of those with Delta variant infections. Omicron symptoms lasted 3.4 fewer days and resulted in fewer missed school days than infections with the Delta variant." The CDC even noted the lack of significant benefit of vaccination by stating "Vaccination reduced the time children infected with Omicron spent in bed by about a half-day."[39]

45. Similarly, in a Lancet study out of Scotland published on April 22, 2022 the authors noted the following: "omicron is substantially less likely to result in COVID-19 hospitalization than is delta." Further the authors' data demonstrated "reduced effect associated with two doses of vaccine and reduced neutralizing antibodies against omicron than delta, suggesting increased potential for vaccine escape." They further noted that "Our findings of decreased severity suggest that omicron might signal the UK entering an endemic phase of COVID-19." Further on in the article the authors noted, "In conclusion, although preliminary, these national data provide some reassurance that omicron is less likely to result in severe outcomes than delta."[40]

46. An article in Viruses published on April 13, 2022 of a prospective cohort study in Belgium had some very reassuring findings related to prior COVID-19

---

[39] Bridget M. Kuehn, *COVID-19 Vaccine Effectiveness in Youth Varies by Age, Variant*, 327 JAMA 16 (Apr. 26, 2022), https://jamanetwork.com/journals/jama/fullarticle/2791394.

[40] Aziz Eheikh, et al., *Severity of omicron variant of concern and effectiveness of vaccine boosters against symptomatic disease in Scotland (EAVE II): a national cohort study with nested test-negative design*, THE LANCET INFECTIOUS DISEASES (Apr. 22, 2022), https://www.sciencedirect.com/science/article/pii/S1473309922001414.

infections and reduced severity of symptoms, and breakthrough cases. The authors noted that "Having had a prior COVID-19 infection before vaccination and having a received a booster vaccine were associated with a lower risk of a breakthrough infection. Among those with a breakthrough infection, having had a prior COVID-19 infection also lowered the odds of experiencing symptoms." In the discussion the authors further noted, "Having had a prior COVID-19 infection before vaccination reduced the risk of more severe outcomes." Vaccine effectiveness was of short duration as "most breakthrough infections occurred after 4 months of full vaccination…."[41] In contrast, as noted above, other articles show that naturally acquired immunity lasts at least two years, and in other viruses often a lifetime. Thus, recovering from a COVID-19 infection conferred less breakthrough and less symptoms and severity than those who only had a COVID-19 vaccine.

47. The conclusions of the above studies is consistent with the science of virology. A virus cannot replicate on its own, so if it kills virtually 100% of the population (like Ebola), it is very easy to contain. In contrast, the four circulating coronaviruses (that are all part of the "common cold") are significantly less lethal than the original COVID-19 coronavirus. They are viruses that infect virtually everyone, yet fortunately kill very few. This appears to be what has happened with the Omicron variant; COVID-19 has mutated into simply the fifth "common cold" virus.

///

///

///

///

///

[41] Veerle Stouten, et al., *Incidence and Risk Factors of COVID-19 Vaccine Breakthrough Infections: A Prospective Cohort Study in Belgium*, 14 Viruses 802 (Apr. 13, 2022) https://www.mdpi.com/1999-4915/14/4/802.

OPINION H:

MYOCARDITIS IS A KNOWN AUTOIMMUNE COMPLICATION OF COVID-19 VACCINATION, AND LONG TERM STUDIES ARE NECESSARY TO ENSURE THAT THE BENEFIT OF VACCINATING HEALTHY 12–15 CHILDREN WITHOUT SIGNIFICANT RISK FACTORS OUTWEIGHS THE RISK OF COMPLICATIONS

48. Myocarditis is an autoimmune induced inflammation of the heart muscle that has been documented as having occurred after COVID-19 mRNA vaccination. Myocarditis predominantly occurs in adolescent and young adult males.

49. A review published in Circulation in August 2021 highlighted the seriousness of myocarditis, as follows[42]:

> Myocarditis in children challenges the practitioner on every front, from the appropriate diagnostic workup to the aggressiveness of intervention and the type and extent of follow up after recovery. Many patients have spontaneous recovery, and just as many will sustain irreversible myocardial injury, sometime pressing the practitioner to make medical decisions without a confirmed diagnosis or decisions on therapy that are not evidence based. Myocarditis in children shares features with that in adults, such that a supplemental section on the adult perspective highlights some of these major similarities and differences. However, given its distinct characteristics in children and the potential impact on their lifetime health, the American Heart Association commissioned this statement to provide guidance on management specific to the pediatric population.

50. While viruses are a known cause of myocarditis, "vaccines" have **not** before been a known cause of myocarditis. There are autoimmune causes of

[42] Yuk M. Law, et al., *Diagnosis and Management of Myocarditis in Children*, CIRCULATION e123 (Aug. 10, 2021).

myocarditis listed and there is concern that autoimmunity is the cause of mRNA vaccine myocarditis.

51. The threat of myocarditis is not a phantom, but is recognized across the globe. An article from October 7, 2021 notes that Finland, Sweden, Denmark, and Norway are putting a pause on using mRNA vaccines in younger age groups due to the risk of pericarditis and myocarditis. Myocarditis and pericarditis appear to be rare and occur mostly in young males. The concern is that for the younger populations, since there is no long term data, it is unclear if the myocarditis recurs and/or worsens over time.[43]

52. An article on the course of symptomatic myocarditis in seven male adolescents after Pfizer vaccination was published in Pediatrics. Heart damage was documented in at least one previously healthy male, and all recovered. The authors noted that the incidence of myocarditis/pericarditis due to the mRNA vaccine is unknown, and caution pediatricians to monitor children with chest pain after an mRNA COVID-19 vaccine.[44]

53. European public health departments are also being cautious with respect to this unexpected adverse medical condition of myocarditis primarily in young males—and are now also investigating a new complication of capillary leak syndrome.[45]

54. French health officials have also put a pause on using the Moderna mRNA vaccine for those under 30. Moderna has a much higher rate of myocarditis than Pfizer, but Pfizer is not at zero with the small sample studied.[46]

---

[43] Jenny Strasburg & Dominic Chopping, *Some European Countries Are Limiting the Use of Moderna's Covid-19 Vaccine in Younger Ages*, WALL STREET J. (Oct. 7, 2021).
[44] Mayme Marshall, et al., *Symptomatic Acute Myocarditis in Seven Adolescents Following Pfizer-BioNTech COVID-19 Vaccination*, PEDIATRICS (Sep. 2021).
[45] *Covid-19 Vaccine Safety Update*, EUROPEAN MEDICINES AGENCY (Nov. 11, 2021).
[46] *French Health Authority Advises Against Moderna COVID-19 Vaccine for Under 30s*, REUTERS (Nov. 10, 2021).

55. COVID-19 vaccination has not been fully FDA approved for younger children and there is limited data on the adverse effects in this age group. Myocarditis presents at least one significant unknown risk factor for younger demographics including children age 12-18. Children are not little adults, rendering long term studies the rule for treatment of children. Without long term studies, important unknown risk factors such as myocarditis exist for children militating strongly against any mandatory vaccination policies for this demographic.

OPINION I:

THERE IS A SIGNIFICANT RISK OF OTHER SERIOUS AUTOIMMUNE DISORDERS DUE TO COVID-19 VACCINATION, AND THUS LONG TERM STUDIES ARE ESSENTIAL IN ORDER TO ENSURE THE SAFETY AND EFFICACY OF THE COVID-19 VACCINE FOR CHILDREN

56. In addition to myocarditis, there is a significant risk of children developing delayed autoimmune disorders, including the potentially lethal Antibody Dependent Enhancement (ADE) disorder. On August 23, 2021, CDC Director Dr. Rochelle Walensky warned about the possibility of the potentially lethal Antibody Dependent Enhancement.[47] Dr. Walensky made this announcement after looking at the preliminary Israeli data of vaccinated individuals. ADE is an immune system overreaction and can lead to death. ADE occurs when the vaccinated individual, after exposed to the natural virus, then has a cascade of antibody activation.

57. Since children are not " little adults," and have different physiology, we have no way of knowing a priori the type and incidence of vaccine complications. In addition, as opposed to adults, children will have a long term horizon on which to suffer complications of a vaccine that has a novel mechanism of action with the robust pediatric immune system.

[47] Jeffrey Dach, *Director of CDC, Rochelle Walensky warns of ADE, Antibody Dependent Enhancement From Israel Data*, JEFFREYDACHMD.COM (Aug. 23, 2021).

58. We already know that there are several devastating autoimmune disorders, such as multiple sclerosis and rheumatoid arthritis, as well as myocarditis. There is ongoing research as to the cause of autoimmune disorders, but viruses and the changes they cause in human cells appear in some cases to be the trigger for autoimmune disorders. What is unprecedented is that the autoimmune disorder of myocarditis is being triggered by a mRNA vaccine.

59. The novel mRNA vaccine induces the human cell to produce the COVID-19 spike protein, which is then recognized as a foreign protein by the body's immune system. The immune system then destroys the human muscle cell that has the foreign spike protein, and appears in some cases to generalize this action to heart muscle cells. Questions such as: How does this happens? Will it recur? and Will we see other autoimmune disorders over time due to the mRNA vaccine?, are critical to the health of our youth. Children have 70 to 80 plus years to develop devastating autoimmune disorders. This is why long term studies in children are urgently needed. Children have a robust immune system, and thus a greater potential to cause a devastating autoimmune disorder later in life.

60. As with myocarditis, and other potentially unknown long term adverse effects in children, long term studies are the rule for pediatric medicine. Without long term studies, vaccinating this demographic cannot be justified without informed voluntary consent.

///

///

///

///

///

///

///

///

OPINION J:

COVID-19 VACCINE MANDATES VIOLATE THE ETHICAL RULE OF OBTAINING INFORMED CONSENT

61. In a 1996 British Medical Journal article, the authors recount the 10 standards that were adopted worldwide as a result of war crimes tribunal at Nuremberg to combat the medical abuses by NAZI physicians.[48] Those universal standards are now part of modern medical ethics:

> Amongst other requirements, this document enunciates the requirement of *voluntary informed consent* of the human subject. The principle of voluntary informed consent protects the right of the individual to control his own body. [¶] This code also recognizes that the risk must be weighed against the expected benefit and that unnecessary pain and suffering must be avoided. [¶] This code also recognizes that doctors should avoid actions that injure human patients. [¶] The principle established by this code for medical practice now have been extended into general codes of medical ethics.

62. The COVID-19 vaccines, especially as regards to children, are experimental in nature as there have been no long term studies and the long term health effects are unknown. As discussed above, myocarditis and ADE are known risks relating to administering the vaccine to children, but without long term studies we have no ability to assess the long term health impacts. Dr. Eric Rubin of the FDA panel that approved the COVID-19 EAU for children aged 5–11 stated: "But we are never going to learn about how safe this vaccine is unless we start giving it. That is just the way it goes."[49] This "vaccine" is experimental and should not be administered to children without obtaining informed consent, and a mandate would violate this foundation of medical ethics.

---

[48] *Nuremburg Doctor's Trial*, 313(7070) BRITISH MED. J. 1445, 1448 (1996).

[49] Lauren Neergaard & Matthew Perrone, *FDA panel backs Pfizer's low-dose COVID-19 vaccine for kids*, ASSOCIATED PRESS (Oct. 26, 2021).

63. Nonphysicians and the media have also questioned the morality of mandating vaccination of our healthy youth, as discussed in a November 10, 2021 WSJ article penned by Jenin Younes titled: "Forced Vaccination for Kids is Unlawful."[50] As stated in that article:

> While parents may choose to vaccinate their own children, these mandates are unethical and unlawful. Advocates of mandating Covid vaccines equate them with standard childhood shots against polio, chickenpox, TDaP (tetanus, diphtheria and pertussis) and MMR (measles, mumps and rubella). But those decades-old vaccines have gone through the full FDA testing regime. The Covid vaccine has received only emergency-use authorization for this age group, meaning its safety and efficacy have not yet been established to the FDA's satisfaction.
>
> The emergency-use authorization of the Covid vaccine also creates a legal distinction. Federal law requires, among other things, that potential recipients of EUA products be informed "of the option to accept or refuse administration of the product, of the consequences, if any, of refusing administration of the product, and of the alternatives to the product that are available and of their benefits and risks."
>
> Put plainly, this means that patients—in this case children—may not be forced, coerced or pressured into taking EUA products and are entitled by law to refuse them.

64. Prior to March 2020, the public health standard for children had always been to "opt in" with respect to new experimental treatments/vaccines, and a lack of long term trials. Of course, prior to COVID-19, full disclosure and consent was never abrogated with respect to novel treatment. Suddenly with COVID-19 in children it has been inverted to an "opt out." This is a dangerous new precedent that

[50] Jenin Younes, *Forced Covid Vaccination for Kids Is Unlawful*, WALL STREET J. (Nov. 9, 2021).

now the individual patient and his doctor are not allowed to make an informed decision. This public health reasoning would not have stood prior to March 2020, particularly with a population as our youth that had an exceedingly low risk of dying from COVID-19.

CONCLUSION:

THERE IS NO DEMONSTRABLE BENEFIT IN VACCINATING OR EXCLUDING FROM SCHOOL HEATHY CHILDREN AND UNFORTUNATELY A SIGNIFICANT RISK OF HARM FROM EITHER VACCINATION OR EXCLUSION

65. In summary, the studies reviewed indicate the absence of any meaningful justification for mandating that students either get vaccinated against COVID-19 or leave school. First, schools and their children are not a significant source of COVID-19 transmission and/or death in a community. Second, healthy and non-obese children without significant risk factors are at exceedingly low risk of dying from COVID-19. Third, the COVID-19 vaccines are now ineffective at actually preventing transmission of the coronavirus. Fourth, the Omicron variant is far less lethal than the original version and the Delta variant, and 75% of children already have natural immunity to COVID-19, which is superior to vaccine immunity.

66. On the other side of the scale, there are real harms from mandatory vaccination. First, it has been confirmed that the novel mRNA technology is causing myocarditis in young males and many suspect that it may cause other autoimmune disorders. Second, for students who cannot get vaccinated—for whatever reason—locking them down and excluding them from school will likely exacerbate a mental health and suicide pandemic that is worse than the COVID-19 pandemic. Third, there are serious ethical concerns with mandating (i.e., coercing) COVID-19 vaccination without providing parents and children with full and accurate information.

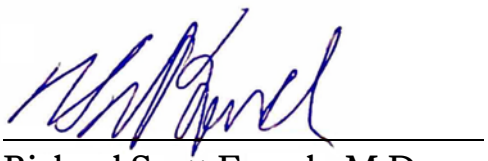
67. In medicine we always do a risk/benefit analysis for any new therapeutic or vaccine. Here, there does not appear to be a demonstrable benefit for vaccinating

healthy children under the age of 17. In medicine we also have a rule of "do no harm," and we already have seen that there is a risk of myocarditis, and the risk of unknown autoimmune diseases or other complications later in life for our children. Traditionally parents have consulted their child's physician with respect to treatments, particularly *novel* treatments. This happens every day in every aspect of medicine, except with COVID-19? What happens when the inevitable complications occur and yet the parents never had given informed consent?

68. On a personal basis as a physician I am pledged to "do no harm," and I treat everyone else like I would treat my own family. I have recommended COVID-19 vaccinations to individuals at risk because of a favorable risk/benefit analysis for that individual patient. I cannot in good conscience recommend COVID-19 vaccination for a healthy child with no risk factors. But I will and do discuss the options with the parent, giving full disclosure of the risk and benefit of vaccinating, and then leave the decision up to the parent. Can't we do the same for all of our children; don't they deserve the best we can offer?

I declare until penalty of perjury under the laws of the United States and the State of California that the foregoing is true and correct.

Executed on May 11, 2022, in San Diego, California



Richard Scott French, M.D.

APPENDIX A

A-1. The Wall Street Journal on April 9, 2021 cited a Harvard University study of 224 children ages 7 to 15 which found a clinically significant increase in anxiety and depression. The authors also quoted Dr. David Axelson, chief of psychiatry, who noted a 14% increase in visits to his hospital's psychiatric crisis center for emergencies related to suicidal thoughts, aggression and psychosis from the year prior.[51]

A-2. CS Mott Children's Hospital in Michigan conducted a national poll on children's health as a result of the pandemic which was published on March 15, 2021. Highlights of the report included:

A. 3 out of 4 parents say COVID-19 has had a negative impact on their teens being able to interact with friends;

B. 1 in 3 teen girls and 1 in 5 teen boys have experienced new or worsening anxiety since March 2020;

C. 31% of parents are noting either an increase or new onset of depression in teen girls, and 18% of parents with teen boys; and

D. 14% of parents are noting an increase or new onset of withdrawing from family in teen girls, and 13% in teen boys.[52]

A-3. An article from India looked at the impact worldwide of the effect of lockdowns on the different age sub-groups of children. A synopsis of some of their findings are as follows:

A. "In young children and adolescents, the pandemic and lockdown have a greater impact on emotional and social development compared to that in grown-ups."

---

[51] Andrea Petersen, *Loneliness, Anxiety and Loss: the Covid Pandemic's Terrible Toll on Kids*, WALL STREET J. (Apr. 9, 2021).

[52] C.S. Mott Children's Hospital, *How the Pandemic Has Impacted Teen Mental Health*, MOTT POLL REPORT (Mar. 15, 2021).

B. "The home confinement of children and adolescents is associated with uncertainty and anxiety[.]"

C. "Consequently, the constraint of movement imposed on them [children and adolescents] can have a long term negative effect on their overall psychological wellbeing."[53]

A-4. A study from Brazil that also examined the worldwide devastating effect of the lockdowns found that "children from all development phases had high rates of depression, anxiety, and post-traumatic symptoms[.]"[54]

A-5. The UN published a report on the world-wide adverse mental effects that COVID-19 has had on children. The Executive Director of UNICEF is quoted as saying: "With nationwide lockdowns and pandemic-related movement restrictions, children have spent indelible year of their lives away from family, friends, classrooms, play—key elements of childhood itself…. The impact is significant, and it is just the tip of the iceberg. Even before the pandemic, far too many children were burdened under the weight of unaddressed mental health issues." Note that measures that isolate or impact children in the school setting are particularly harmful.[55]

[53] Shweta Singh, et al., *Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations*, PSYCHIATRY RES. (23 Aug. 2020).

[54] Debora Marques de Miranda, et al., *How is COVID-19 pandemic impacting mental health of children and adolescents?*, INT. J. DISASTER RISK REDUCT. (Sep. 3, 2020).

[55] United Nations, *Pandemic impact 'tip of the iceberg' after years of neglecting child mental health*, U.N. NEWS (Oct. 4, 2021).

APPENDIX B

B-1. An article published by The Lancet in December 2021, titled "89% of New UK COVID Cases Among Fully Vaxxed," and summarizing a recent study, noted that "Between week 39 and 42 [after the emergence of the vaccines], a total of 100,160 COVID-19 cases were reported among citizens of 60 years or older. 89,821 occurred among the fully vaccinated (89.7 percent), 3,395 among the unvaccinated (3.4 percent)."[56]

B-2. A longitudinal study from the UK of SARS-CoV-2 Delta found that "breakthrough infections have peak viral load similar to unvaccinated cases and can efficiently transmit infection in household settings, including to fully vaccinated contacts. Host-virus interactions early in infection may shape the entire viral transmission trajectory. Our estimate of SAR [secondary attack rate] is higher than that reported in fully vaccinated household contacts exposed before the emergence of the delta variant."[57]

B-3. A study in Wisconsin similarly reported that fully vaccinated people not only contracted but also spread COVID-19 and had viral loads no different from the "fully unvaccinated."[58]

B-4. A study of vaccinated healthcare workers in Vietnam found "no correlation between vaccine-induced neutralizing antibody levels and peak viral loads or the development of symptoms." In other words, the vaccines did not stop Delta transmission or infection. The authors concluded that vaccination was "associated

---

[56] The Lancet, *Lancet: 89% of new UK COVID cases among fully vaxxed*, PRINCIPIA SCIENTIFIC (Dec. 30, 2021).

[57] Anika Singanayagam, et al., *Community Transmission and Viral Load Kinetics of the SARS-Cov-2 delta (b.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study*, THE LANCET INFECTIOUS DISEASES (Oct. 28, 2021).

[58] Kasen K. Riemersma, et al., *Vaccinated and Unvaccinated Individuals Have Similar Viral Loads in Communities with a High Prevalence of the SARS-CoV-2 Delta Variant*, MEDRXIV (July 31, 2021).

with high viral loads," and the "data suggested ongoing transmission had occurred between fully vaccinated individuals."[59]

B-5. In July 2021, the Washington Post reported on a CDC Morbidity and Mortality Weekly Report study that concluded that 75% of people infected with COVID-19 in Massachusetts were vaccinated: "A sobering scientific analysis published Friday found that three-quarters of the people infected during an explosive coronavirus outbreak fueled by the delta variant were fully vaccinated." In addition, it was noted: "A total surprise was the study finding that vaccinated individuals carried as much virus in their noses as unvaccinated individuals…."[60]

B-6. On January 4, 2022, Channel 10 Boston noted that "In the last week 45,029 new breakthrough cases—**infections in people who have been vaccinated**—were reported." The article continued: "It's a 122% increase in the rate of new breakthrough cases in Massachusetts." Clearly, vaccination had little to no effect in reducing transmission of Delta.[61]

[59] Nguyen Van Vinh Chau, et al., *An observational study of breakthrough SARS-CoV-2 Delta variant infections among vaccinated healthcare workers in Vietnam*, ECLINICALMEDICINE, vol. 41 (Nov. 2021).

[60] Carolyn Y. Johnson, et al., *CDC Study Shows Three-Fourths of People Infected in Massachusetts Coronavirus Outbreak Were Vaccinated But Few Required Hospitalization*, THE WASHINGTON POST (July 30, 2021).

[61] *45,0929 New Breakthrough Cases in Mass., More Than Doubling Week Over Week*, NBC 10 Boston (Jan. 4, 2022).

APPENDIX C

C-1. The Statens Serum Institute in Copenhagen, Denmark analyzed Danish data and found vaccine efficacy turned negative 91 days after administration of the second dose.[62] In other words, vaccinated Danes were even more likely than unvaccinated Danes to be infected with Omicron after three months.

C-2. In Germany, the most recent detailed report from the Robert Koch Institute—the German equivalent of the CDC—found that as of December 31, 2021, 78.6 percent (4,020 of 5,117) of sequenced Omicron cases were in vaccinated Germans,[63] despite a population vaccination rate at the time of less than 71.90% percent.[64] This data suggests that Omicron is indifferent to vaccination status.

C-3. In December 2021, the UK Health Security Agency calculated preliminary estimates of vaccine effectiveness remarkably similar to the Danish study, with near-zero efficacy for both Pfizer and Moderna vaccines 20 weeks after the second dose.[65]

C-4. In an Imperial College of London study, estimated vaccine effectiveness against symptomatic Omicron infection to be "between 0% and 20% after two doses, and between 55% and 80% after a booster dose"[66] Twenty percent represents no effective protection for an individual considered fully vaccinated.

---

[62] Christian Holm Hansen et al., *Vaccine effectiveness against SARS-CoV-2 infection with the Omicron or Delta variants following a two-dose or booster BNT162b2 or mRNA-1273 vaccination series: A Danish cohort study*, MEDRXIV (Dec. 23, 2021).

[63] Robert Koch Institute, *Wöchentlicher Lagebericht des RKI zur Coronavirus-Krankheit-2019 (COVID-19)* (Dec. 30, 2021).

[64] Our World in Data, Coronavirus (COVID-19) Vaccinations, https://ourworldindata.org/covid-vaccinations; see also Edouard Mathieu et al., *A global database of COVID-19 vaccinations*, NATURE HUMAN BEHAVIOR, vol. 5, pp.947–53 (July 2021) (describing the foregoing dataset).

[65] UK Health Security Agency, *SARS-CoV-2 variants of concern and variants under investigation in England*, Technical briefing 33 (Dec. 23, 2021), at 26–27.

[66] Emily Head, et al., *Omicron Largely Evades Immunity from Past Infection or Two Vaccine Doses*, IMPERIAL COLLEGE LONDON (Dec. 17, 2021).

C-5. The UK Health Security Agency's weekly "COVID-19 vaccine surveillance reports" also show that the vaccines have not reduced infection rates. In the latest report, there were 774,595 new adult COVID cases. Of infected adults, 7.7% (42,430) were unvaccinated and 84.4% (653,383) were doubly- or triply-vaccinated. This disparity becomes more pronounced with age. For example, among infected adults aged 60–69, 2.4% (1,952) were unvaccinated and 92.9% (75,967) were doubly- or triply-vaccinated.[67] The report cautions that "it is expected that a large proportion of cases … would occur in vaccinated individuals, simply because a larger proportion of the population are vaccinated than unvaccinated." But the UK's population vaccination rate is around 72%.[68] So, as in Germany, the data suggest that COVID infections are indifferent to the vaccines.

///

///

///

///

///

///

///

///

///

///

///

///

[67] UK Health Security Agency, *COVID-19 vaccine surveillance report*, Week 10" (Mar. 10, 2022), at 40 (Table 10) (adults are all age cohorts 18 and older; doubly- and triply-vaccinated are individuals in "Second dose" and "Third dose" columns).

[68] Our World in Data, Coronavirus (COVID-19) Vaccinations, https://ourworldindata.org/covid-vaccinations; see also fn. 24, *supra*, Edouard Mathieu et al.

C-6. In a test-negative control analysis of Ontario test data, researchers from Public Health Ontario and leading Canadian universities noted that "[w]e also observed negative VE [vaccine effectiveness] against Omicron among those who had received 2 doses compared to unvaccinated individuals."[69] The finding is evident in Table 2 of the study. Researchers found that 60 days after the second dose, vaccine effectiveness turned and remained negative, meaning a vaccinated person was more likely to be infected than an unvaccinated person:

Table 2. Vaccine effectiveness against infection by Omicron or Delta among adults aged ≥18 years by time since latest dose

Doses	Vaccine products	Days since latest dose	SARS-CoV-2 negative controls, n	Omicron-positive cases, n	Vaccine effectiveness against Omicron (95% CI)	Delta-positive cases, n	Vaccine effectiveness against Delta (95% CI)
First 2 doses	≥1 mRNA vaccine	7-59	14,288	63	6 (-25, 30)	204	84 (81, 86)
		60-119	34,741	214	-13 (-38, 8)	562	81 (79, 82)
		120-179	282,977	2,257	-38 (-61, -18)	4,342	80 (79, 81)
		180-239	47,282	522	-42 (-69, -19)	635	74 (72, 76)
		≥240	10,285	46	-16 (-62, 17)	203	71 (66, 75)
Third dose	Any mRNA vaccine	0-6	10,208	50	2 (-35, 29)	71	88 (85, 90)
		≥7	36,500	114	37 (19, 50)	138	93 (92, 94)
	BNT162b2	0-6	8,461	42	2 (-39, 30)	64	87 (83, 90)
		≥7	30,269	106	34 (16, 49)	116	93 (91, 94)
	mRNA-1273	0-6	1,747	8	5 (-94, 54)	7	93 (86, 97)
		≥7	6,231	8	59 (16, 80)	22	93 (90, 96)

[69] Sarah Buchan et al., *Effectiveness of COVID-19 vaccines against Omicron or Delta infection*, MEDRXIV (Jan. 1, 2022) at 7.

APPENDIX D

D-1. A Cleveland Clinic study found that over a five-month period, COVID infection did not recur in 1,359 clinic employees who had recovered from a previous COVID infection and had been re-exposed to the virus. Cleveland Clinic researchers concluded "that subjects previously infected with SARS-CoV-2 are unlikely to get COVID-19 reinfection whether or not they get the vaccine." And they noted that their finding "calls into question the necessity to vaccinate those who have already had SARS-CoV-2 infection."[70]

D-2. An Israeli study of more than 6 million individuals reached a similar conclusion, finding that natural immunity provides equivalent if not better protection than vaccine immunity in preventing COVID infection, morbidity, and mortality.[71] "Our results question the need to vaccinate previously infected individuals," the authors observed.

D-3. Yet another recent study out of Israel found that vaccinated people who had not been previously infected were 13 times more likely to experience a breakthrough COVID infection, 27 times more likely to experience subsequent COVID symptoms, and seven times more likely to be hospitalized compared to naturally-immune individuals who had never been vaccinated.[72] The design of this Israeli study was particularly strong because it tracked large cohorts of people over time, from the time of vaccination or initial infection, thus accounting for the fact that immunity protection (whether vaccine-based or natural) diminishes with time. The study's authors concluded that "natural immunity confers longer lasting and

---

[70] Nabin K. Shrestha, et al., *Necessity of COVID-19 vaccination in previously infected individuals*, MEDRXIV PREPRINT (Jun. 19, 2021).

[71] Yair Goldberg et al., *Protection of previous SARSCoV-2 infection is similar to that of BNT162b2 vaccine protection: A three-month nationwide experience from Israel*, MEDRXIV (Apr. 24, 2021).

[72] Sivan Gazit et al., *Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: reinfections versus breakthrough infections*, MEDRXIV (Aug. 25, 2021).

stronger protection against infection, symptomatic disease and hospitalization caused by the Delta variant of SARSCoV-2, compared to the BNT162b2 [Pfizer] two-dose vaccine-induced immunity."

D-4. One study in Austria noted: "We observed a relatively low re-infection rate of SARS Co-V-2 in Austria. Protection against SARS-CoV-2 after natural infection is comparable with the highest available estimate on vaccine efficacies."[73]

D-5. Yet another peer reviewed study reported in Clinical Infectious Diseases came to the following conclusion: "Prior infection in patients with COVID-19 was highly protective against reinfection and symptomatic disease. This protection increased over time[.]"[74]

D-6. A Swedish study published in JAMA on October 11, 2021 concluded the following: "This nationwide cohort study showed that individuals without COVID-19 immunity had a 45% to 97% lower risk of infection that was in line with the increase in the number of immune family members. Similar results were found regardless of whether immunity was acquired from a previous infection, a single dose of vaccine, or full vaccination." The authors then went on to state that "caution is warranted given the emerging variants of concern (delta), which appear more transmissible and may be less sensitive to a single dose of vaccine." This concern is not repeated for those that recover from COVID-19 (natural immunity).[75]

D-7. A Belgium study looking at COVID breakthrough infections despite vaccination found the following: "Among persons who had a prior COVID-19

---

[73] Stefan Pilz, et al., *SARS-CoV-2 re-infection risk in Austria*, Euro. J. of Clincal Invest. 13520 (Feb. 13, 2021).

[74] Megan M. Sheehan, et al., *Reinfection Rates Among Patients Who Previously Tested Positive for Coronavirus Disease 2019: A Retrospective Cohort Study*, CLINICAL INFECTIOUS DISEASES (Mar. 15, 2021).

[75] Peter Nordtröm, et al., *Association Between Risk of COVID-19 Infection in Nonimmune Individuals and COVID-19 Immunity in Their Family Members*, JAMA INTERN. MED. (Oct. 11, 2021).

infection before vaccination, a lower incidence of breakthrough infections was observed compared to COVID-19 naïve (vaccinated people) (3.2 versus 12 per 100 person years)."[76] This 74% reduction in breakthrough infections due to naturally acquired immunity is significant. This once again demonstrates the superiority of naturally acquired immunity over vaccine acquired immunity in terms of duration of protection from COVID-19.

D-8. Another recent study of cases in the United States of 121,615 patients, found that "unvaccinated individuals with prior symptomatic COVID-19 had 85% lower risk of acquiring COVID-19 than unvaccinated individuals without prior COVID-19." Additionally, "[t]he findings that patients with prior COVID-19 had 88% protection against hospitalization for COVID-19 and 83% protection against COVID-19 not requiring hospitalization suggest that natural immunity was associated with similar protection against mild and severe disease."[77]

D-9. An article posted on May 3, 2021, looked beyond the antibody production in natural immunity and vaccine induced immunity. The authors' analysis found that the natural immune process after infection utilized a highly augmented interferon response, which was largely absent in the vaccine recipients.[78]

[76] Veerle Stouten, et al., *Incidence and Risk Factors of COVID-19 Vaccine Breakthrough Infections: A prospective Cohort Study in Belgium*, VIRUSES (April 13, 2022).
[77] Jessica P. Ridgway, MD, et al., *Rates of COVID-19 Among Unvaccinated Adults With Prior COVID-19*, JAMA (April 20, 2022).
[78] Ellie Ivanova, et al., *Discrete Immune Response Signature to SARs-CoV-2 mRNA Vaccination Versus Infection*, MEDRXIV (May 3, 2021).

Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Declaration of Jayanta Bhattacharya, M.D., Ph.D., in Support of Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

I, Dr. Jayanta Bhattacharya, declare as follows:

1. I am an adult of sound mind and make this statement voluntarily, based upon my own personal knowledge, education, and experience.

2. Based on my training and experience, I have formed an opinion on the reasonableness and necessity of San Diego Unified School District's ("SDUSD") COVID-19 vaccine requirements to a reasonable degree of scientific certainty.

3. This declaration is meant to update and supplant my prior declaration filed in this action, dated October 27, 2021, and submitted as ECF Doc. No. 7-3 on November 1, 2021.

EXPERIENCE & CREDENTIALS

4. I am a former Professor of Medicine and current Professor of Health Policy at Stanford University School of Medicine and a research associate at the National Bureau of Economic Research. I am also Director of Stanford's Center for Demography and Economics of Health and Aging. I hold an M.D. and Ph.D. from Stanford University. I have published 161 scholarly articles in peer-reviewed journals in the fields of medicine, economics, health policy, epidemiology, statistics, law, and public health, among others. My research has been cited in the peer-reviewed scientific literature more than 12,400 times. My curriculum vitae is attached to this declaration as **Exhibit A**.

5. I have dedicated my professional career to the analysis of health policy, including infectious disease epidemiology and policy, and the safety and efficacy of medical interventions. I have studied extensively and commented publicly on the necessity and safety of vaccine requirements for those who have contracted and recovered from COVID-19 (individuals who have "natural immunity"). I am familiar with the emergent scientific and medical literature on this topic and pertinent government policy responses to the issue both in the United States and abroad.

6. My assessment of vaccine immunity is based on studies related to the efficacy and safety of the one vaccine to receive full approval from the Food and Drug

Administration (FDA) and the two vaccines for which the FDA has granted Emergency Use Authorization (EUA) for use in the United States. These include two mRNA-technology vaccines (manufactured by Pfizer-BioNTech and Moderna) and an adenovirus-vector vaccine technology (manufactured by Johnson & Johnson). Of those, the Pfizer vaccine, also known as Comirnaty, has full FDA approval.

7. I have not and will not receive any financial or other compensation to prepare this Declaration or to testify in this case. Nor have I received compensation for preparing declarations or reports or for testifying in *any* other case related to the COVID-19 pandemic or any personal or research funding from any pharmaceutical company. My participation here has been motivated solely by my commitment to public health, just as my participation in other cases has been.

8. I have reviewed the Verified Complaint and the Verified First Amended Complaint filed in this action and thus understand that San Diego Unified School District ("SDUSD") has imposed a COVID-19 vaccination mandate for both its employees and students. For employees, exemptions are permitted for medical or religious reasons. However, for students, only medical exemptions are available. Students under age 16 are also not covered by the vaccine mandate.

9. I have been asked to provide my opinion on several matters related to SDUSD's vaccine mandate as related to this case, brought on behalf of students with religious objections to vaccination, including the following:

I. Whether fetal cell lines were used to develop the currently available COVID-19 vaccines;

II. Whether, based on the current medical and scientific knowledge, the SARS-CoV-2 virus and its dominant Omicron variant pose a significant mortality risk for children and young adults;

III. Whether, based on the existing medical and scientific understanding of SARS-CoV-2 transmission and recovery, there are any distinctions between natural immunity and vaccine immunity;

IV. The safety of providing exemptions or accommodations to those who have religious reasons for declining to be vaccinated, and what those accommodations could look like in practice; and

V. An assessment of the safety of administering vaccines to those who have natural immunity, or those with less common medical conditions.

10. My opinions are partly summarized in a recent article I published and which I reaffirm here: "For younger adults and children … their mortality risk is extremely low. Even a slight risk of a serious vaccine adverse reaction could tip the benefit-risk calculation, making the vaccine more harmful than beneficial." Further, "recovered COVID patients have strong long-lasting protection against severe disease if reinfected, and evidence about protective immunity after natural infection is at least as good as from the vaccines." In this context, "vaccine mandates are unethical."[1] As applied here, a summary of my opinion is:

I. Fetal cell lines were indeed used in the testing of the COVID-19 vaccines, tainting them for individuals of certain religious traditions.

II. The scientific evidence strongly indicates that for the vast majority of children and young adults, COVID-19 infection poses less of a mortality risk than seasonal influenza. This is particularly the case with the emergence of the Omicron variant.

III. While the COVID vaccines are effective at protecting vaccinated individuals against severe disease, they provide only short-lasting and limited protection versus infection and disease transmission; the recovery from COVID disease provides strong and lasting protection against severe disease if reinfected, at least as good and likely better than the protection offered by the COVID vaccines.

[1] Kulldorff, M., & Bhattacharya, J. (2021, June 17). The ill-advised push to vaccinate the young. *The Hill.*

IV. SDUSD can safely accommodate students with religious objections to vaccination by either simply exempting them (if COVID-recovered), or by requiring daily symptom checking paired with rapid antigen tests to confirm if a student is infectious.

V. Certain individuals may face heightened risk of vaccine side effects. Though the vaccines are safe for most patients, the FDA has identified a heightened risk of myocarditis and pericarditis after vaccination with the mRNA vaccines—especially for young men. It has also identified a heightened risk of clotting abnormalities in young women taking the adenovirus vector vaccine. Even more importantly, the vaccine has not been thoroughly tested for safety and efficacy in patients with certain chronic conditions such as Multiple Sclerosis, so there is still considerable scientific uncertainty about these heightened risks for some patients.

EXPERT OPINIONS

I. Fetal Cell Lines Were Used to Develop the Johnson & Johnson Vaccine and Were Used to Test the Two mRNA Vaccines.

11. Many people of religious faith have a deeply held objection to benefitting from abortion of a human fetus. At the same time, much modern biological research, development, and production employs fetal cell lines that are derived from an abortion that occurred decades ago. The fetal tissue used in biological work is not the actual tissue from the aborted baby—it is a clone of cells sampled from that tissue. Nevertheless, many religious people object to the personal use of any product that involved the use of these fetal tissue cell lines. In the context of the COVID-19 vaccines, fetal tissue lines were used in the research and testing of both the mRNA vaccines (Pfizer and Moderna) and the adenovector vaccine (Johnson & Johnson).

///

///

12. While aborted fetal tissue is not used in the production of the mRNA vaccines, they are used in the production of the Johnson & Johnson vaccine.[2] While some religious authorities have stated that the cell lines used in the development, production, and testing of these vaccines are remote enough from the act of abortion that it is permissible for faithful people to be vaccinated with these vaccines,[3] other religious authorities disagree[4] reflecting longstanding objections to vaccines derived using aborted tissue lines.[5] Ultimately, it is a matter of individual conscience for each person to decide whether the benefits derived from the vaccines in terms of protection against severe COVID disease should be eschewed in light of sincere moral/religious qualms about deriving that benefit as the ultimate fruit of an action that the faithful person deems sinful.

II. COVID-19 Infection No Longer Presents a Grave Danger

A. COVID-19 Fatality Risk Is Minimal for the Non-Elderly

13. SARS-CoV-2, the virus that causes COVID-19 infection, entered human circulation some time in 2019 in China. The virus itself is a member of the coronavirus family of viruses, several of which cause typically mild respiratory symptoms upon

---

[2] Zimmerman, R. K. (2021). Helping patients with ethical concerns about COVID-19 vaccines in light of fetal cell lines used in some COVID-19 vaccines. *Vaccine*, *39*(31), 4242-4244. doi: 10.1016/j.vaccine.2021.06.027

[3] Giangrave, C. & Jenkins J. (2021, August 18). *As US bishops reject exemptions, Pope Francis dubs COVID-19 vaccine 'act of love'*. Religious News Service. https://religionnews.com/2021/08/18/pope-francis-declares-getting-a-covid-19-vaccine-an-act-of-love/.

[4] Piper, J. (2021, January 4). *Can I take a vaccine made from aborted babies?* Desiring God. https://www.desiringgod.org/interviews/can-i-take-a-vaccine-made-from-aborted-babies.

[5] Pelčić, G., Karačić, S., Mikirtichan, G. L., Kubar, O. I., Leavitt, F. J., Tai, M. C., Morishita, N., Vuletić, S. & Tomašević, L. (2016). Religious exception for vaccination or religious excuses for avoiding vaccination. *Croatian Medical Journal, 57*(5), 516-521. doi: 10.3325/cmj.2016.57.516.

infection. The SARS-CoV-2 virus, by contrast, induces a wide range of clinical responses upon infection. These presentations range from entirely asymptomatic infection to mild upper respiratory disease with unusual symptoms like loss of sense of taste and smell, hypoxia, or a deadly viral pneumonia that is the primary cause of death due to SARS-CoV-2 infection.

14. The mortality danger from COVID-19 infection varies substantially by age and a few chronic disease indicators.[6] For most of the population, including the vast majority of children and young adults, COVID-19 infection poses less of a mortality risk than seasonal influenza. By contrast, for older people—especially those with severe comorbid chronic conditions—COVID-19 infection poses a high risk of mortality, on the order of a 5% infection fatality rate.

15. The best evidence on the infection fatality rate from SARS-CoV-12 infection (that is, the fraction of infected people who die due to the infection) comes from seroprevalence studies. The definition of seroprevalence of COVID-19 is the fraction of people in a population who have specific antibodies against SARS-CoV-2 in their bloodstream. A seroprevalence study measures the fraction of a population who have antibodies that are produced specifically by people infected by the SARS-CoV-2 virus. The presence of specific antibodies in blood provides excellent evidence that an individual was previously infected.

16. Seroprevalence studies provide better evidence on the total number of people who have been infected than do case reports or positive reverse transcriptase-polymerase chain reaction (RT-PCR) test counts. PCR tests are the most common type of test used to check whether a person currently has the virus or viral fragments in their body (typically in the nasopharynx). The PCR test should not be used to count

[6] Public Health England (2020) Disparities in the Risk and Outcomes of COVID-19. August 2020. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf.

the total number of people who have been infected to date in a population. Case reports and PCR test counts both miss infected people who are not identified by the public health authorities or who do not volunteer for RT-PCR testing. That is, they miss people who were infected but recovered from the condition without coming to the attention of public health authorities. Because they ignore unreported infections, fatality rate estimates based on case reports or positive test counts are substantially biased toward reporting a higher fatality rate.

17. According to a meta-analysis[7] by Dr. John Ioannidis of every seroprevalence study conducted to date of publication with a supporting scientific paper (74 estimates from 61 studies and 51 different localities worldwide), the median infection survival rate—the inverse of the infection fatality rate—from COVID-19 infection is 99.77%. For COVID-19 patients under 70, the meta-analysis finds an infection survival rate of 99.95%. A separate meta-analysis[8] by other scientists independent of Dr. Ioannidis' group reaches qualitatively similar conclusions.

18. A study of the seroprevalence of COVID-19 in Geneva, Switzerland (published in *The Lancet*)[9] provides a detailed age breakdown of the infection survival rate in a preprint companion paper:[10] 99.9984% for patients 5 to 9 years old; 99.99968%

[7] John P.A. Ioannidis , *The Infection Fatality Rate of COVID- 19 Inferred from Seroprevalence Data*, Bulletin of the World Health Organization BLT 20.265892.

[8] Andrew T. Levin, et al., *Assessing the Age Specificity of Infection Fatality Rate for COVID- 19: Meta-Analysis & Public Policy Implications*, medRxiv (Aug. 14, 2020), http://bit.ly/3gplolV.

[9] Silvia Stringhini, et al., *Seroprevalence of Anti-SARS-CoV-2 lgG Antibodies in Geneva, Switzerland (SEROCoV-POP): A Population Based Study*, The Lancet (June 11, 2020), https://bit.ly/3187S13.

[10] Francisco Perez-Saez, et al. *Serology- Informed Estimates of SARS-COV-2 Infection Fatality Risk in Geneva, Switzerland*, OSF Preprints (June 15, 2020), http://osf.io/wdbpe/.

for patients 10 to 19 years old; 99.991% for patients 20 to 49 years old; 99.86% for patients 50 to 64 years old; and 94.6% for patients above 65.

19. I estimated the age-specific infection fatality rates from the Santa Clara County seroprevalence study[11] data (for which I am the senior investigator). The infection survival rate is 100% among people between 0 and 19 years (there were no deaths in Santa Clara in that age range up to that date); 99.987% for people between 20 and 39 years; 99.84% for people between 40 and 69 years; and 98.7% for people above 70 years.

20. Those numbers are consistent with what the US CDC has reported. A US CDC report[12] found between 6 and 24 times more SARS-CoV-2 infections than cases reported between March and May 2020. Correspondingly, the CDC's estimate of the infection fatality rate for people ages 0-19 years is 0.003%, meaning infected children have a 99.997% survivability rate. For people ages 20-49 years, it was 0.02%, meaning that young adults have a 99.98% survivability rate. For people ages 50-69 years, it was 0.5%, meaning this age group has a 99.5% survivability rate. Finally, for people ages 70+ years, it was 5.4%, meaning seniors have a 94.6% survivability rate.[13] There is, thus, no substantial qualitative disagreement about the infection fatality rate reported by the CDC and other sources in the scientific literature. This should come as no surprise since they all rely on seroprevalence studies to estimate infection fatality rates.

21. It is helpful to provide some context for how large the mortality risk is posed by COVID infection relative to the risk posed by other infectious diseases. Since

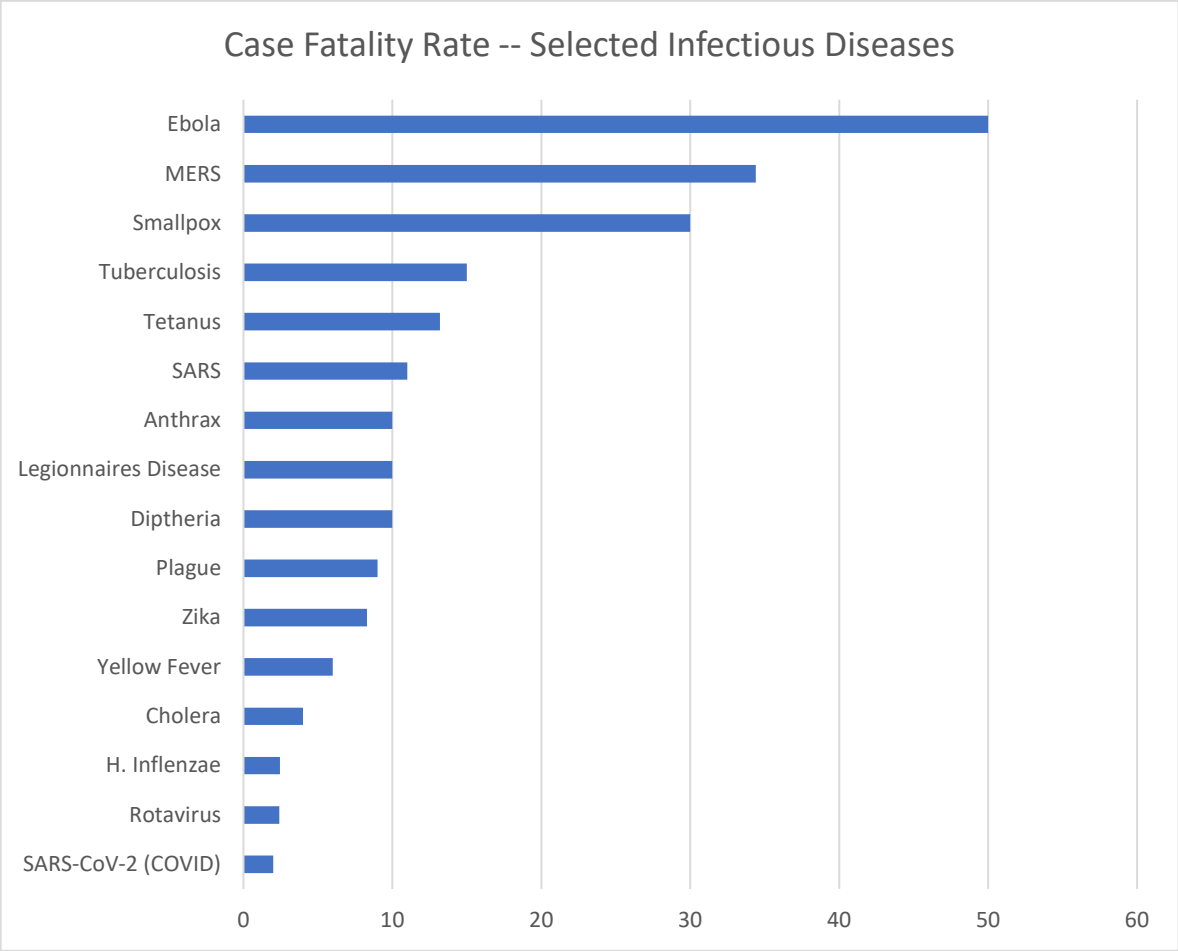
---

[11] Eran Bendavid, et al., *COVID- 19 Antibody Seroprevalence in Santa Clara County, California*, medRxiv (April 30, 2020), https://bit.ly/2EuLIFK.

[12] Fiona P. Havers, et al., *Seroprevalence of Antibodies to SARS-CoV-2 in 10 Sites in the United States, March 23-May 12, 2020*, JAMA Intern Med. (Jul. 21, 2020), https://bit.ly/3goZUgy.

[13] COVID- 19, *COVID-19 Pandemic Planning Scenarios*, CDC (Mar. 19, 2021 update), https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html.

seroprevalence-based mortality estimates are not readily available for every disease, in the figure immediately below, I plot case fatality rates, defined as the number of deaths due to the disease divided by the number of identified or diagnosed cases of that disease. The case fatality rate for SARS-CoV-2 is ~2% (though that number has decreased with the availability of vaccines and effective treatments). By contrast, the case fatality rate for SARS is over five times higher than that, and for MERS, it is 16 times higher than that.



22. Perhaps the most important implication of these estimates is that they identify two distinct populations of people who face a very different risk from COVID infection. One segment—the elderly and others with severe chronic disease—faces a higher risk of mortality if infected (especially if unvaccinated). A second segment—typically non-elderly people—faces a very low risk of mortality if infected and instead

faces much greater harm from lockdowns, school closures, and other non-pharmaceutical interventions than from COVID infection itself. The right strategy, then, is focused protection of the vulnerable population by prioritizing them for vaccination while lifting lockdowns and other restrictions on activities for the rest since they cause harm without corresponding benefit for the non-vulnerable. The Great Barrington Declaration, of which I am a primary co-author, describes an alternate policy of focused protection. This policy would lead to fewer COVID-related deaths and fewer non-COVID-related deaths than universal lockdowns or a strategy that lets the virus rip through the population. My co-authors of this Declaration include Prof. Martin Kulldorff of Harvard University and Prof. Sunetra Gupta of Oxford University. Over 15,000 epidemiologists and public health professionals and 50,000 medical professionals have co-signed the Declaration.[14]

23. The infection fatality rate estimates presented in this section are drawn from data before widespread vaccination in the U.S. and elsewhere. The COVID-19 vaccines approved for use in the U.S. are very effective in substantially reducing the infection fatality rate. According to the US CDC, the mRNA vaccines were 94% effective against COVID-19 hospitalization for patients 65 and older.[15] So, the infection fatality rates that I provide above are overestimated by at least one order of magnitude.

B. Omicron Does Not Present A Grave Danger

24. The Omicron variant now represents substantially all new SARS-COV2 infections in the United States. This fact renders any remaining basis for a vaccine mandate obsolete.

---

[14] Bhattacharya J, Gupta S, Kulldorff M (2020) Great Barrington Declaration. https://gbdeclaration.org.

[15] Tenforde MW, Olson SM, Self WH, et al. Effectiveness of Pfizer-BioNTech and Moderna Vaccines Against COVID-19 Among Hospitalized Adults Aged ≥65 Years — United States, January–March 2021. MMWR Morb Mortal Wkly Rep 2021;70:674–679. DOI: http://dx.doi.org/10.15585/mmwr.mm7018e1.

25. A recent analysis from the South African government's National Institute for Communicable Diseases provides reason for optimism: S-Gene Target Failure (presumptive Omicron) cases are 80% less likely to be hospitalized.[16]

Table 1. Multivariable logistic regression analysis evaluating the association between S gene target failure (SGTF) infection, compared to non-SGTF infection, and hospitalisation, South Africa, 1 October – 30 November 2021[a] (N=11,255)

		Hospital admission[b] n/N (%)	Adjusted odds ratio (95% CI)	P-value
SARS-CoV-2 variant		N=11,495		
	SGTF	256/10,547 (2)	0.2 (0.1-0.3)	**<0.001**
	Non-SGTF	121/948 (13)	Ref	-

26. Recent data from Scotland also strongly suggests the same optimistic conclusion: "early national data suggest that Omicron is associated with a two-thirds reduction in the risk of COVID-19 hospitalisation when compared to Delta."[17]

Table 3: Observed vs expected analysis for risk of hospital admission by S gene status

Omicron — Risk of hosp 68% lower controlling for vax, reinfections)

	S Gene Status	N	Person Years	Hospital Admissions	Expected Admissions	Observed/ Expected	LCL	UCL
All cases linking into the EAVE II dataset	S Positive	119100	4375.1	856	856.9	1	0.93	1.07
	S Negative	22205	413.4	15	46.6	0.32	0.19	0.52
	Weak S Positive	2199	57.3	7	6.9	1.02	0.45	2
	Other	990	33.8	*	*	0.79	0.26	1.88
	Unknown	1647	58.2	14	14.8	0.94	0.54	1.54

27. Denmark's data shows Omicron cases were three times less likely to end up with hospital admissions than the previous dominant variant, Delta.[18]

[16] Nicole Wolter, et al., *Early assessment of the clinical severity of the SARS-CoV-2 Omicron variant in South Africa*, medRxiv Preprint (Dec. 21, 2021), https://www.medrxiv.org/content/10.1101/2021.12.21.21268116v1.full.pdf.

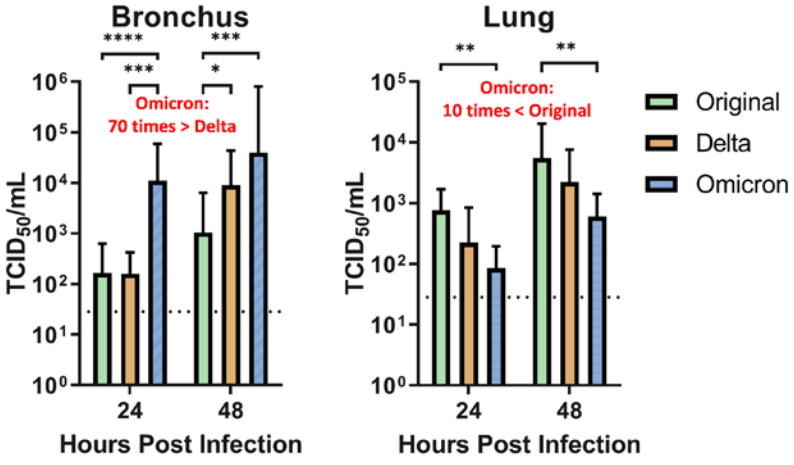
[17] Aziz Sheikh, et al., *Severity of Omicron variant of concern and vaccine effectiveness against symptomatic disease: national cohort with nested test negative design study in Scotland*, Univ. of Edinburgh Preprint (Dec. 22, 2021), https://www.research.ed.ac.uk/en/publications/severity-of-omicron-variant-of-concern-and-vaccine-effectiveness-

[18] Oliver Barnes, et al., *Omicron cases less likely to require hospital treatment, studies show*, ARS Technica (Dec. 22, 2021), https://arstechnica.com/science/2021/12/omicron-cases-less-likely-to-require-hospital-treatment-studies-show/

28. NIAID Director Dr. Anthony Fauci noted the global evidence of reduced severity at a December 29, 2021 White House briefing and indicated unpublished U.S. data show the same trend:[19]

> In the United States, we are getting accumulation of data. The spike in cases is out of proportion to the increase in hospitalization. So, if one looks at 14-day averages, the data, as of last night, indicate a plus 126 percent increase in cases [but only] an 11 percent increase in hospitalizations. Now, we must remember that hospitalizations and deaths are lagging indicators. However, the pattern and disparity between cases and hospitalization strongly suggest that there will be a lower hospitalization-to-case ratio when the situation becomes more clear.

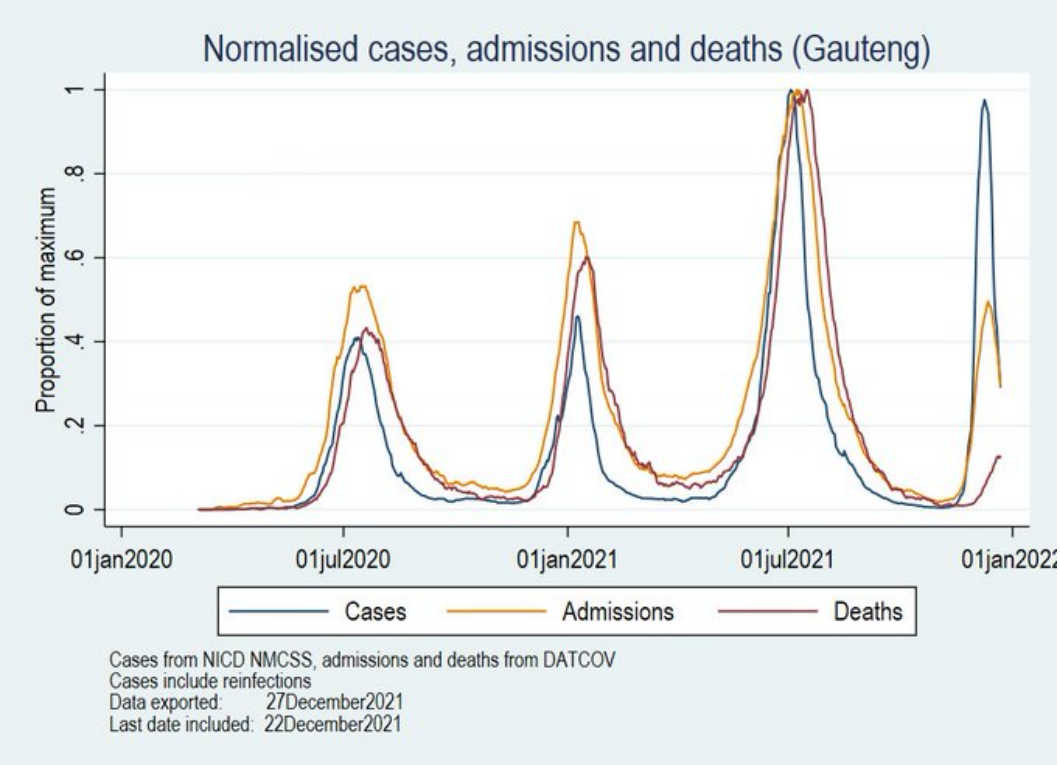
29. Hong Kong University researchers pointed to the likely reason, or mechanism, for Omicron's increased infectiousness but reduced virulence: it replicates far more efficiently in the bronchus and upper respiratory tract than Delta, but less efficiently in the lungs:[20]



[19] Press Briefing by White House COVID-19 Response Team and Public Health Officials (Dec. 29, 2021), https://www.whitehouse.gov/briefing-room/press-briefings/2021/12/29/press-briefing-by-white-house-covid-19-response-team-and-public-health-officials-76/

[20] *HKUMed finds Omicron SARS-CoV-2 can infect faster and better than Delta in human bronchus but with less severe infection in lung*, HKU Med (Dec. 15, 2021), http://www.med.hku.hk/en/news/press/20211215-omicron-sars-cov-2-infection.

30. But the most compelling evidence of Omicron ending any grave danger from SARS-CoV-2 comes from South Africa, particularly the Gauteng province (population 18 million) where the first recognized Omicron wave occurred. According to Dr. Harry Moultrie of the South African government's National Institute for Communicable Diseases, Gauteng cases peaked on December 9, 2021 at 97 percent of the Delta wave. Even more reassuringly, deaths were only 13 percent of the Delta peak:[21]



31. A recently published working paper by a South African team of scientists who were conducting a sero-epidemiological survey in the Gautang Province confirms the conclusion that Omicron infection is substantially less likely to require hospitalization or induce mortality than infection with other strains. While cases may rise sharply as a wave of Omicron sweeps through a region, hospitalizations and deaths

[21] Harry Moultri, @hivepi, Twitter (Dec. 27, 2021), https://twitter.com/hivepi/status/1475383429403484163

do not follow. The authors conclude: "We demonstrate widespread underlying SARS-CoV-2 seropositivity in Gauteng Province prior to the current Omicron-dominant wave, with epidemiological data showing an uncoupling of hospitalization and death rates from infection rate during Omicron circulation." [22]

32. Another study by a South African team (released as a pre-print at *Lancet*) compared the experience of hospitalized patients in South Africa during the delta wave (summer-fall 2021) versus the ongoing omicron wave in December 2021. The authors concluded that "[a]dmitted patients in the omicron-dominated fourth wave were 73% less likely to have severe disease than patients admitted during the delta-dominated third wave."[23]

33. Based on their Omicron experience, some South African scientists have effectively declared the pandemic over, stating: "All indicators suggest the country may have passed the peak of the fourth wave at a national level… While the Omicron variant is highly transmissible, there has been lower rates of hospitalisation than in previous waves. This means that the country has a spare capacity for admission of patients even for routine health services."[24] In other words, the first country to

---

[22] Shabir A. Madhi, Gaurav Kwatra, Jonathan E. Myers, Waasila Jassat, Nisha Dhar, Christian K. Mukendi, Amit J. Nana, Lucille Blumberg, Richard Welch, Nicoletta Ngorima-Mabhena, Portia C. Mutevedzi (2021) *South African Population Immunity and Severe Covid-19 with Omicron Variant*. medRxiv 2021.12.20.21268096; doi: https://doi.org/10.1101/2021.12.20.21268096

[23] Waasila Jassat, Salim Abdool Karim, Caroline Mudara, Richard Welch, Lovelyn Ozougwu, Michelle Groome, Nevashan Govender, Anne von Gottberg, Nicole Wolter, Lucille Blumberg, and Cheryl Cohen, *Clinical Severity of COVID-19 Patients Admitted to Hospitals in Gauteng, South Africa During the Omicron-Dominant Fourth Wave* (Dec. 29, 2021). Available at SSRN: https://ssrn.com/abstract=3996320 or http://dx.doi.org/10.2139/ssrn.3996320.

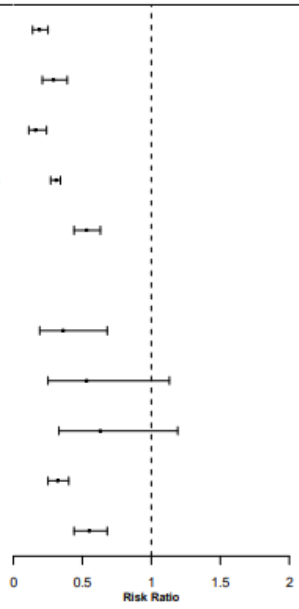
[24] Media Release: Cabinet Approves Changes To Covid-19 Regulations, Department: Health, Republic of South Africa (Dec. 30, 2021) https://sacoronavirus.co.za/2021/12/30/media-release-cabinet-approves-changes-to-covid-19-regulations/

experience an Omicron wave unambiguously concluded that the dominant variant presents no grave danger.

34. Early U.S. data was available in a preprint from a team at Case Western Reserve University, which used propensity matched-cohort analysis to find markedly reduced disease severity during the period from December 14 to December 24, 2021. On an age and risk-matched basis, they found ER visits were 70% lower than earlier cohorts, hospitalizations were 56% lower, ICU admissions were 67% lower, and ventilation were 84% lower.

Age−stratified comparison of 3−day acute outcomes in matched patients with SARS−CoV−2 infections Emergent Omicron cohort (12/15−12/24) vs. Delta cohort (9/1−11/15)

Age group	Outcome	Emergent Omicron cohort	Delta cohort	RR (95% CI)
0−4 (n=1,361)	ED visit	3.89% (53)	21.01% (286)	0.19 (0.14−0.25)
5−11 (n=1,307)	ED visit	3.60% (47)	12.62% (165)	0.29 (0.21−0.39)
12−17 (n=1,244)	ED visit	2.09% (26)	13.10% (163)	0.16 (0.11−0.24)
18−64 (n=7,761)	ED visit	4.55% (353)	14.91% (1,157)	0.32 (0.27−0.34)
>=65 (n=2,173)	ED visit	7.36% (160)	13.94% (303)	0.53 (0.44−0.63)
0−4 (n=1,361)	Hospitalization	0.96% (13)	2.65% (36)	0.36 (0.19−0.68)
5−11 (n=1,307)	Hospitalization	0.77% (10)	1.45% (19)	0.53 (0.25−1.13)
12−17 (n=1,244)	Hospitalization	1.21% (15)	1.93% (24)	0.63 (0.33−1.19)
18−64 (n=7,761)	Hospitalization	1.20% (93)	3.78% (293)	0.32 (0.25−0.40)
>=65 (n=2,173)	Hospitalization	5.29% (115)	9.67% (210)	0.55 (0.44−0.68)



35. As good as they appear, these reductions substantially *understate* the reduction of risk represented by Omicron, because this cohort included a non-negligible number of Delta infections. According to the authors: "The estimated prevalence of the Omicron variant during 12/15-12/24 was only 22.5-58.6%, suggesting that the outcomes for the Omicron variant may be found to be even milder than what we report here as the prevalence of the Omicron variant increases."

36. This substantial reduction of severe disease risk must be applied to a contextualized understanding of the already low-risk to everybody except the elderly.

37. Case fatality rates might be an even better way to conceptualize the risk than other common measures. As I noted above, the case fatality rate for SARS-CoV-2 is ~2% (though that number has decreased with the availability of vaccines and effective treatments). With Omicron's observed decline in severity, expected deaths fall into a range comparable to—or even lower than—the CDC's modeled 8,000 influenza deaths in 2017-18.[25] Quite simply, the Omicron variant is now a *normal respiratory virus,* not an unusual, extraordinary, or grave danger. There is no evidence specific to Omicron to support a grave danger finding.

III. Natural Immunity Provides Protection

A. Natural Immunity is Generally Similar to Vaccine Immunity

38. Both vaccine-mediated immunity and natural immunity after recovery from COVID infection provide extensive protection against severe disease from subsequent SARS-CoV-2 infection. There is no reason to presume that vaccine immunity provides a higher level of protection than natural immunity. Since vaccines arrived one year after the disease, there is stronger evidence for long lasting immunity from natural infection than from the vaccines.

39. Both types of immunity are based on the same basic immunological mechanism—stimulating the immune system to generate an antibody response. In clinical trials, the efficacy of those vaccines was initially tested by comparing the antibody levels in the blood of vaccinated individuals to those who had natural immunity. Later Phase III studies of the vaccines established 94%+ clinical efficacy of

[25] Influenza (Flu), *Estimated Flu-Related Illnesses, Medical Visits, Hospitalizations, and Deaths in the United States — 2017–2018 Flu Season*, CDC (Sep. 30, 2021 update), https://www.cdc.gov/flu/about/burden/2017-2018.htm

the mRNA vaccines against severe COVID illness.[26, 27] A Phase III trial showed 85% efficacy for the Johnson & Johnson adenovirus-based vaccine against severe disease.[28]

40. Immunologists have identified many immunological mechanisms of immune protection after recovery from infections. Studies have demonstrated prolonged immunity with respect to memory T and B cells,[29] bone marrow plasma

[26] Baden, L. R., El Sahly, H. M., Essink, B., Kotloff, K., Frey, S., Novak, R., Diemert, D., Spector, S. A., Rouphael, N., Creech, C. B., McGettigan, J., Khetan, S., Segall, N., Solis, J., Brosz, A., Fierro, C., Schwartz, H., Neuzil, K., Corey, L., Zaks, T. for the COVE Study Group (2021). Efficacy and Safety of the mRNA-1273 SARS-CoV-2 Vaccine. *The New England Journal of Medicine*, *384*(5), 403-416. doi: 10.1056/NEJMoa2035389.

[27] Polack, F. P., Thomas, S. J., Kitchin, N., Absalon, J., Gurtman, A., Lockhart, S., Perez, J. L., Pérez Marc, G., Moreira, E. D., Zerbini, C., Bailey, R., Swanson, K. A., Roychoudhury, S., Koury, K., Li, P., Kalina, W. V., Cooper, D., Frenck, R. W. Jr., Hammitt, L. L., Gruber, W. C. (2020). Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. *The New England Journal of Medicine*, *387*(27), 2603-2615. doi: 10.1056/NEJMoa2034577.

[28] Sadoff, J., Gray, G., Vandebosch, A., Cárdenas, V., Shukarev, G., Grinsztejn, B., Goepfert, P. A., Truyers, C., Fennema, H., Spiessens, B., Offergeld, K., Scheper, G., Taylor, K. L., Robb, M. L., Treanor, J., Barouch, D. H., Stoddard, J., Ryser, M. F., Marovich, M. A., Douoguih, M. for the ENSEMBLE Study Group. (2021). Safety and Efficacy of Single-Dose Ad26.COV2.S Vaccine against Covid-19. *The New England Journal of Medicine*, *384*(23), 2187-2201. doi: 10.1056/NEJMoa2101544.

[29] Dan, J. M., Mateus, J., Kato, Y., Hastie, K. M., Yu, E. D., Faliti, C. E., Grifoni, A., Ramirez, S. I., Haupt, S., Frazier, A., Nakao, C., Rayaprolu, V., Rawlings, S. A., Peters, B., Krammer, F., Simon, V., Saphire, E. O., Smith, D. M., Weiskopf, D., Crotty, S. (2021). Immunological memory to SARS-CoV-2 assessed for up to 8 months after infection. *Science*, *371*, 1-13. doi: 10.1126/science.abf4063 (finding that memory T and B cells were present up to eight months after infection, noting that "durable immunity against secondary COVID-19 disease is a possibility in most individuals").

cells,[30] spike-specific neutralizing antibodies,[31] and IgG+ memory B cells[32] following naturally acquired immunity.

41. Multiple extensive, peer-reviewed studies comparing natural and vaccine immunity have now been published. These studies overwhelmingly conclude that natural immunity provides equivalent or greater protection against severe infection than immunity generated by mRNA vaccines (Pfizer and Moderna).

---

[30] Turner, J. S., Kim, W., Kalaidina, E., Goss, C. W., Rauseo, A. M., Schmitz, A. J., Hansen, L., Haile, A., Klebert, M. K., Pusic, I., O'Halloran, J. A., Presti, R. M. & Ellebedy, A. H. (2021). SARS-CoV-2 infection induces long-lived bone marrow plasma cells in humans. *Nature*, *595*(7867), 421-425. doi: 10.1038/s41586-021-03647-4 (study analyzing bone marrow plasma cells of recovered COVID-19 patients reported durable evidence of antibodies for at least 11 months after infection, describing "robust antigen-specific, long-lived humoral immune response in humans"); Callaway, E. (2021, May 26). Had COVID? You'll probably make antibodies for a lifetime. *Nature*. https://www.nature.com/articles/d41586-021-01442-9 ("The study provides evidence that immunity triggered by SARS-CoV-2 infection will be extraordinarily long-lasting" and "people who recover from mild COVID-19 have bone-marrow cells that can churn out antibodies for decades").

[31] Ripperger, T. J., Uhrlaub, J. E., Watanabe, M., Wong, R., Castaneda, Y., Pizzato, H. A., Thompson, M. R., Bradshaw, C., Weinkauf, C. C., Bime, C., Erickson, H. L., Knox, K., Bixby, B., Parthasarathy, S., Chaudhary, S., Natt, B., Cristan, E., El Aini, T., Rischard, F., Bhattacharya, D. (2020). Orthogonal SARS-CoV-2 serological assays enable surveillance of low-prevalence communities and reveal durable humor immunity. *Immunity*, *53*(5), 925-933. doi: 10.1016/j.immuni.2020.10.004 (study finding that spike and neutralizing antibodies remained detectable 5-7 months after recovering from infection).

[32] Cohen, K. W., Linderman, S. L., Moodie, Z., Czartoski, J., Lai, L., Mantus, G., Norwood, C., Nyhoff, L. E., Edara, V. V., Floyd, K., De Rosa, S. C., Ahmed, H., Whaley, R., Patel, S. N., Prigmore, B., Lemos, M. P., Davis, C. W., Furth, S., O'Keefe, J., McElrath, M. J. (2021). Longitudinal analysis shows durable and broad immune memory after SARS-CoV-2 infection with persisting antibody responses and memory B and T cells. *medRxiv*, Preprint. (study of 254 recovered COVID patients over 8 months "found a predominant broad-based immune memory response" and "sustained IgG+ memory B cell response, which bodes well for rapid antibody response upon virus re-exposure." "Taken together, these results suggest that broad and effective immunity may persist long-term in recovered COVID-19 patients").

42. Specifically, studies confirm the efficacy of natural immunity against reinfection of COVID-19[33] and show that the vast majority of reinfections are less

[33] Shrestha, N. K., Burke, P. C., Nowacki, A. S., Terpeluk, P. & Gordon, S. M. (2021). Necessity of COVID-19 vaccination in previously infected individuals. *medRxiv*, Preprint. doi: 10.1101/2021.06.01.21258176 ("not one of the 1359 previously infected subjects who remained unvaccinated had a SARS-CoV-2 infection over the duration of the study" and concluded that those with natural immunity are "unlikely to benefit from COVID-19 vaccination"); Perez, G., Banon, T., Gazit, S., Moshe, S. B., Wortsman, J., Grupel, D., Peretz, A., Tov, A. B., Chodick, G., Mizrahi-Reuveni, M., & Patalon, T. (2021). A 1 to 1000 SARS-CoV-2 reinfection proportion in members of a large healthcare provider in Israel: A preliminary report. *medRxiv*, Preprint. doi: 10.1101/2021.03.06.21253051 (Israeli study finding that approximately 1/1000 of participants were reinfected); Bertollini, R., Chemaitelly, H., Yassine, H. M., Al-Thani, M. H., Al-Khal, A., & Abu-Raddad, L. J. (2021). Associations of vaccination and of prior infection with positive PCR test results for SARS-CoV-2 in airline passengers arriving in Qatar. *JAMA*, *326*(2), 185-188. doi: 10.1001/jama.2021.9970 (study of international airline passengers arriving in Qatar found no statistically significant difference in risk of reinfection between those who had been vaccinated and those who had previously been infected); Pilz, S., Chakeri, A., Ioannidis, J. P. A., Richter, L., Theiler-Schwetz, V., Trummer, C., Krause, R., Allerberger, F. (2021). SARS-CoV-2 re-infection risk in Austria. *European Journal of Clinical Investigation*, *51*(4), 1-7. doi: 10.1111/eci.13520 (previous SARS-CoV-2 infection reduced the odds of re-infection by 91% compared to first infection in the remaining general population); Breathnach, A. S., Duncan, C. J. A., El Bouzidi, K., Hanrath, A. T., Payne, B. A. I., Randell, P. A., Habibi, M. S., Riley, P. A., Planche, T. D., Busby, J. S., Sudhanva, M., Pallett, S. J. C. & Kelleher, W. P. (2021). Prior COVID-19 protects against reinfection, even in the absence of detectable antibodies. *The Journal of Infection*, *83*(2), 237-279. doi: 10.1016/j.jinf.2021.05.024 (0.86% of previously infected population in London became reinfected); Tarke, A., Sidney, J., Methot, N., Yu, E. D., Zhang, Y., Dan, J. M., Goodwin, B., Rubiro, P., Sutherland, A., Wang, E., Frazier, A., Ramirez, S. I., Rawlings, S. A., Smith, D. M., da Silva Antunes, R., Peters, B., Scheuermann, R. H., Weiskopf, D., Crotty, S., Grifoni, A. & Sette, A. (2021). Impact of SARS-CoV-2 variants on the total $CD4^+$ and $CD8^+$ T cell reactivity in infected or vaccinated individuals, *Cell Reports Medicine 2*(7), 100355 (an examination of the comparative efficacy of T cell responses to existing variants from patients with natural immunity compared to those who received an mRNA vaccine found that the T cell responses of both recovered COVID patients and vaccines were effective at neutralizing mutations found in SARS-CoV-2 variants).

severe than first-time infections.[34] For example, an Israeli study of approximately 6.4 million individuals demonstrated that natural immunity provided equivalent if not better protection than vaccine immunity in preventing COVID-19 infection, morbidity, and mortality.[35] Of the 187,549 unvaccinated persons with natural immunity in the study, only 894 (0.48%) were reinfected; 38 (0.02%) were hospitalized, 16 (0.008%) were hospitalized with severe disease, and only one died, an individual over 80 years of age. Another study, analyzing data from Italy found that only 0.31% of

---

[34] Abu-Raddad, L. J., Chemaitelly, H., Coyle, P., Malek, J. A., Ahmed, A. A., Mohamoud, Y. A., Younuskunju, S., Ayoub, H. H., Kanaani, Z. A., Kuwari, E. A., Butt, A. A., Jeremijenko, A., Kaleeckal, A. H., Latif, A. N., Shaik, R. M., Rahim, H. F. A., Nasrallah, G. K., Yassine, H. M., Al Kuwari, M. G., Al Romaihi, H. E., Al-Thani, M. H., Al Khal, A., Bertollini, R. (2021). SARS-CoV-2 antibody-positivity protects against reinfection for at least seven months with 95% efficacy. *EClinicalMedicine*, *35*, 1-12. doi: 10.1016/j.eclinm.2021.100861 (finding that of 129 reinfections from a cohort of 43,044, only one reinfection was severe, two were moderate, and none were critical or fatal); Hall, V. J., Foulkes, S., Charlett, A., Atti, A., Monk, E. J. M., Simmons, R., Wellington, E., Cole, M. J., Saei, A., Oguti, B., Munro, K., Wallace, S., Kirwan, P. D., Shroti, M., Vusirikala, A., Rokadiya, S., Kall, M., Zambon, M., Ramsay, M., Hopkins, S. (2021). SARS-CoV-2 infection rates of antibody-positive compared with antibody-negative health-care workers in England: a large, multicentre, prospective cohort study. *The Lancet*, *397*(10283), 1459-1469. doi: 10.1016/S0140-6736(21)00675-9 (finding "a 93% lower risk of COVID-19 symptomatic infection… [which] show[s] equal or higher protection from natural infection, both for symptomatic and asymptomatic infection"); Hanrath, A. T., Payne, B., A., I., & Duncan, C. J. A. (2021). Prior SARS-CoV-2 infection is associated with protection against symptomatic reinfection. *The Journal of Infection*, *82*(4), e29-e30. doi: 10.1016/j.jinf.2020.12.023 (examined reinfection rates in a cohort of healthcare workers and found "no symptomatic reinfections" among those examined and that protection lasted for at least 6 months).

[35] Goldberg, Y., Mandel, M., Woodbridge, Y., Fluss, R., Novikov, I., Yaari, R., Ziv, A., Freedman, L., & Huppert, A. (2021). Protection of previous SARS-CoV-2 infection is similar to that of BNT162b2. vaccine protection: A three-month nationwide experience from Israel. *medRxiv*, Preprint. doi: 10.1101/2021.04.20.21255670.

COVID-recovered patients experienced a reinfection within a year after the initial infection.[36]

43. Variants do not escape the immunity provided by prior infection with the pre-variant virus or vaccination against severe disease upon infection (though protection against infection wanes over time).[37,38,39] In a study of a large population of patients in Israel, *vaccinated* people who had not been previously infected had 13 times higher odds of experiencing a breakthrough infection with the Delta variant than patients who had recovered from COVID but were never vaccinated.[40] They had 27 times higher odds of experiencing subsequent symptomatic COVID disease and seven

---

[36] Vitale, J., Mumoli, N., Clerici, P., de Paschale, M., Evangelista, I., Cei, M. & Mazzone, A. (2021). Assessment of SARS-CoV-2 reinfection 1 year after primary infection in a population in Lombardy, Italy. *JAMA Internal Medicine*, *181*(10), 1407-1409. doi: 10.1001/jamainternmed.2021.2959.

[37] Tarke, A., Sidney, J., Methot, N., Yu, E. D., Zhang, Y., Dan, J. M., Goodwin, B., Rubiro, P., Sutherland, A., Wang, E., Frazier, A., Ramirez, S. I., Rawlings, S. A., Smith, D. M., da Silva Antunes, R., Peters, B., Scheuermann, R. H., Weiskopf, D., Crotty, S., Grifoni, A. & Sette, A. (2021). Impact of SARS-CoV-2 variants on the total $CD4^+$ and $CD8^+$ T cell reactivity in infected or vaccinated individuals, *Cell Reports Medicine 2,* 100355.

[38] Wu, K., Werner, A. P., Moliva, J. I., Koch, M., Choi, A., Stewart-Jones, G. B. E., Bennett, H., Boyoglu-Barnum, S., Shi, W., Graham, B. S., Carfi, A., Corbett, K. S., Seder, R. A. & Edwards, D. K. (2021). mRNA-1273 vaccine induces neutralizing antibodies against spike mutants from global SARS-CoV-2 variants. *bioRxiv*, Preprint. doi: 10.1101/2021.01.25.427948.

[39] Redd, A. D., Nardin, A., Kared, H., Bloch, E. M., Pekosz, A., Laeyendecker, O., Abel, B., Fehlings, M., Quinn, T.C. & Tobian, A. A. (2021). $CD8^+$ T-cell responses in COVID-19 convalescent individuals target conserved epitopes from multiple prominent SARS-CoV-2 circulating variants. *Open Forum Infectious Diseases 8*(7), ofab143.

[40] Gazit, S., Shlezinger, R., Perez, G., Lotan, R., Peretz, A., Ben-Tov, A., Cohen, D., Muhsen, K., Chodick, G. & Patalon, T. (2021). Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: Reinfections versus breakthrough infections. *medRxiv*, Preprint. doi: 10.1101/2021.08.24.21262415.

times higher odds of hospitalization. The design of this Israeli study was particularly strong—it tracked large cohorts of people over time from the time of vaccination or initial infection, and thus carefully distinguished the effect of time since initial exposure or vaccination in estimating its effect estimates. This is important because both vaccine-mediated and infection-mediated protection against subsequent infection diminish with time.

44. In summary, the overwhelming conclusion of the pertinent scientific literature is that natural immunity is at least as effective against subsequent reinfection as even the most effective vaccines and at least as effective in providing protection versus severe disease on infection.

45. Furthermore, based on such evidence, many scientists have concluded that natural protection against severe disease after COVID recovery is likely to be long-lasting. A survey article published on June 30, 2021, in the *British Medical Journal* concluded, "[t]here is reason to think that immunity could last for several months *or a couple of years*, at least, given what we know about other viruses and what we have seen so far in terms of antibodies in patients with COVID-19 and in people who have been vaccinated."[41]

46. These findings of highly durable natural immunity should not be surprising, as they hold for SARS-CoV-1 (the virus that causes SARS) and other respiratory viruses. According to a paper published in *Nature* in August 2020, 23 patients who had recovered from SARS-CoV-1 still possess CD4 and CD8 T cells 17 years after infection during the 2003 epidemic.[42] A *Nature* paper from 2008 found that

[41] Baraniuk, C. (2021). How long does covid-19 immunity last? *The British Medical Journal*, *373*, 1-3. doi: 10.1136/bmj.n1605 (emphasis added).

[42] Le Bert, N., Tan, A. T., Kunasegaran, K., Tham, C. Y. L., Hafezi, M., Chia, A., Chng, M. H. Y., Lin, M., Tan, N., Linster, M., Chia, W. N., Chen, M. I. C., Wang, L. F., Ooi, E. E., Kalimuddin, S., Tambyah, P. A., Low, J. G. H., Tan, Y. J. & Bertoletti, A. (2020). SARS-CoV-2-specific T cell immunity in cases of COVID-19 and SARS,

32 people born in 1915 or earlier still retained some level of immunity against the 1918 flu strain—some 90 years later.[43]

47. In contrast to the concrete findings regarding the robust durability of natural immunity, it is yet unclear in the scientific literature how long-lasting vaccine-induced immunity will be. Notably, the researchers argue that they can best surmise the predicted durability of vaccine immunity by looking at the expected durability of natural immunity.[44]

48. A study from Qatar by Chemaitelly and colleagues, which tracked 927,321 individuals for six months after vaccination concluded that the Pfizer vaccine's "induced protection against infection appears to wane rapidly after its peak right after the second dose, but it persists at a robust level against hospitalization and death for at least six months following the second dose."[45]

49. The key figures from the Qatari study are reproduced immediately below. Panel A shows that vaccine mediated protection against infection peaks at 77.5% one

---

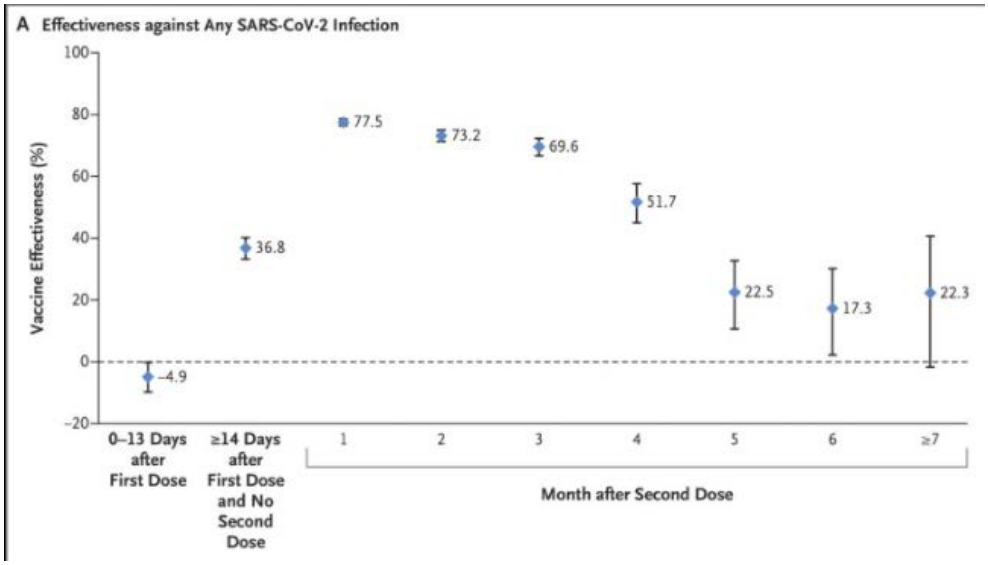
and uninfected control. *Nature*, *584*, 457-462. doi: 10.1038/s41586-020-2550-z

[43] Yu, X., Tsibane, T., McGraw, P. A., House, F. S., Keefer, C. J., Hicar, M. D., Tumpey, T. M., Pappas, C., Perrone, L. A., Martinez, O., Stevens, J., Wilson, I. A., Aguilar, P. V., Altschuler, E. L., Basler, C. F., & Crowe Jr., J. E. (2008). Neutralizing antibodies derived from the B cells of 1918 influenza pandemic survivors. *Nature*, *455*, 532-536. doi: 10.1038/nature07231

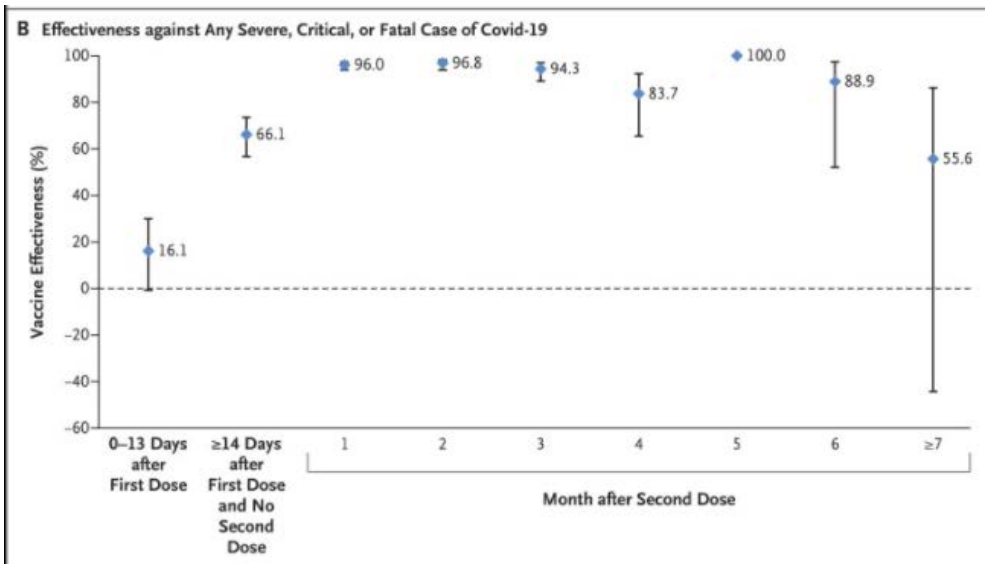
[44] Ledford, H. (2021). Six months of COVID vaccines: What 1.7 billion doses have taught scientists. *Nature*, *594*(7862), 164-167. doi: 10.1038/d41586-021-01505-x (study notes that "Six months is not much time to collect data on how durable vaccine responses will be. . . . In the meantime some researchers are looking to natural immunity as a guide.").

[45] Chemaitelly H, Tang P, Hasan MR, AlMukdad S, Yassine HM, Benslimane FM, Al Khatib HA, Coyle P, Ayoub HH, Al Kanaani Z, Al Kuwari E, Jeremijenko A, Kaleeckal AH, Latif AN, Shaik RM, Abdul Rahim HF, Nasrallah GK, Al Kuwari MG, Al Romaihi HE, Butt AA, Al-Thani MH, Al Khal A, Bertollini R, Abu-Raddad LJ. Waning of BNT162b2 Vaccine Protection against SARS-CoV-2 Infection in Qatar. N Engl J Med. 2021 Oct 6:NEJMoa2114114. doi: 10.1056/NEJMoa2114114. Epub ahead of print. PMID: 34614327; PMCID: PMC8522799.

month after the second dose, and then declines to 22.5% after the second dose. According to this result, vaccines effectively protect against infection (and therefore disease spread) for a short period of time after the second dose of the mRNA vaccines.



50. On the other hand, Panel B shows that protection versus severe disease is long lasting after vaccination—even though the person will no longer be fully protected against infection and, presumably, disease spread. At six months after the second dose, the vaccine remains 88.9% efficacious versus severe disease. While it appears to dip at seven months to 55.6% efficacy, the confidence interval is so wide that it is consistent with no decrease whatsoever even after seven months.



51. The Qatari study is no outlier. A large study in California tracked the infection rates for nearly 5 million patients vaccinated with two doses of the Pfizer mRNA vaccine. The study tracked both SARS-CoV-2 infections as well as COVID-19 related hospitalizations. The figure immediately below plots the trend in vaccine efficacy over time for different age groups in the population cohort. **Panel A** on the right plots effectiveness versus SARS-CoV-2 *infections*.[46] Though the drop in effectiveness is not as steep as in the Qatari study, there is nevertheless a sharp drop. While in the first month, vaccine effectiveness is near 90% for all age-groups, by month 5, it drops to nearly 50% for all the groups. By contrast, **Panel B** plots vaccine efficacy versus *hospitalizations*. It remains high with no decline over time—near 90% throughout the period. The vaccine provides durable private protection versus severe disease, but declining protection versus infection (and hence transmission).

///

///

///

///

///

///

///

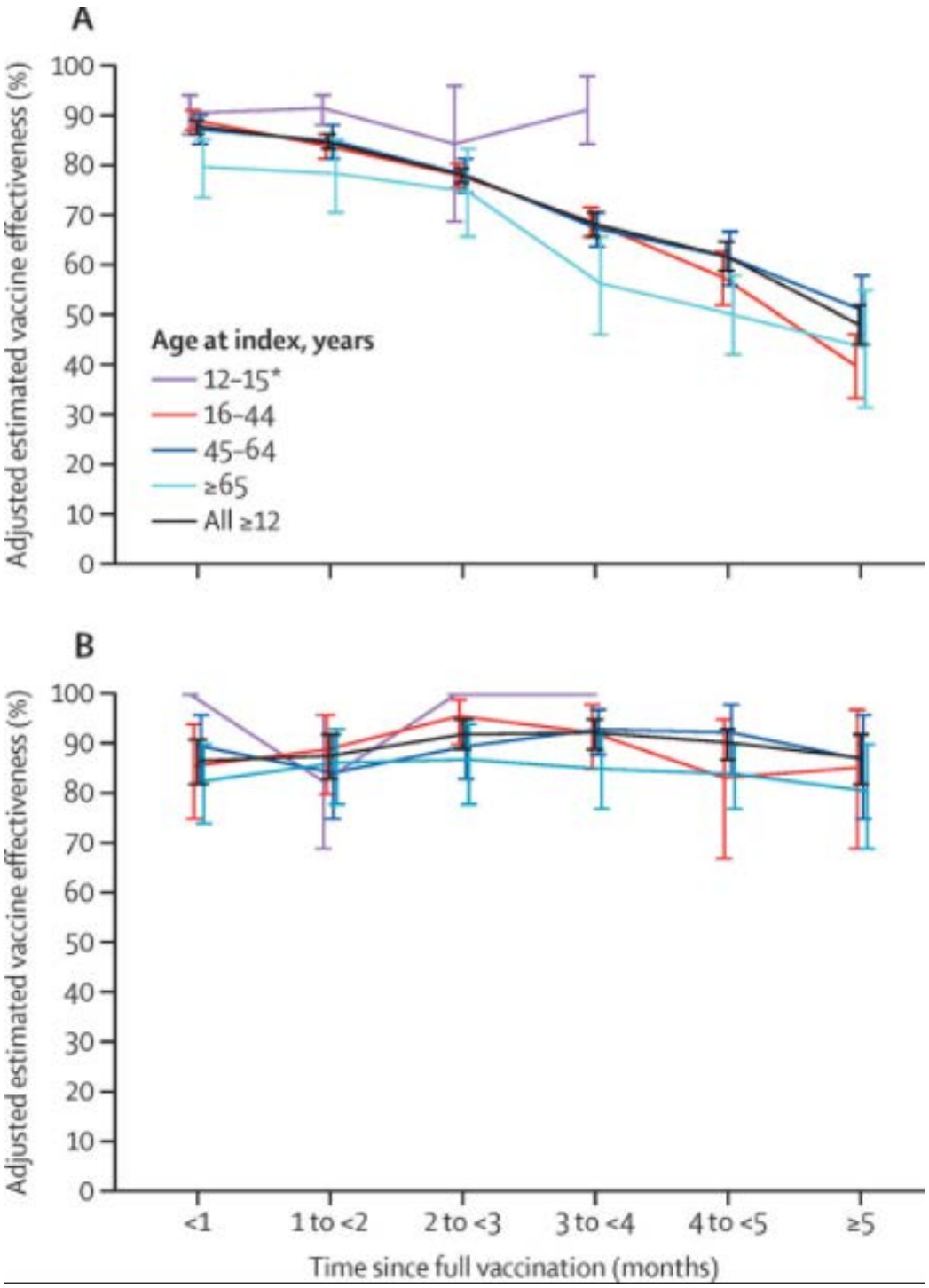
///

///

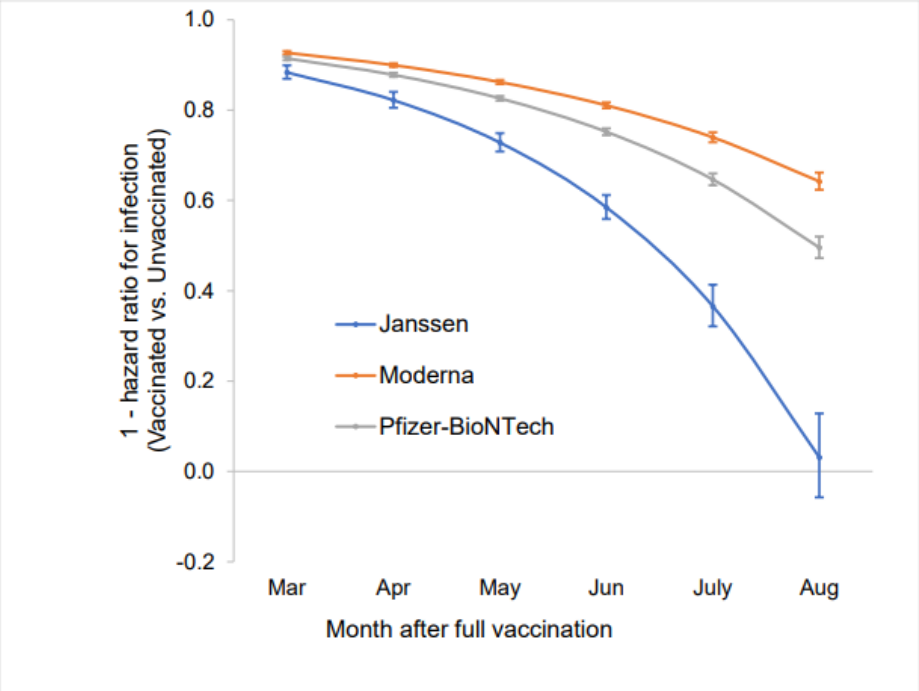
///

///

[46] Tartof SY, Slezak JM, Fischer H, Hong V, Ackerson BK, Ranasinghe ON, Frankland TB, Ogun OA, Zamparo JM, Gray S, Valluri SR, Pan K, Angulo FJ, Jodar L, McLaughlin JM. Effectiveness of mRNA BNT162b2 COVID-19 vaccine up to 6 months in a large integrated health system in the USA: a retrospective cohort study. *Lancet*. 2021 Oct 16;398(10309):1407-1416. doi: 10.1016/S0140-6736(21)02183-8. Epub 2021 Oct 4. PMID: 34619098; PMCID: PMC8489881.


A
Adjusted estimated vaccine effectiveness (%)
100
90
80
70
60
50
40
30
20
10
0
Age at index, years
12–15*
16–44
45–64
≥65
All ≥12
B
Adjusted estimated vaccine effectiveness (%)
100
90
80
70
60
50
40
30
20
10
0
<1
1 to <2
2 to <3
3 to <4
4 to <5
≥5
Time since full vaccination (months)

52. Another recent study tracked 620,000 vaccinated US veterans to measure breakthrough infections for the three vaccines in common use in the US.[47] Like the other studies, the authors of the study found a sharp decline in vaccine effectiveness versus infection. Five months after vaccination, the effectiveness of the J&J vaccine dropped from ~90% to less than 10%; the Pfizer vaccine dropped from ~90% to ~50%; and the Moderna dropped from ~90% to ~65%. The figure on this page tracks the decline in effectiveness of the vaccines against infection over time documented in this study. This study corroborates yet another study that documented declining vaccine efficacy in the first three months after vaccination against disease transmission in the era of the Delta variant.[48]



[47] Cohn BA, Cirillo PM, Murphy CC, et al. Breakthrough SARS-CoV-2 Infections in 620,000 U.S. Veterans, February 1, 2021 to August 13, 2021. medRxiv. October 14, 2021. https://doi.org/10.1101/2021.10.13.21264966.

[48] Eyre, D. W., Taylor, D., Purver, M., Chapman, D., Fowler, T., Pouwels, K. B., Walker, A. S. & Peto, T. E. A. (2021). The impact of SARS-CoV-2 vaccination on Alpha & Delta variant transmission. *medRxiv*, Preprint. doi: 10.1101/2021.09.28.21264260.

53. Yet another study, conducted in Wisconsin, confirmed that vaccinated individuals can shed infectious SARS-CoV-2 viral particles.[49] The authors analyzed nasopharyngeal samples to check whether patients showed evidence of infectious viral particles. They found that vaccinated individuals were at least as likely as unvaccinated individuals to be shedding live virus. They concluded: "Combined with other studies these data indicate that vaccinated and unvaccinated individuals infected with the Delta variant might transmit infection. Importantly, we show that infectious SARS-CoV-2 is frequently found even in vaccinated persons."

54. A study in the U.K. during its wave of delta COVID cases compared the likelihood of a vaccinated individual passing on the disease to someone within their same household relative to unvaccinated patients.[50] This study tracked these groups of patients over time to the point they tested positive for COVID. At that point, study investigators measured levels of the SARS-CoV-2 virus in the patients, and observed whether the patients passed on the disease to other household members.

55. The authors find that while vaccination does reduce the fraction of time that a patient passes the disease on to household members from 38% [95% confidence interval: 24-53] to 25% [95% confidence interval: 18-33], there was no statistically significant difference (p=0.17). They conclude: "Vaccination reduces the risk of delta variant infection and accelerates viral clearance. Nonetheless, fully vaccinated

[49] Riemersma, K. K., Grogan, B. E., Kita-Yarbro, A., Halfmann, P. J., Segaloff, H. E., Kocharian, A., Florek, K. R., Westergaard, R., Bateman, A., Jeppson, G. E., Kawaoka, Y., O'Connor, D. H., Friedrich, T. C., & Grande, K. M. (2021). Shedding of infectious SARS-CoV-2 despite vaccination. *medRxiv*, Preprint. doi: 10.1101/2021.07.31.21261387.

[50] Singanayagam A, Hakki S, Dunning J, et al. Community transmission and viral load kinetics of the SARS-CoV-2 delta (B.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study [published online ahead of print, 2021 Oct 29]. Lancet Infect Dis. 2021;doi:10.1016/S1473-3099(21)00648-4.

individuals with breakthrough infections have peak viral load similar to unvaccinated cases and can efficiently transmit infection in household settings, including to fully vaccinated contacts."

56. The CDC recognizes the importance of natural immunity in its updated science brief analyzing the difference in immunity from infection-induced and vaccine-induced immunity.[51] The CDC noted that "confirmed SARS-CoV-2 infection decreased risk of subsequent infection by 80-93% for at least 6–9 months," with some studies showing "slightly higher protective effects (89-93%)." It also noted that "researchers have predicted that the immune response following infection would continue to provide at least 50% protection against reinfection for 1-2 years following initial infection with SARS-CoV-2 or vaccination. This would be similar to what is observed with seasonal coronaviruses."

57. The CDC science brief does claim that vaccine-induced immunity is stronger than immunity from natural infection. The study the CDC relies on to support this claim is not determinative, however, for several reasons.[52] First, its result is contrary to the weight of other evidence, as set forth above. Second, the study compared hospitalization of those infected—and had natural immunity—90-225 days after their infection while against those who had completed their RNA vaccine regime 45-213 days before reinfection. Because immunity—regardless of how gained—wanes over time, the failure to adequately compare like periods means that the study's conclusions are biased in favor of vaccine-induced immunity. Indeed, the study admits

[51] CDC, Science Brief: SARS-CoV-2 Infection-Induced and Vaccine-Induced Immunity (updated Oct. 29, 2021), https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/vaccine-induced-immunity.html#anchor_1635539757101.

[52] Bozio CH, Grannis SJ, Naleway AL, et al. Laboratory-Confirmed COVID-19 Among Adults Hospitalized with COVID-19–Like Illness with Infection-Induced or mRNA Vaccine-Induced SARS-CoV-2 Immunity — Nine States, January–September 2021. MMWR Morb Mortal Wkly Rep. ePub: 29 October 2021.

this weakness. Third, the study design itself does not permit it to address the critical question of interest—whether COVID-recovery without vaccination or vaccination without COVID-recovery provides stronger protection against COVID-related hospitalization. The study analyzes only patients who are already in the hospital. To obtain an accurate answer to the question of interest, it would need to include and analyze patients before entering the hospital. As it is, the study implicitly and incorrectly assumes that the set of hospitalized patients with COVID-like symptoms is representative of the population at large, which is untrue.

58. In summary, the evidence to date strongly suggests that while vaccines—like natural immunity—provide protection against severe disease, they, unlike natural immunity, provide only short-lasting protection against subsequent infection and disease spread. In short, there is no medical or scientific reason to believe that vaccine immunity will prove longer lasting than natural immunity, much less more durable immunity.

59. American governmental bodies are outliers relative to other developed countries to the extent they refuse to recognize the efficacy of natural immunity. For instance, the Netherlands recently extended the duration of its "natural immunity certificate," which can be used in lieu of a vaccine passport from 180 days to 365 days.[53] A similar exemption was made for natural immunity in vaccine passports in the U.K. when the country required them.[54] In Germany, the government uses "2G" or "3G" rules, which stand for "geimpft, genesen, getestet"—vaccinated, recovered, or tested.

[53] Block J. Vaccinating people who have had covid-19: why doesn't natural immunity count in the US? BMJ. 2021 Sep 13;374:n2101. doi: 10.1136/bmj.n2101. Erratum in: BMJ. 2021 Sep 15;374:n2272. PMID: 34518194.

[54] Diver T. Vaccine passports will show 'natural immunity' for people who have had Covid. MSN News. June 6, 2021.

Someone who has medical records showing that they have recovered from a bout of COVID is allowed to enter the same facilities as someone who has been vaccinated.[55]

B. Vaccination Protection Against COVID-19 Infection Wanes

60. The CDC, in the Frequently Asked Questions (FAQ) section of its website encouraging vaccination, provides the following advice to previously recovered patients:[56]

> Yes, you should be vaccinated regardless of whether you already had COVID-19. That's because experts do not yet know how long you are protected from getting sick again after recovering from COVID-19. Even if you have already recovered from COVID-19, it is possible—although rare—that you could be infected with the virus that causes COVID-19 again. Studies have shown that vaccination provides a strong boost in protection in people who have recovered from COVID-19. Learn more about why getting vaccinated is a safer way to build protection than getting infected.

61. The text of this advice by the CDC does not address any of the scientific evidence included here about the lack of necessity for recovered COVID patients to be vaccinated. While it is true that I do not know how long natural immunity after recovery lasts, the immunological evidence to date suggests that protection against disease will last for years.[57] Uncertainty over the longevity of immunity after recovery is a specious reason for not exempting COVID-recovered patients from vaccination

---

[55] Bundesministerium für Gesundheit, *Die 3G-Regel: Geimpft, Genesen, Getestet* (Feb. 9, 2022) [Federal Ministry of Health, *The 3G Rule: Vaccinated, Recovered, Tested*], https://www.zusammengegencorona.de/leichtesprache/die-3g-regel-geimpft-genesen-getestet/.

[56] Centers for Disease Control and Prevention. (2021, September 28). Frequently asked questions about COVID-19 vaccination. Retrieved October 1, 2019 from https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html

[57] Patel, N. V. (2021, January 6). *Covid-19 immunity likely lasts for years*. MIT Technology Review. https://www.technologyreview.com/2021/01/06/1015822/covid-19-immunity-likely-lasts-for-years/

mandates, since the same can be said about vaccine mediated immunity. I do not know how long it will last either, and there is no reason to believe it provides longer lasting or more complete immunity than recovery from COVID.

62. Similarly, just as reinfections are possible though rare after COVID recovery, breakthrough infections are possible after vaccination, as the CDC's team investigating vaccine breakthrough infections itself recognizes.[58] On the same CDC FAQ webpage I cite above,[59] the CDC writes about vaccine mediated immunity, "We don't know how long protection lasts for those who are vaccinated."

63. The CDC's main concern in this FAQ seems to be to help people understand that it is safer to attain immunity against SARS-CoV-2 infection via vaccination rather than via infection. This is a point not in dispute. Rather, the question is whether someone who *already* has been infected and recovered will benefit on net from the additional protection provided by vaccination. On this point, the CDC's statement in the FAQ is irrelevant. Here again, the possibility of reinfection does not alter the conclusion that, especially for those who have already recovered from COVID, accommodations can be allowed without threatening public safety.

C. Vaccines Are Ineffective At Preventing Omicron Infections

64. Pfizer and BioNTech are the manufacturers of the current leading vaccine. They recently admitted that the existing vaccine does not provide robust protection against Omicron, saying: "Sera from individuals who received two doses of the current COVID-19 vaccine did exhibit, on average, more than a 25-fold reduction

---

[58] CDC COVID-19 Vaccine Breakthrough Case Investigations Team. (2021). COVID-19 Vaccine Breakthrough Infections Reported to CDC — United States, January 1–April 30, 2021. *Morbidity and Mortality Weekly Report (MMWR)*, *70*(21), 792-793. doi: http://dx.doi.org/10.15585/mmwr.mm7021e3

[59] Centers for Disease Control and Prevention. (2021, September 28). Frequently asked questions about COVID-19 vaccination. Retrieved October 1, 2021 from https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html

in neutralization titers against the Omicron variant compared to wild-type, indicating that two doses of BNT162b2 may not be sufficient to protect against infection with the Omicron variant."[60]

65. Moderna, the second-leading manufacturer, similarly admitted that its vaccine does not provide acceptable efficacy against Omicron, stating: "All groups had low neutralizing antibody levels in the Omicron PsVNT assay prior to boosting."[61]

66. Similarly, NIH-funded researchers at Duke university found in vitro that: "neutralizing titers to Omicron are 49-84 times lower than neutralization titers to D614G [wild-type SARS-CoV2] after 2 doses of mRNA-1273 [Moderna], which could lead to an increased risk of symptomatic breakthrough infections."[62]

67. Real-world evidence from at least four countries with significant experience with Omicron—Denmark, the United Kingdom, Germany, and Canada, all of which provide more detailed and transparent data than has been made available in the United States—evidences that these vaccines have *substantially zero efficacy* at preventing Omicron transmission, undermining the central rationale for mandating them in the workplace.

68. The Statens Serum Institut in Copenhagen, Denmark analyzed Danish data and found vaccine efficacy turned *negative* after 91 days following the second dose was administered. In other words, vaccinated Danes were *even more likely* than

---

[60] *Pfizer and BioNTech Provide Update on Omicron Variant*, Pfizer (Dec. 8, 2021), https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-provide-update-omicron-variant.

[61] *Moderna Announces Preliminary Booster Data and Updates Strategy to Address Omicron Variant*, Moderna (Dec. 20, 2021), https://www.biospace.com/article/releases/moderna-announces-preliminary-booster-data-and-updates-strategy-to-address-omicron-variant/.

[62] Nicole A. Doria-Rose, 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/10.1101/2021.12.15.21267805v1.full-text

unvaccinated Danes to be infected with Omicron after 3 months.[63] This may be due to unvaccinated, COVID-recovered patients having better[64] protection versus Omicron than vaccinated patients who never previously had COVID.

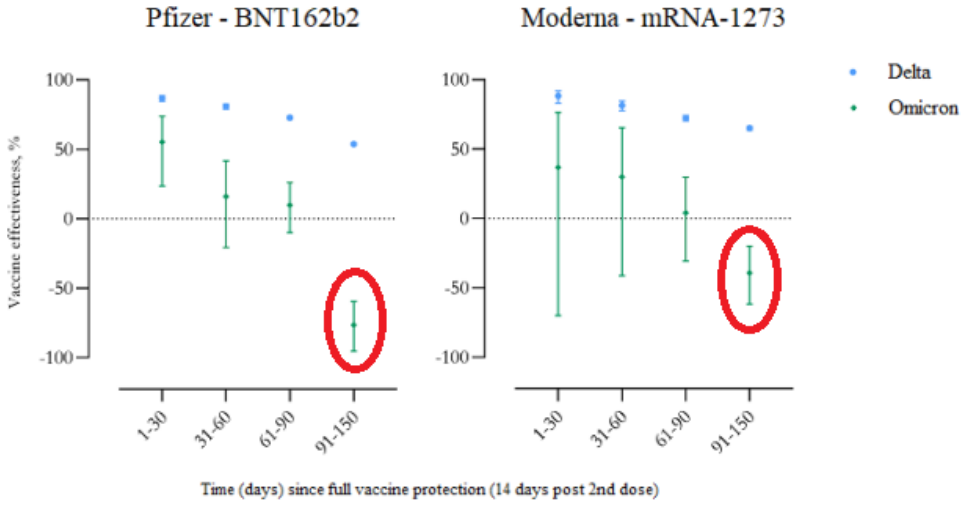


Figure Vaccine effectiveness against SARS-CoV-2 infection with the Delta and Omicron variants, shown separately for the BNT162b2 and mRNA-1273 vaccines. Vertical bars indicate 95% confidence intervals.

Table Estimated vaccine effectiveness for BNT162b2 and mRNA-1273 against infection with the SARS-CoV-2 Omicron and Delta variants during November 20 – December 12, 2021, Denmark.

	Pfizer – BNT162b2				Moderna - mRNA-1273			
	Omicron		Delta		Omicron		Delta	
Time since vaccine protection	Cases	VE, % (95% CI)	Cases	VE, % (95% CI)	Cases	VE, % (95% CI)	Cases	VE, % (95% CI)
1-30 days	14	55.2 (23.5; 73.7)	171	86.7 (84.6; 88.6)	4	36.7 (-69.9; 76.4)	29	88.2 (83.1; 91.8)
31-60 days	32	16.1 (-20.8; 41.7)	454	80.9 (79.0; 82.6)	8	30.0 (-41.3; 65.4)	116	81.5 (77.7; 84.6)
61-90 days	145	9.8 (-10.0; 26.1)	3,177	72.8 (71.7; 73.8)	48	4.2 (-30.8; 29.8)	1,037	72.2 (70.4; 74.0)
91-150 days	2,851	-76.5 (-95.3;-59.5)	34,947	53.8 (52.9; 54.6)	393	-39.3 (-61.6;-20.0)	3,459	65.0 (63.6; 66.3)
1-30 days after booster vaccination protection	29	54.6 (30.4; 70.4)	453	81.2 (79.2; 82.9)	-	-	5	82.8 (58.8; 92.9)

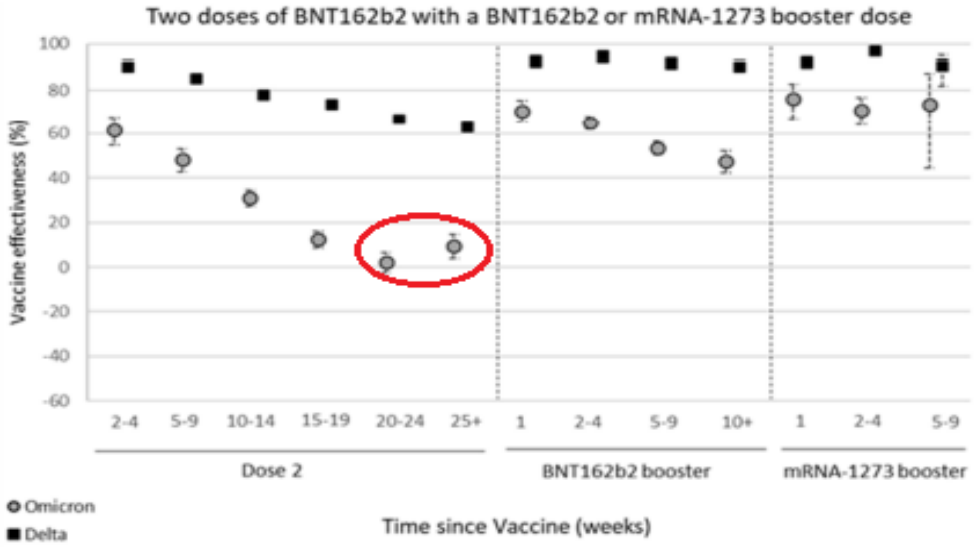
CI = confidence intervals; VE = vaccine effectiveness. VE estimates adjusted for 10-year age groups, sex and region (five geographical regions). Vaccine protection was assumed 14 days post 2nd dose. Insufficient data to estimate mRNA-1273 booster VE against Omicron.

[63] Christian Holm Hansen, et al., *Vaccine effectiveness against SARS-CoV-2 infection with the Omicron or Delta variants following a two-dose or booster BNT162b2 or mRNA-1273 vaccination series: A Danish cohort study*, medRxiv (Dec. 22, 2021), https://www.medrxiv.org/content/10.1101/2021.12.20.21267966v2.full.pdf.

[64] Sivan Gazit, Roei Shlezinger, Galit Perez, Roni Lotan, Asaf Peretz, Amir Ben-Tov, Dani Cohen, Khitam Muhsen, Gabriel Chodick, Tal Patalon (2021) *Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: reinfections versus breakthrough infections*, medRxiv 2021.08.24.21262415; doi: https://doi.org/10.1101/2021.08.24.21262415

69. In Germany, the most recent detailed report from the Robert Koch Institute (the German equivalent of the CDC) found that 78.6 percent (4,020 of 5,117) of sequenced Omicron cases were in *vaccinated* Germans,[65] despite a population vaccination rate of just 70 percent.[66]

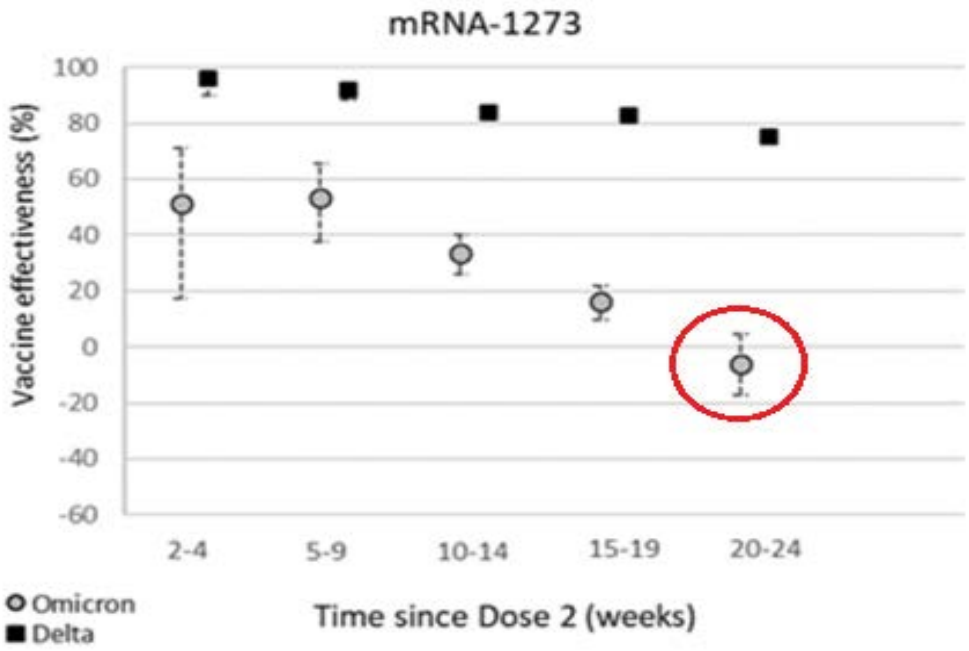
70. In the United Kingdom, the UK Health Security Agency calculated preliminary vaccine effectiveness estimates remarkably like the Danish findings, with *near-zero vaccine efficacy* for both Pfizer-BioNTech and Moderna vaccines after 20 weeks following the second dose:[67]



[65] *Wöchentlicher Lagebericht des RKI zur Coronavirus-Krankheit-2019*, Robert Koch Institut (Dec. 30, 2021), https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Situationsberichte/Wochenbericht/Wochenbericht_2021-12-30.pdf?__blob=publicationFile.

[66] *Coronavirus (COVID-19) Vaccinations*, Our World in Data, https://ourworldindata.org/covid-vaccinations.

[67] *SARS-CoV-2 variants of concern and variants under investigation in England: Technical briefing 33*, UK Health Security Agency (Dec. 23, 2021), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1043807/technical-briefing-33.pdf.



71. Although the UK Health Security Agency clarifies "[t]hese results should be interpreted with caution due to the low counts and the possible biases related to the populations with highest exposure to Omicron (including travelers and their close contacts) which cannot fully be accounted for," these results are consistent with the epidemiological patterns we are seeing in the United States and globally.

///

///

///

///

///

///

///

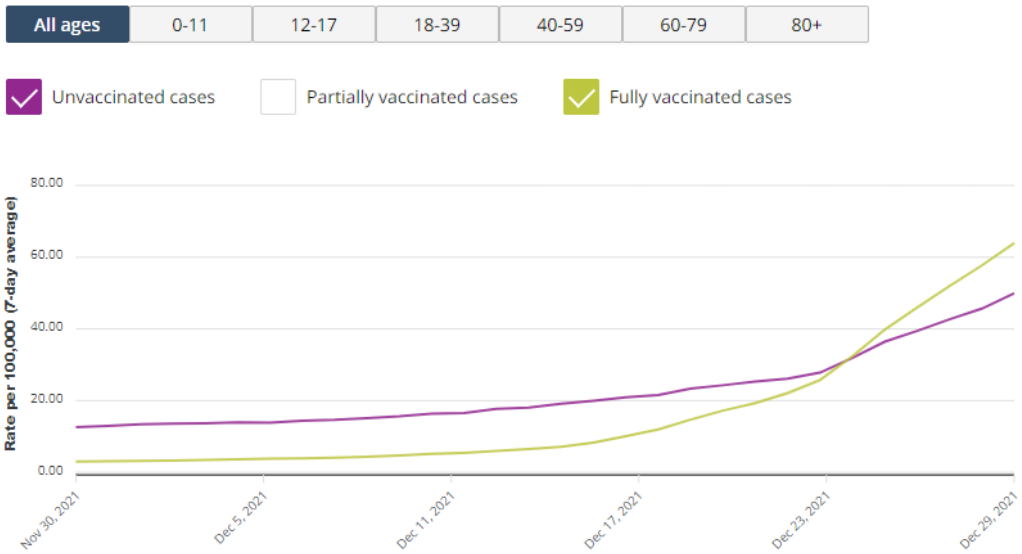
///

///

///

///

72. In Ontario, Canada, the case rate per 100,000 fully *vaccinated* Ontarians has risen sharply above the case rate per 100,000 unvaccinated Ontarians, again suggesting *negative vaccine efficacy*:[68]



73. A test-negative control analysis of Ontario test data by researchers from Public Health Ontario and leading Canadian universities found: "observed *negative* VE against Omicron among those who had received 2 doses compared to unvaccinated individuals" (emphasis added).

74. As the following table shows, the Ontario researchers found that after day 60 following the second dose, vaccine effectiveness was *negative*, meaning a vaccinated person was *more likely* to be infected than an unvaccinated person:

Table 2. Vaccine effectiveness against infection by Omicron or Delta among adults aged ≥18 years by time since latest dose

Doses	Vaccine products	Days since latest dose	SARS-CoV-2 negative controls, n	Omicron-positive cases, n	Vaccine effectiveness against Omicron (95% CI)	Delta-positive cases, n	Vaccine effectiveness against Delta (95% CI)
First 2 doses	≥1 mRNA vaccine	7-59	14,288	63	6 (-25, 30)	204	84 (81, 86)
		60-119	34,741	214	-13 (-38, 8)	562	81 (79, 82)
		120-179	282,977	2,257	-38 (-61, -18)	4,342	80 (79, 81)
		180-239	47,282	522	-42 (-69, -19)	635	74 (72, 76)
		≥240	10,285	46	-16 (-62, 17)	203	71 (66, 75)
Third dose	Any mRNA vaccine	0-6	10,208	50	2 (-35, 29)	71	88 (85, 90)
		≥7	36,500	114	37 (19, 50)	138	93 (92, 94)
	BNT162b2	0-6	8,461	42	2 (-39, 30)	64	87 (83, 90)
		≥7	30,269	106	34 (16, 49)	116	93 (91, 94)
	mRNA-1273	0-6	1,747	8	5 (-94, 54)	7	93 (86, 97)
		≥7	6,231	8	59 (16, 80)	22	93 (90, 96)

[68] COVID-19, *Case numbers, spread and deaths*, Government of Ontario, https://covid-19.ontario.ca/data/case-numbers-and-spread.

75. Contemporaneous with this development, Ontario announced a major shift in strategy *away from* mass testing. On December 20, 2021, Ontario's health officer Kieran Moore said: "We have to pivot, we know there's ongoing community activity, we know we'll have transmission risk, that data has to focus to screen those who need treatment and to protect those in high-risk settings."[69]

76. In the United States, studies and data from last summer showing higher viral transmission in less vaccinated southern states is now completely obsolete. As the following CDC table demonstrates, in the Omicron wave there is no observable reduction in case rates based on vaccination rates:[70]

Difference in Cases in the Month of December: Most Vaccinated States Compared to Least Vaccinated

	Cases in December			
State	2021	2020	Difference	Fully Vaccinated
Vermont	11,120	2,932	279%	77.4%
Rhode Island	34,434	32,625	6%	76.5%
Maine	25,029	12,225	105%	75.8%
Connecticut	80,792	68,413	18%	74.6%
Massachusetts	176,728	149,046	19%	74.6%
New York	645,476	332,116	94%	71.8%
New Jersey	242,649	160,001	52%	70.5%
Maryland	113,299	79,084	43%	70.4%
Virginia	129,377	114,703	13%	68.0%
Washington	67,731	76,819	-12%	67.9%
Dist. Columbia	25,133	7,431	238%	67.6%
New Hampshire	35,412	23,034	54%	67.2%
Oregon	27,234	38,478	-29%	66.5%
New Mexico	33,567	45,769	-27%	66.2%
Colorado	80,691	100,744	-20%	66.2%
California	308,923	1,018,584	-70%	66.1%
Minnesota	103,065	96,539	7%	65.4%
MOST VACCINATED STATES			45%	70.2%

	Cases in December			
State	2021	2020	Difference	Fully Vaccinated
Ohio	281,594	279,317	1%	55.2%
West Virginia	30,720	37,492	-18%	55.1%
Kentucky	66,912	88,994	-25%	54.2%
Montana	6,049	19,357	-69%	54.0%
Oklahoma	37,452	105,592	-65%	53.5%
South Carolina	47,894	97,200	-51%	53.1%
Missouri	88,356	111,450	-21%	53.0%
North Dakota	10,403	13,115	-21%	52.6%
Indiana	133,734	172,712	-23%	52.0%
Tennessee	82,063	211,266	-61%	51.4%
Arkansas	28,713	67,779	-58%	51.2%
Georgia	127,565	194,889	-35%	51.1%
Louisiana	45,334	82,861	-45%	50.3%
Mississippi	24,681	63,076	-61%	48.1%
Alabama	43,257	111,713	-61%	47.6%
Wyoming	4,153	11,104	-63%	47.5%
Idaho	11,613	39,379	-71%	46.2%
LEAST VACCINATED STATES			-44%	51.5%

///

///

///

///

[69] *Ontario pushes back school reopening to Jan. 5, restricts PCR testing to high-risk individuals*, CBC News (Dec. 30, 2021), https://www.cbc.ca/news/canada/toronto/covid-19-ontario-dec-30-2021-testing-guidelines-cases-1.6300425.

[70] *United States COVID-19 Cases and Deaths by State over Time*, CDC, https://data.cdc.gov/Case-Surveillance/United-States-COVID-19-Cases-and-Deaths-by-State-o/9mfq-cb36; https://covid.cdc.gov/covid-data-tracker/COVIDData/getAjaxData?id=vaccination_data.

IV. Alternative Solutions to Vaccination Are Available

A. Asymptomatic Disease Spread is Rare.

77. In this section, I discuss the evidence regarding the asymptomatic transmission of disease. This is important because if asymptomatic disease spread is rare, SDUSD can keep its employees and students safe from COVID disease spread by the simple expedient of requiring those who have not been vaccinated (and even those who have been) to report daily through an online app whether they are experiencing symptoms consistent with COVID-19. Those who are experiencing symptoms would be asked to stay at home from school and get tested; returning to school only if the test is negative.

78. The best evidence on how frequently asymptomatic disease spread occurs comes from a large meta-analysis of 54 studies from around the world of within-household spread of the virus—that is, from an infected person to someone else living in the same home (Madewell et al. 2020). This study represents the most comprehensive survey of the vast empirical literature on asymptomatic spread. At home, *of course*, none of the safeguards often recommended in public spaces outside of home (such as masking and social distancing) are typically applied. Because the study focuses on a single setting (household transmission), it is not subject to the same problems that other studies on this topic might have. In particular, by focusing on a homogenous setting where few safeguards exist, the estimate represents an upper bound on the frequency that someone positive for the virus but with no symptoms (and hence either pre-symptomatic or asymptomatic) may spread the virus to close contacts. The primary result is that symptomatic patients passed on the disease to household members in 18% of instances. In comparison, those infected but without symptoms (asymptomatic and pre-symptomatic patients) passed on the infection to

household members in only 0.7% of instances.[71] An updated version of this study reported a slightly higher transmission rate of asymptomatic individuals of 3.0%.[72]

79. There is some additional evidence on how frequently asymptomatic disease spread occurs. A large study of 10 million residents of Wuhan, China, all tested for the presence of the virus, found a total of 300 cases, all asymptomatic. A comprehensive contact tracing effort identified 1,174 close contacts of these patients, none of whom tested positive for the virus.[73] This is consistent with a vanishingly low level of asymptomatic spread of the disease. Given the late date of the study relative to the date of the large first wave of infections in Wuhan, it is likely that none of the 300 asymptomatic cases were likely ever to develop symptoms. A separate, smaller meta-analysis similarly found that asymptomatic patients are much less likely to infect others than symptomatic patients.[74]

80. By contrast with asymptomatic patients, symptomatic patients are very likely to infect others with the virus during extended interactions, especially in the

---

[71] Madewell, Z. J., Yang, Y., Longini, I. M., Halloran, M. E. & Dean, N. E. (2020). Household transmission of SARS-CoV-2: A systematic review and meta-analysis. *JAMA Network Open*, *3*(12), 1-17. doi:10.1001/jamanetworkopen.2020.31756

[72] Madewell ZJ, Yang Y, Longini IM Jr, Halloran ME, Dean NE. Factors Associated With Household Transmission of SARS-CoV-2: An Updated Systematic Review and Meta-analysis. *JAMA Network Open*. 2021 Aug 2;4(8):e2122240. doi: 10.1001/jamanetworkopen.2021.22240. PMID: 34448865; PMCID: PMC8397928.

[73] Cao, S., Gan, Y., Wang, C., Bachmann, M., Wei, S., Gong, J., Huang, Y., Wang, T., Li, L., Lu, K., Jiang, H., Gong, Y., Xu, H., Shen, X., Tian, Q., Lv, C., Song, F., Yin, X. & Lu, Z. (2020). Post-lockdown SARS-CoV-2 nucleic acid screening in nearly ten million residents of Wuhan, China. *Nature Communications*, *11*(1), 5917. doi: 10.1038/s41467-020-19802-w

[74] Buitrago-Garcia, D., Egli-Gany, D., Counotte, M. J., Hossmann, S., Imeri, H., Ipekci, A. M., Salanti, G. & Low, N. (2020). Occurrence and transmission potential of asymptomatic and presymptomatic SARS-CoV-2 infections: A living systematic review and meta-analysis. *PLOS Medicine*, *17*(9), e1003346. doi: 10.1371/journal.pmed.1003346

initial period after they develop symptoms. A careful review of 79 studies on the infectivity of COVID-19 patients found that even symptomatic patients are infectious for only the first eight days after symptom onset, with no evidence of live virus detected beyond day nine of illness.[75]

81. Much of the support for the idea that asymptomatic disease spread is common comes from theoretical modeling work from earlier in the epidemic (including some of my own published research[76]), predicting some level of asymptomatic disease spread. However, this sort of modeling work does not represent actual evidence that asymptomatic spread is common in the real world, since they rely on many modeling assumptions that are impossible to check.

82. There is at least one prominent real-world study that some have used to argue that asymptomatic disease spread is common. A meta-analytic study by Qiu et al. (2021) distinguishes the likelihood of disease spread by a pre-symptomatic individual from the likelihood of spread by an asymptomatic individual who never develops symptoms.[77] A primary finding of this study is that, while an asymptomatic individual who never develops symptoms is exceedingly unlikely to spread the disease, individuals who are not symptomatic now but will eventually develop symptoms are efficient at infecting others during their pre-symptomatic state.

---

[75] Cevik, M., Tate, M., Lloyd, O., Maraolo, A. E., Schafers, J. & Ho, A. (2021). SARS-CoV-2, SARS-CoV, and MERS-CoV viral load dynamics, duration of viral shedding, and infectiousness: A systematic review and meta-analysis. *The Lancet, Microbe*, *2*(1), e13-e22. doi: 10.1016/S2666-5247(20)30172-5

[76] Peirlinck, M., Linka, K., Costabal, F. S., Bhattacharya, J., Bendavid, E., Ioannidis, J. P. A. & Kuhl, E. (2020). Visualizing the invisible: The effect of asymptotic transmission on the outbreak dynamics of COVID-19. *Computer Methods in Applied Mechanics and Engineering*, *372*(1), 113140. doi: 10.1016/j.cma.2020.113410

[77] Qiu, X., Nergiz, A. I., Maraolo, A. E., Bogoch, I. I., Low, N. & Cevik, M. (2021). The role of asymptomatic and pre-symptomatic infection in SARS-CoV-2 transmission-A living systematic review. *Clinical Microbiology and Infection*, *27*(4), 511-519. doi: 10.1016/j.cmi.2021.01.011

83. Distinguishing between an infected individual who will eventually develop symptoms and an infected individual who will never develop symptoms is difficult without the passage of time. Infected individuals who will develop symptoms tend to do so within a very short interval (two to three days) after first becoming infected. Meanwhile, infected individuals who never develop symptoms may test positive with the PCR test for the virus for an extended period. These two groups of observationally identical individuals are mixed in the population in some unknown frequency that may change over time. Given this information constraint, from a policy point of view, the relevant question is how likely it is that an infected individual without symptoms (whether pre-symptomatic or purely asymptomatic) will spread the disease to close contacts. The Madewell et al. (2020) study provides an answer (less than 0.7% secondary attack rate in household settings), while the Qiu et al. (2021) study does not. Additionally, unlike the Madewell et al. (2020) study, the Qiu et al. (2021) study does not concentrate its focus on a homogenous environment (households), which makes the results it reports harder to interpret.

84. In summary, asymptomatic individuals are an order of magnitude less likely to infect others than symptomatic individuals, even in intimate settings such as people living in the same household where people are much less likely to follow social distancing and masking practices that they follow outside the household. Spread of the disease in less intimate settings by asymptomatic individuals—including in the context of the school environment—is likely to be even less likely than in the household.

B. There Are Multiple Safe Alternatives to Independent Online Study

85. Can SDUSD keep its employees and students safe if it does not mandate that all students be vaccinated? The answer is a definitive yes.

86. First and most obviously, SDUSD could adopt a robust sick policy, requiring that students who have not been vaccinated and who show symptoms consistent with COVID-19 infection stay at home from school, returning to school only once they have had a negative COVID-19 PCR or antigen test result. This could be implemented, for

instance, by requiring students to complete a symptom self-check each day before coming to school. SDUSD would provide students with a supply of inexpensive rapid antigen tests, which are easy to self-administer at home, provide results within 30 minutes, and are highly accurate for detecting whether a patient is infectious.[78, 79] A large number of lateral flow antigen tests have received Emergency Use Authorization (EUA) by the US Food and Drug Administration.[80] Alternatively, SDUSD could require that any unvaccinated students obtain those tests themselves to keep its own costs down. Students who report COVID-19 like symptoms would be asked to send a picture of their positive test result to their teacher or a SDUSD school nurse by phone or email to verify their result.[81] A system that required the few students who seek the vaccine exemption to provide this information to their teacher each day before coming to school would be inexpensive—no online reporting system would be necessary.

87. For this symptom checking policy to be effective in reducing the risk of disease spread, it must be the case that symptomatic students are substantially more

---

[78] Surasi, K., Cummings, K. J., Hanson, C., Morris, M. K., Salas, M., Seftel, D., Ortiz, L., Thilakaratne, R., Stainken, C. & Wadford, D. A. (2021). Effectiveness of Abbott BinaxNOW rapid antigen test for detection of SARS-CoV-2 infections in outbreak among horse racetrack workers, California, USA. *Emerging Infectious Diseases*, *27*(11).

[79] Homza, M., Zelena, H., Janosek, J., Tomaskova, H., Jezo, E., Kloudova, A., Mrazek, J., Svagera, Z. & Pymula, R. (2021). Covid-19 antigen testing: Better than we know? A test accuracy study. *Infectious Diseases*, *53*(9), 661-668. doi: 10.1080/23744235.2021.1914857

[80] US FDA. (2021) In-Vitro Diagnostics EUA – Antigen Diagnostic Tests for SARS-CoV-2. Oct. 4, 2021. https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/in-vitro-diagnostics-euas-antigen-diagnostic-tests-sars-cov-2 Accessed Oct. 10, 2021

[81] Indeed, if SDUSD's goal is really to prevent the spread of COVID-19 as much as reasonably possible, symptom checking should be required of all employees and students, whether vaccinated or not, since the evidence shows that vaccination does not eliminate the possibility of infection and may provide less protection versus infection than immunity induced by prior COVID infection.

likely to infect others than students who are infected (that is, have evidence of the virus in the nasopharynx), but who have no symptoms. Fortunately, as we have seen in the previous section, the best empirical evidence shows that the probability that an asymptomatic individual will spread the disease is very low. And because the overwhelming majority of SDUSD employees and students will themselves be vaccinated, they face even less risk from any of the asymptomatic, unvaccinated students who receive an accommodation from SDUSD for religious (or medical) reasons of developing severe COVID symptoms.

88. Second, SDUSD could implement a program of weekly PCR or antigen testing as a condition of a student's receiving an exemption. Many other organizations have implemented a testing regimen like this for all employees, including my home institution, Stanford University. Students receiving an exemption could take the test at school—there are versions of the test available that can be self-administered. Or students could be required to purchase and take the test at home.[82]

89. No detailed reporting mechanism or centralized system would be necessary for any of the accommodations that I proposed, Simply requiring its students to report to their teachers the results of their testing and/or the presence of any COVID symptoms would allow SDUSD to keep its employees and students safe—at least as safe as they would be under a universal vaccine mandate with no meaningful exemptions.

90. Third, SDUSD could simply exempt from its vaccine requirement all students who legitimately claim an exemption and have recovered from COVID infection. The evidence provided in this declaration shows that such students pose at least as little—and likely less—risk of spreading the SARS-CoV-2 virus than fully vaccinated students who are not among the set of COVID-recovered patients.

[82] Indeed, the safest option would be for both vaccinated and unvaccinated students to be required to provide a weekly test, since both can have asymptomatic SARS-CoV-2 infections.

91. While it is true that those who have recovered from COVID could incrementally reduce the infection risk they pose to others by *also* receiving the vaccine, it would make no sense for SDUSD to require that of those seeking a religious exemption. For one thing, the incremental safety benefit of such a requirement would be vanishingly small. A study analyzing 738 patients in Kentucky and published in the CDC's journal (MMWR), estimated that the odds that COVID-recovered patients who are vaccinated are 2.34 [95% CI: 1.58-3.47] times lower for reinfection than COVID-recovered patients who are not vaccinated.[83] However, this reduction in the relative risk of reinfection represents a vanishingly small absolute risk reduction. Recall the study of Italian COVID-recovered patients that I cite above reported a reinfection rate of 0.3%, or 3 out of 1,000 after one year.[84] If the Kentucky study is right, vaccinating COVID recovered patients prevents on the order 2 infections out of a 1,000 people. This reduction can easily be replicated and improved upon without forced vaccination but with the symptom checking and regular testing solutions I suggest.

92. Moreover, the proper baseline for assessing the reasonableness of an exemption policy is not what kind of policy would produce the *maximum* reduction in risk, but rather what exemption options would reduce the risk posed by those receiving an exemption to a level below that posed by those complying with SDUSD's vaccination requirement. After all, SDUSD is willing to tolerate the risk of infection posed by those who have received the vaccine—a risk that increases substantially a few

---

[83] Cavanaugh AM, Spicer KB, Thoroughman D, Glick C, Winter K. Reduced Risk of Reinfection with SARS-CoV-2 After COVID-19 Vaccination — Kentucky, May–June 2021. MMWR Morb Mortal Wkly Rep 2021;70:1081-1083. DOI: http://dx.doi.org/10.15585/mmwr.mm7032e1

[84] Vitale, J., Mumoli, N., Clerici, P., de Paschale, M., Evangelista, I., Cei, M. & Mazzone, A. (2021). Assessment of SARS-CoV-2 reinfection 1 year after primary infection in a population in Lombardy, Italy. *JAMA Internal Medicine*, *181*(10), 1407-1409. doi: 10.1001/jamainternmed.2021.2959

months after vaccination. If the objective were to reduce infection risk as much as humanly possible, SDUSD would have to require its *vaccinated* students to find a way to contract COVID (and stay home until they recover)—since the combination of a vaccination and a prior COVID reduces infection risk compared to either alone. But SDUSD could not reasonably impose such a requirement, since an actual COVID infection would pose additional health risks to those who have been vaccinated. By the same risk/benefit logic—in light of the health risks posed by the vaccine itself—SDUSD cannot reasonably require those seeking an exemption who have recovered from COVID to also be vaccinated.

93. Finally, I would like to note that SDUSD has agreed to provide religious accommodations to its employees—just not its students—and medical accommodations for both This shows that that the risk posed by unvaccinated individuals can be mitigated with an expense that is bearable (since the expense is not likely to be large). There is no good reason to refuse to extend this accommodation to SDUSD students who decline the vaccine for religious reasons.

C. Variants Do Not Alter the Conclusion

94. Since its spread through the human population, the SARS-CoV-2 virus—an RNA virus—has been mutating, including some forms that are likely more transmissible than the original wild-type virus that emerged from Wuhan, China, in 2019. As of the date of this declaration, the Delta variant is the dominant form of the SARS-CoV-2 virus worldwide. The virus will continue to mutate as it continues to spread. However, the possibility of such a mutation does not alter the conclusion that accommodations can be allowed without risk to public safety.

95. For one thing, the first two accommodations discussed above would be equally effective against variants as they are against the original Wuhan version. That is because all variants to arise thus far produce symptoms that can be checked for, and can be identified through standard COVID testing. So regular symptom-checking and/or testing for those receiving religious accommodations is sufficient.

///

96. Variants likewise do not affect the reasonableness of the COVID-recovery alternative discussed above. The key point is that the mutant variants do not escape the immunity provided by prior infection with the wild-type virus or vaccination.[85, 86, 87] This is true of the delta variant as well. In a study of a large population of patients in Israel, *vaccinated* people who had not been previously infected were 13 times more likely to experience a breakthrough infection with the Delta variant than patients who had recovered from COVID.[88] Although reinfection can occur, people who have been previously infected by the virus are unlikely to have a severe outcome (hospitalization or death) after exposure to a variant virus (see section I above for citations). A variant circulating in the population thus poses little additional risk of excess mortality due to viral infection.

---

[85] Tarke, A., Sidney, J., Methot, N., Yu, E. D., Zhang, Y., Dan, J. M., Goodwin, B., Rubiro, P., Sutherland, A., Wang, E., Frazier, A., Ramirez, S. I., Rawlings, S. A., Smith, D. M., da Silva Antunes, R., Peters, B., Scheuermann, R. H., Weiskopf, D., Crotty, S., Grifoni, A. & Sette, A. (2021). Impact of SARS-CoV-2 variants on the total $CD4^+$ and $CD8^+$ T cell reactivity in infected or vaccinated individuals, *Cell Reports Medicine 2,* 100355.

[86] Wu, K., Werner, A. P., Moliva, J. I., Koch, M., Choi, A., Stewart-Jones, G. B. E., Bennett, H., Boyoglu-Barnum, S., Shi, W., Graham, B. S., Carfi, A., Corbett, K. S., Seder, R. A. & Edwards, D. K. (2021). mRNA-1273 vaccine induces neutralizing antibodies against spike mutants from global SARS-CoV-2 variants. *bioRxiv*, Preprint. doi: 10.1101/2021.01.25.427948

[87] Redd, A. D., Nardin, A., Kared, H., Bloch, E. M., Pekosz, A., Laeyendecker, O., Abel, B., Fehlings, M., Quinn, T. C. & Tobian, A. A. (2021). $CD8^+$ T-cell responses in COVID-19 convalescent individuals target conserved epitopes from multiple prominent SARS-CoV-2 circulating variants. *Open Forum Infectious Diseases 8*(7), ofab143.

[88] Gazit, S., Shlezinger, R., Perez, G., Lotan, R., Peretz, A., Ben-Tov, A., Cohen, D., Muhsen, K., Chodick, G. & Patalon, T. (2021). Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity: Reinfections versus breakthrough infections. *medRxiv*, Preprint. doi: 10.1101/2021.08.24.21262415

97. The dissemination of vaccines that protect against hospitalizations and deaths upon COVID-19 infection throughout the older population in the United States has partially decoupled the growth in COVID-19 cases from COVID-19 mortality. Vaccinated people can still be infected but much less commonly have severe symptoms in response to infection. Throughout last year, a rise in cases was inevitably accompanied by an increase in deaths with a two-to-three-week lag. However, during this most recent wave, in Sweden and the U.K., where vaccines have been provided to a large portion of the vulnerable elderly population and more, there have been "relatively few hospitalisations and deaths" in those countries.[89] Because of the success of the American vaccination effort among the vulnerable elderly, COVID-19 cases and COVID-19 deaths are at least partially decoupled, so the public danger from the continuing spread of COVID-19 disease is less than it was last year when the vaccine was not available.

D. "Long COVID" Does Not Alter the Conclusion

98. Some analysts and politicians have used the possibility that a fraction of patients who recover from COVID infection will experience lingering symptoms to justify unyielding vaccine mandates. Long COVID, as this phenomenon is called, includes a complex set of clinical outcomes with a poorly understood link to acute COVID infection.[90] One cross-sectional study found that about 30% of recovered COVID patients reported at least one symptom months after recovery, with fatigue

[89] Bhattacharya, J., Kulldorff, M. & Gupta, S. (2021, July 12). Sweden's lessons for the UK's third wave. *The Spectator*. https://www.spectator.co.uk/article/sweden-shows-that-the-uk-s-third-wave-won-t-sting

[90] Nalbandian, A., Sehgal, K., Gupta, A., Madhavan, M. V., McGroder, C., Stevens, J. S., Cook, J. R., Nordvig, A. S., Shalev, D., Sehrawat, T. S., Ahluwalia, N., Bikdeli, B., Dietz, D., Der-Nigoghossian, C., Liyanage-Don, N., Rosner, G. F., Bernstein, E. J., Mohan, S., Beckley, A. A. & Wan, E. Y. (2021). Post-acute COVID-19 syndrome. *Nature Medicine*, *27*(4), 601-615. doi: 10.1038/s41591-021-01283-z

and anosmia (loss of sense of smell) by far the most common.[91] A separate study with a more convincing longitudinal methodology, by contrast, concluded that only 2.3% of patients experienced such symptoms three months after recovery.[92] Patients who suffered a more severe acute course of COVID, including hospitalization, were more likely to report lingering symptoms after recovery.[93] A study of children who recovered from COVID found the same rate of long COVID symptoms as a control group of children who had no serological evidence of prior COVID infection.[94] Some analysts have noted the similarity between "long COVID" symptoms and other functional somatic syndromes that sometimes occur after other viral infections and other triggers (and sometimes with no identifiable etiology).[95] The only available systematic review of the literature on long COVID in children (still in preprint) concludes that "[t]he validity of reported post-acute SARS-CoV-2 infection health outcomes in children is

---

[91] Logue, J. K., Franko, N. M., McCulloch, D. J., McDonald, D., Magedson, A., Wolf, C. R., & Chu, H. Y. (2021). Sequelae in adults at 6 months after COVID-19 infection. *JAMA Network Open, 4*(2), e210830. doi: 10.1001/jamanetworkopen.2021.0830

[92] Sudre, C. H., Murray, B., Varsavsky, T., Graham, M. S., Penfold, R. S., Bowyer, R. C., Pujol, J. C., Klaser, K., Antonelli, M., Canas, L. S., Molteni, E., Modat, M., Cardoso, M. J., May, A., Ganesh, S., Davies, R., Nguyen, L. H., Drew, D. A., Astley, C. M., Steves, C. J. (2021). Attributes and predictors of long COVID. *Nature Medicine*, *27*(4), 626-631. doi: 10.1038/s41591-021-01292-y

[93] Arnold, D. T., Hamilton, F. W., Milne, A., Morley, A. J., Viner, J., Attwood, M., Noel, A., Gunning, S., Hatrick, J., Hamilton, S., Elvers, K. T., Hyams, C., Bibby, A., Moran, E., Adamali, H. I., Dodd, J. W., Maskell, N. A., Barratt, S. L. (2021). Patient outcomes after hospitalisation with COVID-19 and implications for follow-up: Results from a prospective UK cohort. *Thorax*, *76*, 399-401. doi: 10.1136/thoraxjnl-2020-216086

[94] Radtke, T., Ulyte, A., Puhan, M. A. & Kriemler, S. (2021). Long-term symptoms after SARS-CoV-2 infection in school children: Population-based cohort with 6-months follow-up. *JAMA*, *326*(9), 869-871. doi: 10.1001/jama.2021.11880

[95] Ballering, A., Olde Hartman, T. & Rosmalen, J. (2021). Long COVID-19, persistent somatic symptoms and social stigmatization. *Journal of Epidemiology and Community Health*, *75*, 603-604. doi: 10.1136/jech-2021-216643

critically limited. None of the studies provided evidence with reasonable certainty on whether SARS-CoV-2 infection has an impact on post-acute health outcomes, let alone to what extent."[96]

99. To summarize, as with other viruses, long COVID symptoms occur in a minority of patients who recover from COVID and pose a real burden on patients who suffer from it. However, this fact does not alter the logic of my point about accommodations. On the contrary. After suffering through a COVID infection, with or without long COVID, such individuals should not be forced to also endure common, but mild, vaccine adverse reactions or risk rare—but serious—adverse reactions. Moreover, the successful vaccine rollout in the United States—where every teenager and adult now have free access to the vaccines—addresses the problem of long COVID, just as it addresses COVID-associated mortality.

V. Vaccine Side Effects Warrant Caution

A. Vaccine Side Effects, Though Rare, Do Occur and Can Be Deadly.

100. Though the COVID vaccines are safe by the standards of many other vaccines approved for use in the population, like all medical interventions, they have side effects. In summarizing the evidence on vaccine side effects, the CDC lists both common side effects, at least one of which occurs in over half of all people who receive the vaccines, as well as deadly side effects that occur rarely in demographic subsets of the vaccinated population.

101. The common side effects include pain and swelling at the vaccination site and fatigue, headache, muscle pain, fever, and nausea for a limited time after

[96] Julian Hart, Perrine Janiaud, Viktoria Gloy, Stefan Schandelmaier, Tiago Pereira, Despina Contopouos-Ioannidis, Steven Goodman, John Ioannidis, Klaus Munkholm, Lars Hemkens,(2022) Validity of Reported Post-Acute Health Outcomes in Children with SARS-CoV-2 Infection: A Systematic Review. March 20, 2022. medRxiv/ https://www.medrxiv.org/content/10.1101/2022.03.18.22272582v1.full

vaccination.[97] Less common but severe side effects also include severe and non-severe allergic (anaphylactic) reactions that can occur immediately after vaccination, which can typically be treated with an epinephrine injection.[98] Finally, the CDC's vaccine safety committee has identified rare but deadly side effects, including a heightened risk of clotting abnormalities[99] in young women after the Johnson & Johnson (J&J) vaccination, elevated risks of myocarditis and pericarditis[100] in young people—but especially young men—after mRNA vaccination, and higher risk of Guillane-Barre Syndrome[101] after the J&J vaccine. There is still the possibility of severe side effects that have yet to be identified as the vaccines have been in use in human populations for less than a year. Active investigation to check for safety problems is still ongoing.

---

[97] Centers for Disease Control and Prevention. (2021, September 30). *Possible side effects after getting a COVID-19 vaccine*. Retrieved October 1, 2021 from https://www.cdc.gov/coronavirus/2019-ncov/vaccines/expect/after.html

[98] Centers for Disease Control and Prevention. (2021, August 30). *What to do if you have an allergic reaction after getting a COVID-19 vaccine*. Retrieved October 1, 2021 from https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/allergic-reaction.html

[99] Kulldorff, M. (2021, April 17). The dangers of pausing the J&J vaccine. *The Hill*. https://thehill.com/opinion/healthcare/548817-the-dangers-of-pausing-the-jj-vaccine

[100] National Center for Immunization & Respiratory Diseases, Centers for Disease Control and Prevention. (2021, August 23). *Clinical considerations: Myocarditis and pericarditis after receipt of mRNA COVID-19 vaccines among adolescents and young adults*. Retrieved October 1, 2021 from https://www.cdc.gov/vaccines/covid-19/clinical-considerations/myocarditis.html

[101] LaFraniere, S. & Weiland, N. (2021, July 12). FDA attaches warning of rare nerve syndrome to Johnson & Johnson vaccine. *The New York Times*. https://www.nytimes.com/2021/07/12/us/politics/fda-warning-johnson-johnson-vaccine-nerve-syndrome.html

102. Though the CDC[102] still recommends the vaccines for children 12 years old and up despite the evidence of elevated risk of myocarditis, other analysts[103] have objected to overly rosy assumptions made in the CDC analysis about vaccine side effects. Those analysts suggest that the CDC's recommendation is fragile to minor perturbation in their assumptions. The critical point for my analysis—undisputed in the scientific literature—is that the vaccines do have side effects, some of which are severe and not all of which are necessarily known now.

B. The Risk of Those Side Effects Is Heightened In Certain Groups & Clinical Data on Vaccine Safety and Efficacy are Not Available for Patients with Certain Chronic Diseases.

103. The CDC lists two primary contraindications to COVID vaccination: (1) "severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of the COVID-19 vaccine"; and (2) "immediate allergic reaction of any severity to a previous dose or known (diagnosed) allergy to a component of the COVID-19 vaccine."[104] Among the inactive ingredients of the COVID vaccines, polyethylene glycol (PEG)—which is used in other drugs and vaccines—is most likely to induce an allergic reaction. In addition to contraindications, the CDC lists several precautions to vaccination, including known allergic reactions to polysorbate or PEG or to other non-

---

[102] Walensky, R. (2021, May 12). CDC director statement on Pfizer's use of COVID-19 vaccine in adolescents age 12 and older. *Center for Disease Control and Prevention*. Retrieved October 1, 2021 from https://www.cdc.gov/media/releases/2021/s0512-advisory-committee-signing.html

[103] Pegden, W. (2021, June 24). Weighing myocarditis cases, ACIP failed to balance the harms vs benefits of 2nd doses. *Medium*. https://medium.com/@wpegden?p=d7d6b3df7cfb

[104] National Center for Immunization & Respiratory Diseases, Centers for Disease Control and Prevention. (2021, September 27). *Interim clinical considerations for use of COVID-19 vaccines currently approved or authorized in the United States*. Retrieved October 1, 2021 from https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html

COVID vaccines and injectable therapies. Patients with precautions are encouraged to consult with an allergist or immunologist and to conduct an individualized risk assessment by the vaccination provider before getting the vaccine.[105]

104. Some clinical evidence indicates that those who have recovered from COVID-19 could have a *heightened* risk of adverse effects compared with those who have never had the virus.[106, 107] This may be because vaccine reactogenicity after the first dose is higher among those with prior immunity.[108] Despite this evidence, the

---

[105] Centers for Disease Control and Prevention. (2021, September 27). *Interim clinical considerations for use of COVID-19 vaccines currently approved or authorized in the United States: Contraindications and precautions*. Retrieved Oct. 1, 2021 from https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-product%2Fclinical-considerations.html#Contraindications

[106] Mathioudakis, A. G., Ghrew, M., Ustianowski, A., Ahmad, S., Borrow, R., Papavasileiou, L. P., Petrakis, D., & Bakerly, N. D. (2021). Self-reported real-world safety and reactogenicity of COVID-19 vaccines: A vaccine recipient survey. *Life*, *11*(3), 249. doi: 10.3390/life11030249

[107] Menni, C., Klaser, K., May, A., Polidori, L., Capdevila, J., Louca, P., Sudre, C. H., Nguyen, L. H., Drew, D. A., Merino, J., Hu, C., Selvachandran, S., Antonelli, M., Murray, B., Canas, L. S., Molteni, E., Graham, M. S., Modat, M., Joshi, A. D., Spector, T. D. (2021). Vaccine side-effects and SARS-CoV-2 infection after vaccination in users of the COVID Symptom Study app in the UK: A prospective observational study. *The Lancet Infectious Diseases*, *21*(7), 939-949. doi: 10.1016/S1473-3099(21)00224-3 (finding that "Systemic side-effects were more common (1.6 times after the first dose of ChAdOx1 nCoV-19 [i.e., AstraZeneca vaccine] and 2.9 times after the first dose of BNT162b2 [i.e., Pfizer/BioNTech vaccine]) among individuals with previous SARS-CoV-2 infection than among those without known past infection. Local effects were similarly higher in individuals previously infected than in those without known past infection (1.4 times after the first dose of ChAdOx1 nCoV-19 and 1.2 times after the first dose of BNT162b2).").

[108] Krammer, F., Srivastava, K., the PARIS team & Simon, V. (2021). Robust spike antibody responses and increased reactogenitiy in seropositive individuals after a single dose of SARS-CoV-2 mRNA vaccine. *medRxiv*, Preprint. https://www.medrxiv.org/content/10.1101/2021.01.29.21250653v1 (concluding that "vaccine reactogenicity after the first dose is substantially more pronounced in

CDC does not list prior immunity as a contraindication to vaccination, though it does recommend waiting 90 days after recovering before vaccination.

105. Though the CDC recommends the COVID vaccines for all adults, because they are novel—available for use in the population for only ~17 months—there remain open questions about their use in special populations because they have not been tested in subgroups of patients with particular clinical conditions. For instance, in a comprehensive discussion of the biology of immune responses to vaccination (including COVID-19 vaccination) for patients with Multiple Sclerosis published in June 2021, Coyle et al. emphasize the lack of high-quality evidence available to guide recommendations for MS patients. They point out that three of six medical societies that focus on MS patients have failed to make a recommendation on whether MS patients should receive the COVID-19 vaccines. They and other authorities[109] emphasize the need for personalized decision making based on the clinical condition of the MS patient:[110]

> Currently, three COVID-19 vaccines have been granted emergency use authorization in the USA on the basis of promising interim findings of ongoing trials. Because analyses of these vaccines in people with MS are not available, decisions regarding COVID-19 vaccination and DMT choice should be informed by data and expert consensus, and personalized with considerations for disease burden, risk of infection, and other factors.

---

individuals with pre-existing immunity." The authors note that "quantitative serological assays that measure antibodies to the spike protein could be used to screen individuals prior to vaccination," which would "limit the reactogenicity experienced by COVID-19 survivors.").

[109] Ciotti, J. R., Valtcheva, M. V. & Cross, A. H. (2020). Effects of MS disease-modifying therapies on responses to vaccinations: A review. *Multiple Sclerosis Related Disorders*, *45*, 1-11. doi: 10.1016/j.msard.2020.102439

[110] Coyle, P. K., Gocke, A., Vignos, M. & Newsome, S. D. (2021). Vaccine considerations for multiple sclerosis in the COVID-19 era. *Advances in Therapy*, *38*(7), 3550-3588. doi:10.1007/s12325-021-01761-3

106. The paucity of data on the COVID-19 vaccine on patients with particular conditions is not limited to Multiple Sclerosis. Pregnant women were excluded from participating in the COVID-19 vaccination trials, consequently only limited randomized trial data are available about COVID-19 vaccine safety for that group.[111] Though the CDC and obstetrics focused specialty organizations nevertheless recommend COVID vaccination for pregnant women, many authors in peer reviewed journal articles have pointed to the lack of scientific data regarding vaccine safety in this group as a problem for clinicians providing accurate advice to pregnant women.[112] Given this uncertainty, Nicola Volpe and her colleagues[113] writing in the *Journal of Perinatal Medicine* explicitly recommend that "Women should discuss with healthcare professionals about the benefits and risks of having the vaccine, allowing an informed decision." In recent months some observational studies have shown reassuring results, including that pregnant woman face no greater risk of complications during pregnancy or delivery,[114] or of spontaneous abortion or miscarriage after vaccination.[115]

---

[111] Rasmussen, S. A., Kelley, C. F., Horton, J. P., & Jamieson, D. J. (2021). Coronavirus disease 2019 (COVID-19) vaccines and pregnancy: What obstetricians need to know. *Obstetrics & Gynecology*, *137*(3), 408-414. doi: 10.1097/AOG.0000000000004290 Erratum in: *Obstetrics & Gynecology, 137*(5), 962. doi: 10.1097/AOG.0000000000004379

[112] Holness, N. A., Powell-Young, Y. M., Torres, E., DuBois, S., & Giger, J. N. (2021) Covid-19, pregnancy, and vaccinations. *Journal of National Black Nurses Association*, *32*(1), 1-9..

[113] Volpe, N., Luca Schera, G. B., Dall'Asta, A., Di Pasquo, E., & Ghi, T. (2021) COVID-19 in pregnancy: Where are we now? *Journal of Perinatal Medicine*, *49*(6), 637-642. doi: 10.1515/jpm-2021-0309.

[114] Theiler, R. N., Wick, M., Mehta, R., Weaver, A. L., Virk, A., & Swift, M. (2021). Pregnancy and birth outcomes after SARS-CoV-2 vaccination in pregnancy. *American Journal of Obstetrics & Gynecology MFM*, *3*(6), 100467. doi: 10.1016/j.ajogmf.2021.100467 Online ahead of print.

[115] Kharbanda, E. O., Haapala, J., DeSilva, M., Vazquez-Benitez, Vesco, K. K., Naleway, A. L., & Lipkind, H. S. (2021). Spontaneous abortion following COVID-19 vaccination during pregnancy. *JAMA*, e2115494. Online ahead of print.

Nevertheless, there is still an area of active research where safety signals may still emerge. A large French study of vaccine safety in pregnancy expects to report complete results in late 2022.[116] After a thorough review of mostly reassuring data on the safety of the vaccine for pregnant women, Lydia Shook and some of her colleagues at Massachusetts General Hospital write that—given the recent introduction of the vaccine into use by pregnant women—it may be some time before full safety data become available:[117]

> Complete pregnancy outcomes data from people vaccinated in the first and early second trimesters are not yet available as most of these pregnancies are ongoing. Durability of IgG in the blood of neonates born to vaccinated mothers has not yet been defined, nor has whether the anti-SARS-CoV-2 IgG generated influences the response to other childhood vaccines. Information on postnatal outcomes and offspring development will require long term follow-up of children born to individuals who received the vaccine during pregnancy.

107. There are also patients with particular genetic conditions where vaccine safety data are not adequate. For instance, for patients with alpha-1 antitrypsin deficiency (AATD), an inherited disorder that predisposes a patient to enzymatic tissue injuries and inflammation—especially in the lungs—there are no clinical data whatsoever regarding the safety and efficacy of the COVID-19 vaccines. Writing in *Lancet Respiratory Medicine*, Yang and Zhao hypothesize "individuals with AATD might derive limited benefit from the current COVID-19 vaccines." They note that

---

doi:10.1001/jama.2021.15494

[116] Cottin, J., Benevent, J., Khettar, S., & Lacroix, I. (2021). COVID-19 vaccines and pregnancy: What do we know? *Therapie*, *76*(4), 373-374. doi: 10.1016/j.therap.2021.05.011

[117] Shook, L. L., Fallah, P. N., Silberman, J. N., & Edlow, A. G. (2021) COVID-19 vaccination in pregnancy and lactation: Current research and gaps in understanding. *Frontiers in Cellular and Infection Microbiology*, *11*, 735394. doi: 10.3389/fcimb.2021.735394

"even though vaccination has been prioritised to more vulnerable populations (such as people with AATD), individuals with AATD are usually not included in clinical trials (as reported in ClinicalTrials.gov), and thus the effectiveness and adverse event profile of vaccination in this population are unknown."[118] The same can be said for other patients with many other chronic diseases, for whom the decision whether to vaccinate should be an individual decision made in consultation with their physicians, rather than coerced by a firm or the government.

VI. Conclusion

108. A fundamental ethical principle guiding the practice of medicine is that any medical intervention, whether surgical, pharmacological, or a vaccine, should be recommended and undertaken only if it is deemed medically necessary. Any medical procedure, including vaccination, involves risk. No medical procedure is 100% safe, especially those involving a new vaccine, which by definition has not been studied for long-term adverse side effects. For this reason, it is a fundamental principle of medical ethics that the risks of the procedure be balanced against the potential benefits.

109. As I established earlier, based on the scientific evidence to date, those who have recovered from a SARS-CoV-2 infection possess immunity as robust and durable (or more) as that acquired through vaccination. The existing clinical literature overwhelmingly indicates that the protection afforded to the individual and community from natural immunity is as effective and durable as the efficacy levels of the most effective vaccines to date. There is no good reason for those who have such protection and who have sincere religious objections to be vaccinated. At the very least, the decision should be left to them, and without coercion from the government.

[118] Yang, C. & Zhao, H. (2021) COVID-19 vaccination in patients with α1-antitrypsin deficiency. *The Lancet, Respiratory Medicine*, *9*(8), 818-820. doi:10.1016/S2213-2600(21)00271-X

110. In sum, based on my analysis of the existing medical and scientific literature, any exemption policy that does not recognize natural immunity is irrational, arbitrary, and counterproductive to community health.[119]

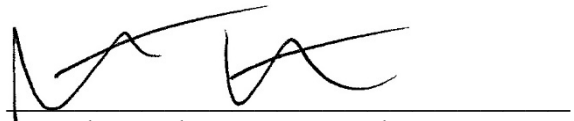
111. Indeed, now that every American adult and teenager has free access to the vaccines, the case for a vaccine mandate is weaker than it once was. There is no good public health case for SDUSD to require proof of vaccination for students who have recovered from COVID-19 and have a sincere religious objection to vaccination. Since the successful vaccination campaign already protects the vulnerable population, the unvaccinated—especially recovered COVID patients—pose a vanishingly small threat to the vaccinated. They are protected by an effective vaccine that dramatically reduces the likelihood of hospitalization or death after infections to near zero. At the same time, natural immunity provides benefits that are at least as strong and may well be stronger than those from vaccines.

112. In conclusion, the emerging evidence from the medical literature finds that COVID-recovered patients have robust and long lasting immunity against SARS-CoV-2 reinfection; that this immunity against infection is better than vaccinated patients who have never had COVID; that the vaccines—though safe for most people—do sometimes cause known severe side effects; that for patients with particular chronic conditions, including Multiple Sclerosis, the data on the safety and efficacy of the vaccine is still uncertain; that the development of the mRNA vaccines and the production of the adenovirus vector vaccines both involved the use of fetal tissue cell lines, to which some people have sincere religious objections; and finally, that there exist inexpensive safe accommodations that SDUSD can adopt which would protect both employees and students against SARS-CoV-2 infection without requiring students to enroll in independent online study.

---

[119] Bhattacharya, J., Gupta, S. & Kulldorff, M. (2021, June 4). *The beauty of vaccines and natural immunity.* Smerconish Newsletter. https://www.smerconish.com/exclusive-content/the-beauty-of-vaccines-and-natural-immunity

I declare under penalty of perjury under the laws of the United States of America that, to the best of my knowledge, the foregoing is true and correct this 11th day of May, 2022, at Stanford, California.



Jay Bhattacharya, MD, Ph.D.

EXHIBIT A

JAY BHATTACHARYA, M.D., Ph.D. **September 2021**

Address
Department of Health Policy
Stanford University School of Medicine
615 Crothers Way
Stanford, CA 94305-6006

Phone: (650) 736-0404

Email: jay@stanford.edu
http://web.stanford.edu/~jay

RESEARCH INTERESTS

Health economics, health policy, and outcomes research

A. ACADEMIC HISTORY:

Stanford University	A.M., A.B.	1990
Stanford University School of Medicine	M.D.	1997
Stanford University Department of Economics	Ph.D.	2000

B. EMPLOYMENT HISTORY:

2001 – present	Professor (Assistant to Full), Stanford University School of Medicine, Department of Economics (by courtesy)
2013 – present	Senior Fellow, Stanford Institute for Economic Policy Research
2007 – present	Research Associate, Sphere Institute / Acumen LLC
2002 – present	FRF to Research Associate, National Bureau of Economic Research
2014 – 2021	Senior Fellow Stanford Freeman Spogli Institute
2001 – 2020	Professor (Assistant to Full) Department of Health Research and Policy (by courtesy)
2006 – 2008	Research Fellow, Hoover Institution
1998 – 2001	Economist (Associate to Full), RAND Corporation
1998 – 2001	Visiting Assistant Professor, UCLA Department of Economics

C. SCHOLARLY PUBLICATIONS:

PEER-REVIEWED ARTICLES (154 total)

1. Yoshikawa A, Vogt W.B., Hahn J., **Bhattacharya J.**, "Toward the Establishment and Promotion of Health Economics Research in Japan," *Japanese Journal of Health Economics and Policy* 1(1):29-45, (1994).
2. Vogt WB, **Bhattacharya J**, Kupor S, Yoshikawa A, Nakahara T, "The Role of Diagnostic Technology in Competition among Japanese Hospitals," *International Journal of Technology Management, Series on Management of Technology in Health Care*, 11(1):93-105 (1995).
3. **Bhattacharya J**, Vogt WB, Yoshikawa A, Nakahara T, "The Utilization of Outpatient Medical Services in Japan," *Journal of Human Resources*, 31(2): 450-76, (1996).
4. Vogt WB, Kupor S, **Bhattacharya J**, Yoshikwawa A, Nakahara T, "Technology and Staffing in Japanese University Hospitals: Government vs. Private," *International Journal of Technology Assessment in Health Care*, 12(1): 93-103, (1996).

5. Sturm R, Gresenz C, Sherbourne C, **Bhattacharya J**, Farley D, Young AS, Klap R, Minnium K, Burnham MA, and Wells KB. "The Design of Healthcare for Communities: A Study of Health Care Delivery for Alcohol, Drug Abuse, and Mental Health Conditions." *Inquiry* 36(2):221-33 (1999).
6. Goldman D, **Bhattacharya J**, Joyce G, D'Amato R, Bozette S, Shapiro M, Liebowitz A. "The Impact of State Policy on the Costs of HIV Infection", *Medical Care Research and Review* 58(1):31-53 (2001). See comments *Medical Care Research and Review* 58(4):497-498 (2001).
7. Schoenbaum M, Spranca M, Elliot M, **Bhattacharya J**, Short PF. "Health Plan Choice and Information about Out-of-Pocket Costs: An Experimental Analysis" *Inquiry* 38(1):35-48 (2001).
8. Reville R, **Bhattacharya J**, and Sager L. "New Methods and Data Sources for Measuring the Economic Consequences of Workplace Injuries," *American Journal of Industrial Medicine* 40(4):452-63 (2001).
9. Goldman D, **Bhattacharya J**, McCaffrey D, Duan N, Leibowitz A, Morton S. "The Effect of Insurance on Mortality in an HIV+ Population in Care," *JASA* 96(455):883-894, (2001). See comments "The Effect of Insurance on Mortality in an HIV+ Population in Care," *JASA* 97(460):1218 (2002).
10. Su C, **Bhattacharya J**, and Wang CC, "Role of Neck Surgery in Conjunction with Radiation in Regional Control of Node-Positive Cancer of the Oropharynx" *American Journal of Clinical Oncology* 25(2):109-16. (2002).
11. DeLeire T, **Bhattacharya J**, and MaCurdy T. "Comparing Measures of Overtime Across BLS Surveys." *Industrial Relations* 41(2):362-369 (2002).
12. Studdert D, **Bhattacharya J**, Warren B, Schoenbaum M, Escarce JJ. "Personal Choices of Health Plans by Managed Care Experts." *Medical Care* 40(5):375-86 (2002).
13. **Bhattacharya J**, Schoenbaum M, and Sood N. "Optimal Contributions to Flexible Spending Accounts for Medical Care." *Economics Letters* 76(1):129-135 (2002).
14. Reville R, Neuhauser F, **Bhattacharya J**, and Martin C, "Comparing Severity of Impairment for Different Permanent Upper Extremity Musculo-Skeletal Injuries" *Journal of Occupational Rehabilitation* 12(3):205-21 (2002).
15. Lakdawalla D., Goldman D, **Bhattacharya J**, Hurd M, Joyce G, and Panis C., "Forecasting the Nursing Home Population", *Medical Care* 41(1):8-20 (2003) See comments "Forecasting the Nursing Home Population," *Medical Care* 41(1):28-31 (2003).
16. **Bhattacharya J**, Deleire T, Haider S, Currie J. "Heat or Eat? Cold-Weather Shocks and Nutrition in Poor American Families," *American Journal of Public Health* 93(7):1149-1154 (2003).
17. **Bhattacharya J** and Vogt W. "A Simple Model of Pharmaceutical Price Dynamics." *Journal of Law and Economics* 46:599-626 (2003).
18. **Bhattacharya J**, Goldman D, Sood N. "The Link Between Public and Private

Insurance and HIV-Related Mortality," *Journal of Health Economics* 22:1105-1122 (2003).

19. Lakdawalla D, **Bhattacharya J**, and Goldman D. "Are the Young Becoming More Disabled?" *Health Affairs* 23(1):168-176 (2004).
20. **Bhattacharya J**, Currie J, and Haider S. "Poverty, Food Insecurity, and Nutritional Outcomes in Children and Adults," *Journal of Health Economics* 23(4):839-862 (2004).
21. Yoo BK, **Bhattacharya J**, McDonald K and Garber A. "Impacts of Informal Caregiver Availability on Long-term Care Expenditures in OECD Countries," *Health Services Research* 39(6 Pt 2):1971-92 (2004).
22. **Bhattacharya J**, Goldman D, and Sood N. "Price Regulation in Secondary Insurance Markets" *Journal of Risk and Insurance* 72(4):61-75 (2005).
23. **Bhattacharya J**. "Specialty Selection and Lifetime Returns to Specialization Within Medicine" *Journal of Human Resources* 40(1):115-143 (2005).
24. Lakdawalla D, Philipson T, **Bhattacharya J**, "Welfare-Enhancing Technological Change and the Growth of Obesity," *American Economics Review* (Papers and Proceedings) 95(2): 253-257 (2005).
25. **Bhattacharya J,** Shang B, Su CK, Goldman D "Technological Advance in Cancer and the Future of Medical Care Expenditures by the Elderly," *Health Affairs.* [Web Exclusive 10.1377/hlthaff.w5.r5-r17] 26 September (2005).
26. Goldman DP, Shang B, **Bhattacharya J**, Garber AM, Hurd M, Joyce GF, Lakdawalla D, Panis C, Shekelle P, "Consequences Of Health Trends And Medical Innovation For The Future Elderly," *Health Affairs.* [Web Exclusive 10.1377/hlthaff.w5.r53-r66] 26 September (2005).
27. **Bhattacharya J** and Lakdawalla D, "The Labor Market Value of Health Improvements" *The Forum for Health Economics and Health Policy.* Forum: Biomedical Research and the Economy: Article 2 http://www..bepress.fhep/biomedical_research/2 (2005).
28. **Bhattacharya J** and Lakdawalla D, "Does Medicare Benefit the Poor?" *Journal of Public Economics* 90(1-2):277-92 (2006).
29. **Bhattacharya J**, Goldman D, McCaffrey D, "Estimating Probit Models with Endogenous Covariates," *Statistics in Medicine* 25(3):389-413 (2006).
30. **Bhattacharya J**, Currie J, and Haider S, "Breakfast of Champions? The Nutritional Effects of the School Breakfast Program," *Journal of Human Resources* (2006) 41(3):445-466.
31. **Bhattacharya J** and Sood N, "Health Insurance and the Obesity Externality" *Advances In Health Economics And Health Services Research* 17:279-318 (2007).
32. Shetty K and **Bhattacharya J,** "The Impact of the 2003 ACGME Work Hours Regulations" *Annals of Internal Medicine* 147: 73-80 (2007). See comment "A Response to Dr. Puhan" *Annals of Internal Medicine* 148(6): 482 (2008).
33. **Bhattacharya J** and Shang B, "Model Based Survey Design Using Logits:

Estimating Lost Statistical Power from Random Alternative Sampling" *Survey Research Methods* 1(3):145-154 (2007).ea

34. **Bhattacharya J**, Choudhry K, and Lakdawalla D, "Chronic Disease and Trends in Severe Disability in Working Age Populations" *Medical Care* 46(1):92-100 (2008).
35. **Bhattacharya J**, Shaikh A, Vytlacil E, "Treatment Effect Bounds under Monotonicity Assumptions: An Application to Swan-Ganz Catheterization" *American Economic Review (Papers and Proceedings)* 98(2): 351–56 (2008).
36. Shetty K, Vogt WB, and **Bhattacharya J,** "Hormone Replacement Therapy and Cardiovascular Health in the US." *Medical Care* 47(5):600-606 (2009).
37. **Bhattacharya J** and Bundorf K, "The Incidence of the Healthcare Costs of Obesity" *Journal of Health Economics* 28(3):649-658 (2009)
38. Bendavid E and **Bhattacharya J,** "PEPFAR in Africa: An Evaluation of Outcomes" *Annals of Internal Medicine* 150(10):688-695 (2009)
39. Nukols T, **Bhattacharya J**, Wolman DM, Ulmer C, Escarce JJ, "Cost Implications of Reductions to Resident Physician Work Hours and Workloads for Resident Physicians," *New England Journal of Medicine* 360(21):2202-15 (2009).
40. **Bhattacharya J** and Isen A, "On Inferring Demand for Health Care in the Presence of Anchoring and Selection Biases," *Forum for Health Economics & Policy*: 12(2) (Health Economics), Article 6. http://www.bepress.com/fhep/12/2/6 (2009)
41. **Bhattacharya J**, Goldman D, and Sood N, "Market Evidence of Misperceived Prices and Mistaken Mortality Risks," *Journal of Economic Behavior and Organization* 72(1):451-462 (2009)
42. Seabury S, **Bhattacharya J**, Neuhauser F, Reville R, "Using Empirical Data on Earnings Losses to Improve Permanent Disability Ratings in Workers' Compensation," *Journal of Risk and Insurance* 77(1):231-260 (2010).
43. Kautz T, Bendavid E, **Bhattacharya J**, Miller NG, "AIDS and Declining Support for Dependent Elderly People in Africa: Retrospective Analysis Using Demographic and Health Surveys" *British Medical Journal* 340:c2841 doi:10.1136 (2010)
44. Patel CJ, **Bhattacharya J**, Butte AJ, "An Environment-Wide Association Study (EWAS) on Type 2 Diabetes Mellitus," *PLoS ONE* 5(5): e10746. doi:10.1371/journal.pone.0010746 (2010)
45. Yoo BK, **Bhattacharya J**, Fiscella K, Bennett NM, Szilagyi P, "Effects of Mass Media Coverage on Timing and Annual Receipt of Influenza Vaccination among Medicare Elderly" *Health Services Research* 45(5 Pt 1):1287-309. (2010)
46. Bendavid E, Leroux E, **Bhattacharya J**, Smith N, and Miller G, "The Role of Drug Prices and Foreign Assistance in Expanding HIV Treatment in Africa" *British Medical Journal* 341:c6218 (2010)
47. Shetty K, Deleire T, White C, and **Bhattacharya J,** ``Changes in Hospitalization Rates Following Smoking Bans,'' *Journal of Policy Analysis and Management* 30(1):6-28 (2011)

48. **Bhattacharya J** and Sood N, "Who Pays for Obesity*?" Journal of Economic Perspectives* 25(1):139-58 (2011)
49. Liu V, Weill D, **Bhattacharya J,** "Racial Differences in Survival Following Lung Transplantation" *Archives of Surgery* 146(3):286-293 (2011)
50. Liu V, **Bhattacharya J**, Weill D, Hlatky M, "Persistent Racial Disparities in Survival Following Heart Transplantation" *Circulation* 123:1642-1649 (2011)
51. **Bhattacharya J** and Packalen M "Opportunities And Benefits As Determinants Of The Direction Of Scientific Research"' *Journal of Health Economics* (2011) 30(4):603-15
52. Atella V, **Bhattacharya J**, Carbonari L, "Pharmaceutical Price Controls and Minimum Efficacy Regulation: Evidence from the US and Italy," *Health Services Research* (2012) 47(1 Pt 1):293-308.
53. **Bhattacharya J**, Shaikh AM, and Vytlacil E, "Treatment Effect Bounds: An Application to Swan-Ganz Catheterization," *Journal of Econometrics* (2012) 168(2): 223-243.
54. **Bhattacharya J** and Packalen M, "The *Other* Ex-Ante Moral Hazard in Health"' *Journal of Health Economics* (2012) 31(1):135-46
55. Smith-Spangler C, **Bhattacharya J**, and Goldhaber-Fiebert JD, "Diabetes, Its Treatment, and Catastrophic Medical Spending in 35 Developing Countries" *Diabetes Care* (2012) 35(2):319-26
56. Arroyo A, Wang E, Saynina O, **Bhattacharya J**, Wise P, "The Association Between Insurance Status and Emergency Department Disposition of Injured California Children" *Academic Emergency Medicine* (2012) 19: 541–551.
57. **Bhattacharya J** and Vogt WB, "Do Instrumental Variables Belong in Propensity Scores?" *International Journal of Statistics & Economics* 9(A12) (2012)
58. Goldhaber-Fiebert JD, Rubinfeld RE, **Bhattacharya J**, Robinson TN, Wise PH, "The Utility of Childhood and Adolescent Obesity Assessment in Relation to Adult Health" *Medical Decision Making* (2012) 33(2):163-75.
59. Bendavid E, Holmes CB, **Bhattacharya J**, Miller G, "HIV Development Assistance and Adult Mortality in Africa" *JAMA* 2012;307(19):2060-2067.
60. Perlroth DJ, **Bhattacharya J**, Goldman DP, Garber AM," An economic analysis of conservative management versus active treatment for men with localized prostate cancer," *J Natl Cancer Inst Monogr.* 2012(45):250-7.
61. **Bhattacharya J**, Gathmann C, Miller NG, "The Gorbachev Anti-Alcohol Campaign and Russia's Mortality Crisis," *American Economic Journals: Applied Economics* (2013) 5(2):232-60.
62. Erickson K, Tan K, Winkelmayer W, Chertow G, **Bhattacharya J**, "Variation in Nephrologist Visits to Patients on Hemodialysis across Dialysis Facilities and Geographic Locations." *Clinical Journal of the American Society of Nephrology* (2013): 987-994 doi:10.2215/CJN.10171012
63. Bundorf K, Mata R, Schoenbaum M, **Bhattacharya J**, "Are Prescription Drug Insurance Choices Consistent with Expected Utility Theory?" *Health Psychology* (2013) *32*(9), 986.

64. Basu S, Seligman H, **Bhattacharya J,** "Nutritional policy changes in the Supplemental Nutrition Assistance Program: A microsimulation and cost-effectiveness analysis" *Medical Decision Making* (2013) *33*(7), 937-948.
65. Wang NE, Saynina O, Vogel LD, Newgard CD, **Bhattacharya J**, Phibbs CS. The effect of trauma center care on pediatric injury mortality in California, 1999 to 2011. *J Trauma Acute Care Surg*. 2013 Oct;75(4):704-16. doi: 10.1097/TA.0b013e31829a0a65. PMID: 24064887; PMCID: PMC4306425.
66. Nguyen C, Hernandez-Boussard T., Davies SM, **Bhattacharya J**, Khosla RM, Curtin CM, "Cleft Palate Surgery: An Evaluation of Length of Stay, Complications, and Costs by Hospital Type," *The Cleft Palate-Craniofacial Journal*. (2013)
67. Austin D, Luan A, Wang L, **Bhattacharya J,** "Small Increases to Employer Premiums Could Shift Millions of People to the Exchanges and Add Billions of Dollars to Federal Outlays" *Health Affairs* 32.9 (2013): 1531-1537.
68. Bendavid E and **Bhattacharya J**, "The Relationship of Health Aid to Population Health Improvements" *JAMA Internal Medicine* Jun;174(6):881-7. doi: 10.1001/jamainternmed.2014.292. (2014) PMID: 24756557
69. Erickson K, Winkelmayer W, Chertow G, **Bhattacharya J** "Physician Visits and 30-day Hospital Readmissions in Patients Receiving Hemodialysis." *Journal of the American Society of Nephrology* Sep;25(9):2079-87. doi: 10.1681/ASN.2013080879 (2014) PMID: 2481216.
70. Patel RB, Mathur MB, Gould M, Uyeki TM, **Bhattacharya J**, Xiao Y, Khazeni N "Demographic and Clinical Predictors of Mortality from Highly Pathogenic Avian Influenza A (H5N1) Virus Infection: CART Analysis of International Cases." PLoS One Mar 25;9(3):e91630. doi: 10.1371/journal.pone.0091630. eCollection 2014. PMID: 24667532 (2014).
71. Basu S, Seligman H, Gardner C, and **Bhattacharya J**, "Ending SNAP subsidies for sugar-sweetened beverages could reduce obesity and type 2 diabetes" *Health Affairs* Jun;33(6):1032-9. doi: 10.1377/hlthaff.2013.1246 (2014) PMID: 24889953
72. Jena AB, Schoemaker L, and **Bhattacharya J**, "Exposing Physicians to Reduced Residency Work Hours Did Not Adversely Affect Patient Outcomes After Residency" *Health Affairs* 33:1832-1840 (2014)
73. Mathur MB, Patel RB, Gould M, Uyeki TM, **Bhattacharya J**, Xiao Y, Gillaspie Y, Khazeni N, "Global Seasonal Patterns in Human HPAI H5N1 Infection: Analysis of International Cases" *PLoS ONE* Sep 12;9(9):e106171. doi: 10.1371/journal.pone.0106171. eCollection 2014. PMID: 25215608 (2014)
74. **Bhattacharya J**, Vogt WB. "Employment and Adverse Selection in Health Insurance." *Forum for Health Economics and Policy* 17(1):79-104. DOI: 10.1515/fhep-2013-0017 (2014)
75. Erickson KF, Winkelmayer WC, Chertow GM, and **Bhattacharya J**. "Medicare Reimbursement Reform for Provider Visits and Health Outcomes in Patients on Hemodialysis." *Forum for Health Economics and Policy* 17(1):53-77 (2014)
76. Park MD, **Bhattacharya J**, Park KT. "Differences in healthcare expenditures for inflammatory bowel disease by insurance status, income, and clinical care setting." PeerJ. Sep 23;2:e587. doi: 10.7717/peerj.587 PMID: 25279267 (2014)

77. Erickson KF, Mell MW, Winkelmayer WC, Chertow GM, and **Bhattacharya J** "Provider Visit Frequency and Vascular Access Interventions in Hemodialysis" *Clinical Journal of the American Society of Nephrology* (2015) 10(2):269-77. doi: 10.2215/CJN.05540614. PMID: 25587105
78. Chicklis C, MaCurdy T, **Bhattacharya J**, Shafrin J, Zaidi S, and Rogers D "Regional Growth in Medicare Spending, 1992-2010." *Health Services Research* (2015) 50(5):1574-88. doi: 10.1111/1475-6773.12287 PMID: 25676603
79. Romley JA, Axeen S, Lakdawalla DN, Chernew ME, **Bhattacharya J**, and Goldman DP. "The Relationship between Commercial Health Care Prices and Medicare Spending and Utilization." Health Services Research (2015) 50(3):883-96. doi: 10.1111/1475-6773.12262. PMID: 25429755
80. Gidwani R and **Bhattacharya J** "CMS Reimbursement Reform and the Incidence of Hospital-Acquired Pulmonary Embolism or Deep Vein Thrombosis." *Journal of General Internal Medicine* 30(5):588-596 (2015)
81. Erickson KF, Mell MW, Winkelmayer WC, Chertow GM, and **Bhattacharya J** "Provider Visits and Early Vascular Access Placement in Maintenance Hemodialysis." *Journal of the American Society of Nephrology* 26(8):1990-7 doi:10.1681/ASN.2014050464 (2015) PMID: 25452668
82. Goldhaber-Fiebert JD, Studdert DM, Farid MS, **Bhattacharya J** "Will Divestment from Employment-Based Health Insurance Save Employers Money? The Case of State and Local Governments." *Journal of Empirical Legal Studies* 12(3): 343-394 (2015) DOI: 10.1111/jels.12076
83. Alsan M, Schoemaker L, Eggleston K, Kammili N, Kolli P, **Bhattacharya J**. "Out-of-pocket health expenditures and antimicrobial resistance in low- and middle-income countries" *Lancet Infectious Disease* (2015) 15(10):1203-1210
84. Wang L, Haberland C, Thurm C, **Bhattacharya J**, Park KT. "Health Outcomes in US Children with Abdominal Pain at Major Emergency Departments Associated with Race and Socioeconomic Status" *PLoS One* 10(8): e0132758 DOI: 10.1371/journal.pone.0132758 (2015)
85. Patel MI, **Bhattacharya J**, Asch SM, Kahn J "Acceptance of Advance Directives and Palliative Care Referral for Veterans with Advanced Cancer: A Retrospective Analysis." *The American Journal of Hospice & Palliative Care* DOI:10.1177/1049909115595216 (2015).
86. Jena AB, Schoemaker L, **Bhattacharya J**, Seabury SA (2015) Physician spending and subsequent risk of malpractice claims: observational study. *BMJ* 2015;351:h5516 doi: 10.1136/bmj.h5516. PMID: 26538498 See also: Jena AB, Schoemaker L, Bhattacharya J, Seabury SA. "Authors' reply to Barbieri and Kovarik, Mariani, and Waxman and Kanzaria." *BMJ*. 2015 351:h6774. doi: 10.1136/bmj.h6774 (2015). PMID: 26668033
87. Richman I, Asch SM, **Bhattacharya J**, Owens DK. "Colorectal Cancer Screening in the Era of the Affordable Care Act" *Journal of General Internal Medicine* (2016) 31(3):315-20. doi: 10.1007/s11606-015-3504-2. PMID: 26349953
88. Mooney JJ, **Bhattacharya J**, and Dhillon GS Effect of Transplant Center Volume on Cost and Readmissions in Medicare Lung Transplant Recipients, *Annals of the*

American Thoracic Society 13(7):1034-41. doi: 10.1513/AnnalsATS.201601-017OC (2016). PMID: 27064753

89. Hurley MP, Schoemaker L, Morton JM, Wren SM, Vogt WB, Watanabe S, Yoshikawa A, **Bhattacharya J**. "Geographic variation in surgical outcomes and cost between the United States and Japan." *Am J Manag Care*. 22(9):600-7 (2016) PMID: 27662222
90. Erickson KF, Winkelmayer WC, Chertow GM, **Bhattacharya J**. "Hemodialysis Hospitalizations and Readmissions: The Effects of Payment Reform." *Am J Kidney Dis.* 2016 Nov 14. pii: S0272-6386(16)30524-8. doi: 10.1053/j.ajkd.2016.08.033. (2016) PMID: 27856087
91. Richman I, Asch SM, Bendavid E, **Bhattacharya J**, Owens DK. "Breast Density Notification Legislation and Breast Cancer Stage at Diagnosis: Early Evidence from the SEER Registry." *J Gen Intern Med*. 32(6):603-609 (2017) doi: 10.1007/s11606-016-3904-y. PMID: 27844260
92. Erickson KF, Zheng Y, Winkelmayer WC, Ho V, **Bhattacharya J**, Chertow GM. "Consolidation in the Dialysis Industry, Patient Choice, and Local Market Competition."*Clin J Am Soc Nephrol.* 12(3):536-545 (2017) doi: 10.2215/CJN.06340616 PMID: 27831510
93. Erickson KF, Winkelmayer WC, Chertow GM, **Bhattacharya J**. "Effects of physician payment reform on provision of home dialysis." *Am J Manag Care* 22(6):e215-23. (2016) PMID: 27355909
94. Eneriz-Wiemer M, Saynina O, Sundaram V, Lee HC, **Bhattacharya J**, Sanders LM. "Parent Language: A Predictor for Neurodevelopmental Follow-up Care Among Infants With Very Low Birth Weight." *Acad Pediatr*. 16(7):645-52. doi: 10.1016/j.acap.2016.04.004. (2016) PMID: 27130810
95. Chen B, Jalal H, Hashimoto H, Suen SC**,** Eggleston K, Hurley M, Schoemaker L, and **Bhattacharya J**. "Forecasting Trends in Disability in a Super-Aging Society: Adapting the Future Elderly Model to Japan," *Journal of the Economics of Ageing* 8 (2016): 42-51.
96. Liu VX, Fielding-Singh V, Greene JD, Baker JM, Iwashyna TJ, **Bhattacharya J**, Escobar GJ. "The Timing of Early Antibiotics and Hospital Mortality in Sepsis" *Am J Respir Crit Care Med*. (2017) 196(7):856-863. doi: 10.1164/rccm.201609-1848OC PMID: 28345952
97. Shaw JG, Farid M, Noel-Miller C, Joseph N, Houser A, Asch SA, **Bhattacharya J**, Flowers L. "Social Isolation and Medicare Spending: Among Older Adults, Objective Social Isolation Increases Expenditures while Loneliness Does Not" *J of Aging and Health* 29(7):1119-1143 (2017)
98. Tran EMT, **Bhattacharya J**, Pershing S. "Self-Reported Receipt of Dilated Fundus Examinations Among Patients with Diabetes: Medical Expenditure Panel Survey, 2002-2013" *American Journal of Ophthalmology* 179:18-24 (2017) doi: 10.1016/j.ajo.2017.04.009 PMID: 28455116
99. Lin E, Cheng XS, Chin KK, Zubair T, Chertow GM, Bendavid E, Bhattacharya J. "Home Dialysis in the Prospective Payment System Era" J Am Soc Nephrol 28(10):2993-3004. doi: 10.1681/ASN.2017010041. Epub 2017 May 10. (2017) PMID: 28490435

100. Hakim I, Hathi S, Nair A, Narula T, **Bhattacharya J**. "Electronic health records and the frequency of diagnostic test orders" *Am J Manag Care*. 23(1):e16-e23. (2017) PMID: 28141935
101. Pollom EL, Wang G, Harris JP, Koong AC, Bendavid E, **Bhattacharya J**, Chang DT. "The Impact of Intensity Modulated Radiation Therapy on Hospitalization Outcomes in the SEER-Medicare Population With Anal Squamous Cell Carcinoma" *Int J Radiat Oncol Biol Phys.* 98(1):177-185. doi: 10.1016/j.ijrobp.2017.01.006. PMID: 28258896 (2017)
102. Kwong JZ, Weng Y, Finnegan M, Schaffer R, Remington A, Curtin C, McDonald KM, **Bhattacharya J**, Hernandez-Boussard T. "Effect of Medicare's Nonpayment Policy on Surgical Site Infections Following Orthopedic Procedures" *Infect Control Hosp Epidemiol.* 38(7):817-822 doi: 10.1017/ice.2017.86. (2017) PMID: 28487001
103. Chen SP, **Bhattacharya J**, Pershing S. "Vision Loss and Cognition in the US Population of Older Adults, *JAMA Ophthalmology* 135(9):963-970 (2017) DOI: 10.1001/jamaophthalmol.2017.2838 PMID: 28817745 PMCID: PMC5710542
104. Lin E, MaCurdy M, **Bhattacharya J** "MACRA and its Implications for Nephrology" *Journal of American Society of Nephrology* (2017) 28(9):2590-2596. doi: 10.1681/ASN.2017040407
105. Sandhu AT, Heidenreich PA, **Bhattacharya J**, and Bundorf MK "Cardiovascular Testing and Clinical Outcomes in Emergency Department Patients with Chest Pain" *JAMA Internal Medicine* (2017) 177(8):1175-1182 PMID: 28654959 PMCID: PMC5710427 doi:10.1001/jamainternmed.2017.2432
106. Mooney JJ, Hedlin H, Mohabir P, **Bhattacharya J**, & Dhillon GS. "Racial and ethnic disparities in lung transplant listing and waitlist outcomes." *The Journal of Heart and Lung Transplantation*, *37*(3), 394–400. doi:10.1016/j.healun.2017.09.017 (2017)
107. Packalen M and **Bhattacharya J** (2017) "Neophilia Ranking of Scientific Journals" *Scientometrics* 110(1):43-64 PMID: 28713181 PMCID: PMC5506293 doi: 10.1007/s11192-016-2157-1
108. Garber AM, Azad TD, Dixit A, Farid M, Sung E, Vail D, **Bhattacharya J** "Medicare savings from conservative management of low back pain" *American Journal of Managed Care* 24(10):e332-e337. (2018)
109. Patel MI, Sundaram V, Desai M, Periyakoil VS, Kahn JS, **Bhattacharya J**, Asch SM, Milstein A, and Bundorf MK. "Effect of a Lay Health Worker Intervention on Goals-of-Care Documentation and on Health Care Use, Costs, and Satisfaction Among Patients with Cancer: A Randomized Clinical Trial." *JAMA Oncol.* 4(10):1359-1366. doi: 10.1001/jamaoncol.2018.2446. (2018)
110. Erickson KF, Winkelmayer WC, Ho V, **Bhattacharya J**, Chertow GM "Market Competition and Health Outcomes in Hemodialysis" *Health Services Research* 53(5):3680-3703. doi: 10.1111/1475-6773.12835. Epub 2018 Feb 22. (2018)
111. Yu JX, Oliver M, Lin J, Chang M, Limketkai BN, Soetikno R, **Bhattacharya J**, Kaltenbach T. Patients Prescribed Direct-Acting Oral Anticoagulants Have Low Risk of Postpolypectomy Complications. *Clinical Gastroenterology and*

Hepatology. https://doi.org/10.1016/J.CGH.2018.11.051 17(10 2000-2007.e3 (2018) PMID: 30503964. PMCID: PMC6541555

112. Patel CJ, **Bhattacharya J**, Ioannidis J, & Bendavid E. "Systematic identification of correlates of HIV infection." *AIDS*, *32*(7):933-943. (2018)
113. McKenzie RB, Sanders L, Bhattacharya J, Bundorf MK "Health Care System Factors Associated with Transition Preparation in Youth with Special Health Care Needs" Population Health Management 22(1):63-73. doi: 10.1089/pop.2018.0027. Epub 2018 Jun 29 (2019)
114. Erickson KF, Winkelmayer WC, Ho V, Bhattacharya J, Chertow GM "Market Consolidation and Mortality in Patients Initiating Hemodialysis" *Value in Health.* 22(1):69-76. doi: 10.1016/j.jval.2018.06.008. Epub 2018 Jul 27. (2019)
115. Curto V, Einav L, Finkelstein A, Levin J, & **Bhattacharya J**. "Health Care Spending and Utilization in Public and Private Medicare." *American Economic Journal: Applied Economics*, 11(2), 302–332. https://doi.org/10.1257/app.20170295 (2019)
116. Mooney JJ, **Bhattacharya J**, and Dhillon GS "Effect of Broader Geographic Sharing of Donor Lungs on Lung Transplant Waitlist Outcomes" *Journal of Heart and Lung Transplantation* 38(2):136-144. doi: 10.1016/j.healun.2018.09.007. Epub 2018 Sep 14. (2019)
117. Azad, T., Vail, D., Bentley, J., Han, S., Suarez, P., Varshneya, K., Mittal V, Desai M, **Bhattacharya J**, and Ratliff, J. "Initial Provider Specialty is Associated with Long-term Opiate Use in Patients with Newly Diagnosed Low Back and Lower Extremity Pain." Spine 44(3):211-218. doi: 10.1097/BRS.0000000000002840. (2019)
118. Patel MI, Moore D, **Bhattacharya J**, Milstein A, & Coker TR "Perspectives of Health Care Payer Organizations on Cancer Care Delivery Redesign: A National Study" *Journal of Oncology Practice* 15:1, e46-e55 (2019)
119. Lin E, **Bhattacharya J**, & Chertow GM "Prior Hospitalization Burden and the Relatedness of 30-Day Readmissions in Patients Receiving Hemodialysis." *Journal of the American Society of Nephrology*, *30*(2), 323–335. https://doi.org/10.1681/asn.2018080858 (2019)
120. Packalen M, & **Bhattacharya J**. "Age and the Trying Out of New Ideas." *Journal of Human Capital*, 13(2), 341–373. https://doi.org/10.1086/703160 (2019)
121. Patel MI, Ramirez D, Agajanian R, Agajanian H, **Bhattacharya J**, & Bundorf KM "Lay Health Worker-Led Cancer Symptom Screening Intervention and the Effect on Patient-Reported Satisfaction, Health Status, Health Care Use, and Total Costs: Results From a Tri-Part Collaboration." *Journal of Oncology Practice*, https://doi.org/10.1200/JOP.19.00152 (2019)
122. Sandhu AT, Kohsaka S, **Bhattacharya J**, Fearon WF, Harrington RA, & Heidenreich PA. "Association Between Current and Future Annual Hospital Percutaneous Coronary Intervention Mortality Rates." *JAMA Cardiology*, 1–8. https://doi.org/10.1001/jamacardio.2019.3221 (2019)
123. Patel M, Andrea N, **Bhattacharya J**, & Coker TR. "A Community-Partnered, Evidence-Based Approach to Improving Cancer Care Delivery for Low-Income

and Minority Patients with Cancer." *Journal of Community Health*, 44(5), 912–920. https://doi.org/10.1007/s10900-019-00632-x (2019)

124. Hamad R, Templeton ZS, Schoemaker L, Zhao M, & **Bhattacharya J**. "Comparing Demographic and Health Characteristics of New and Existing SNAP Recipients: Application of A Machine Learning Algorithm." *The American Journal of Clinical Nutrition*, 109(4), 1164–1172. https://doi.org/10.1093/ajcn/nqy355 (2019)
125. Erickson KF, Zhao B, Niu J, Winkelmayer WC, **Bhattacharya J**, Chertow GM, & Ho V. "Association of Hospitalization and Mortality Among Patients Initiating Dialysis with Hemodialysis Facility Ownership and Acquisitions." *JAMA Network Open*, 2(5), e193987. https://doi.org/10.1001/jamanetworkopen.2019.3987 (2019)
126. Jena AB, Farid M, Blumenthal D, & **Bhattacharya J**. "Association of Residency Work Hour Reform with Long Term Quality and Costs of Care of US Physicians: Observational Study." *BMJ*, 366, l4134. https://doi.org/10.1136/bmj.l4134 (2019).
127. Hamad R, Nguyen TT, **Bhattacharya J**, Glymour MM, & Rehkopf DH. "Educational Attainment and Cardiovascular Disease in The United States: A Quasi-Experimental Instrumental Variables Analysis." *PLoS Medicine*, 16(6), e1002834. https://doi.org/10.1371/journal.pmed.1002834 (2019)
128. Yu JX, Lin JL, Oliver M, Soetikno R, Chang MS, Kwong AJ, Limketkai BN, **Bhattacharya J**, Kaltenbach T. Trends in EMR for Nonmalignant Colorectal Polyps in The United States. *Gastrointestinal Endoscopy*. https://doi.org/10.1016/j.gie.2019.08.004 (2019)
129. Kim D, Chen C, Tysinger B, Park S, Chong MZ, Wang L, Zhao M, Yean JM, Koh WP, Yoong J, **Bhattacharya J**, & Eggleston K. Smoking, life expectancy, and chronic disease in South Korea, Singapore, and the United States: A microsimulation model [published online ahead of print, 2019 Dec 4]. Health Econ. 2019;10.1002/hec.3978. doi:10.1002/hec.3978
130. Ryckman T, Robinson M, Pedersen C, **Bhattacharya J**, Bendavid E. Impact of Feed the Future initiative on nutrition in children aged less than 5 years in sub-Saharan Africa: difference-in-differences analysis. *BMJ*.;367:l6540. Published 2019 Dec 11. doi:10.1136/bmj.l6540 (2019) PMID: 31802569 PMCID: PMC7269831
131. Pan CK, Vail D, **Bhattacharya J**, Cao M, Mruthyunjaya P. (2020) The Effect of Obstructive Sleep Apnea on Absolute Risk of Central Serous Chorioretinopathy. Am J Ophthalmol. 2020 Oct;218:148-155 PMID 32574769
132. Erickson KF, Shen JI, Zhao B, Winkelmayer WC, Chertow GM, Ho V, & **Bhattacharya J**. Safety-Net Care for Maintenance Dialysis in the United States. *J Am Soc Nephrol*. 31(2):424-433. doi:10.1681/ASN.2019040417 (2020) PMID: 31857351 PMCID: PMC7003304
133. Bonde AN, Martinussen T, Lee CJ, Lip GYH, Staerk L, Bang CN, **Bhattacharya J**, Gislason G, Torp-Pedersen C, Olesen JB, Hlatky MA. Rivaroxaban Versus Apixaban for Stroke Prevention in Atrial Fibrillation: An Instrumental Variable Analysis of a Nationwide Cohort. Circ Cardiovasc Qual

Outcomes.13(4):e006058. doi:10.1161/CIRCOUTCOMES.119.006058 (2020) PMID: 32283966

134. Sood N, Simon P, Ebner P, Eichner D, Reynolds J, Bendavid E, & **Bhattacharya J** Seroprevalence of SARS-CoV-2-Specific Antibodies Among Adults in Los Angeles County, California, on April 10-11, 2020 [published online ahead of print, 2020 May 18]. *JAMA*.;e208279. doi:10.1001/jama.2020.8279 (2020) PMID: 32421144 PMCID: PMC7235907
135. Packalen M, **Bhattacharya J**. NIH funding and the pursuit of edge science. Proc Natl Acad Sci U S A. 117(22):12011-12016. doi:10.1073/pnas.1910160117 (2020)
136. Alobuia WM, Dalva-Baird NP, Forrester JD, Bendavid E, **Bhattacharya J**, Kebebew E. Racial disparities in knowledge, attitudes and practices related to COVID-19 in the USA [published online ahead of print, 2020 Jun 3]. J Public Health (Oxf). 2020;fdaa069. doi:10.1093/pubmed/fdaa069
137. Shin SH, Lillard DR, **Bhattacharya J**. Understanding the correlation between Alzheimer's Disease polygenic risk, wealth, and the composition of wealth holdings. *Biodemography and Social Biology* (2020) Oct 28;268:113473. doi: 10.1016/j.socscimed.2020.113473
138. Curto V, Einav L, Levin J, and **Bhattacharya J**. Can Health Insurance Competition Work? Evidence from Medicare Advantage. *Journal of Political Economy* (2021) 129(2): 570-606.
139. Sandhu AT, **Bhattacharya J**, Lam J, Bounds S, Luo B, Moran D, Uwilingiyimana AS, Fenson D, Choradia N, Do R, Feinberg L, MaCurdy T, Nagavarapu S. Adjustment for Social Risk Factors Does Not Meaningfully Affect Performance On Medicare's MIPS Clinician Cost Measures. *Health Aff* (Millwood). 2020 Sep;39(9):1495-1503. doi: 10.1377/hlthaff.2020.00440. PMID: 32897780.
140. Kasajima M, Hashimoto H, Suen SC, Chen B, Jalal H, Eggleston K, **Bhattacharya J**. Future projection of the health and functional status of older people in Japan: A multistate transition microsimulation model with repeated cross-sectional data. *Health Econ*. 2020 Jul 14. doi: 10.1002/hec.3986. Epub ahead of print. PMID: 32662080.
141. Lin E, Chertow GM, **Bhattacharya J**, Lakdawalla D. Early Delays in Insurance Coverage and Long-term Use of Home-based Peritoneal Dialysis. Med Care. 2020 Jul;58(7):632-642. doi: 10.1097/MLR.0000000000001350. PMID: 32520837; PMCID: PMC7295012.
142. Peirlinck M, Linka K, Costabal FS, **Bhattacharya J**, Bendavid E, Ioannidis J, Kuhl E (2020), "Visualizing the Invisible: The Effect of Asymptotic Transmission on the Outbreak Dynamics of COVID-19" *Computer Methods in Applied Mechanics and Engineering.* 372: 1 Dec. 2020, 113410. https://doi.org/10.1016/j.cma.2020.113410.
143. Azad, T. D., Zhang, Y., Stienen, M. N., Vail, D., Bentley, J. P., Ho, A. L., Fatemi, P., Herrick, D., Kim, L. H., Feng, A., Varshneya, K., Jin, M., Veeravagu, A., **Bhattacharya, J.,** Desai, M., Lembke, A., & Ratliff, J. K. (2020). Patterns of Opioid and Benzodiazepine Use in Opioid-Naïve Patients with Newly

Diagnosed Low Back and Lower Extremity Pain. *Journal of General Internal Medicine*, 35(1), 291–297. https://doi.org/10.1007/s11606-019-05549-8

144. Bendavid E, Oh C, **Bhattacharya J**, Ioannidis J (2020) "Assessing Mandatory Stay-at-Home and Business Closure Effects on the Spread of COVID-19" *European Journal of Clinical Investigation*. 5 January 2021. doi:10.1111/eci.13484
145. Zhang J, Chen Y, Einav L, Levin J, **Bhattacharya J.** Consolidation of primary care physicians and its impact on healthcare utilization. *Health Econ*. 2021 Mar 25. doi: 10.1002/hec.4257. Epub ahead of print. PMID: 33764640.
146. Lin JL, Rigdon J, Van Haren K, Buu M, Saynina O, **Bhattacharya J,** Owens DK, Sanders LM. Gastrostomy Tubes Placed in Children With Neurologic Impairment: Associated Morbidity and Mortality. J Child Neurol. 2021 Mar 22:8830738211000179. doi: 10.1177/08830738211000179. Epub ahead of print. PMID: 33750232.
147. Lin E, Chertow GM, **Bhattacharya J,** Lakdawalla D. Early Delays in Insurance Coverage and Long-term Use of Home-based Peritoneal Dialysis. *Med Care.* 2020 Jul;58(7):632-642. doi: 10.1097/MLR.0000000000001350. PMID: 32520837; PMCID: PMC7295012.
148. Alsan M, Atella V, **Bhattacharya J,** Conti V, Mejia I, Miller G. (2021) Technological Progress and Health Convergence: The Case of Penicillin in Postwar Italy. *Demography* 58 (4): 1473–1498. https://doi.org/10.1215/00703370-9368970
149. Bendavid E, Mulaney B, Sood N, Shah S, Bromley-Dulfano R, Lai C, Weissberg Z, Saavedra-Walker R, Tedrow J, Bogan A, Kupiec T, Eichner D, Gupta R, Ioannidis JPA, **Bhattacharya J.** COVID-19 antibody seroprevalence in Santa Clara County, California. *Int J Epidemiol.* 2021 Feb 22:dyab010. doi: 10.1093/ije/dyab010. Epub ahead of print. PMID: 33615345; PMCID: PMC7928865.
150. Park, W. G., Sandhu, A., MaCurdy, T., Choradia, N., Schmitt, C., Koscheski, C., Lam, J., Bounds, S., Do, R., Feinberg, L., Vail, D., Nagavarapu, S., & **Bhattacharya, J.** (2021). Development of a Cost Measure for Screening/Surveillance Colonoscopy for the Merit-Based Incentive Payment System. *Gastroenterology*. https://doi.org/10.1053/j.gastro.2021.03.040
151. Sandhu, A. T., Do, R., Lam, J., Blankenship, J., Van Decker, W., Rich, J., Gonzalez, O., Wu, X., Pershing, S., Lin, E., MaCurdy, T. E., **Bhattacharya, J**., & Nagavarapu, S. (2021). Development of the Elective Outpatient Percutaneous Coronary Intervention Episode–Based Cost Measure. *Circulation: Cardiovascular Quality and Outcomes*, 14(3), 6461. https://doi.org/10.1161/circoutcomes.119.006461
152. Duseja R, Andress J, Sandhu AT, **Bhattacharya J**, Lam J, Nagavarapu S, Nilasena D, Choradia N, Do R, Feinberg L, Bounds S, Leoung J, Luo B, Swygard A, Uwilingiyimana A, MaCurdy T. (2021) Development of Episode-Based Cost Measures for the US Medicare Merit-based Incentive Payment System. *JAMA Health Forum.* 2021;2(5):e210451. doi:10.1001/jamahealthforum.2021.0451
153. Tisdale RL, Ma I, Vail D, **Bhattacharya J**, Goldhaber-Fiebert J, Heidenreich PA, Sandhu A. (2021) Availability of Cost-effectiveness Studies for Drugs With High

Medicare Part D Expenditures. *JAMA Netw Open*. 2021;4(6):e2113969. doi:10.1001/jamanetworkopen.2021.13969

154. Dalva-Baird NP, Alobuia WM, Bendavid E, **Bhattacharya J**. Racial and ethnic inequities in the early distribution of U.S. COVID-19 testing sites and mortality. *Eur J Clin Invest*. 2021 Aug 14:e13669. doi: 10.1111/eci.13669. Epub ahead of print. PMID: 34390487.

NON-PEER-REVIEWED WORK (63 total)

1. **Bhattacharya J**, Garber AM, MaCurdy T. Cause-Specific Mortality among Medicare Enrollees. *National Bureau of Economic Research Working Paper Series*. 1996;No. 5409.
2. **Bhattacharya J,** Currie J. "Youths at Nutritional Risk : Malnourished or Misnourished?" *National Bureau of Economic Research Working Paper Series*. 2000;No. 7686(7686):483–522.
3. **Bhattacharya J,** Lakdawalla D. Does Medicare Benefit the Poor? New Answers to an Old Question. *National Bureau of Economic Research Working Paper Series*. 2002;No. 9280.
4. **Bhattacharya J.** "Coinsurance, Cost Sharing, and the Demand Managed Behavioral Health Services" *Frontlines: Linking Alcohol Services Research & Practice*, June (2003).
5. **Bhattacharya J**, Lakdawalla D. Time-Inconsistency and Welfare. *National Bureau of Economic Research Working Paper Series*. 2004;No. 10345.
6. Sood N, Alpert A, **Bhattacharya J**. Technology, Monopoly and the Decline of the Viatical Settlements Industry. *National Bureau of Economic Research Working Paper Series*. 2005;No. 11164(March).
7. **Bhattacharya J**, Vogt WB. Employment and Adverse Selection in Health Insurance. *National Bureau of Economic Research Working Paper Series*. 2006;No. 12430(August).
8. **Bhattacharya J.** "Dollars to Doughnuts" *Hoover Digest* 3 (2007).
9. **Bhattacharya J**, Vogt WB. Do Instrumental Variables Belong in Propensity Scores? National Bureau of Economic Research, Inc, NBER Technical Working Papers: 0343; 2007;No. 343.
10. **Bhattacharya J**, Packalen M. Is Medicine an Ivory Tower? Induced Innovation, Technological Opportunity, and For-Profit vs. Non-Profit Innovation. *National Bureau of Economic Research Working Paper Series*. 2008;No. 13862.
11. Atella V, **Bhattacharya J**, Carbonari L. Pharmaceutical Industry, Drug Quality and Regulation: Evidence from US and Italy. *National Bureau of Economic Research Working Paper Series.* 2008.
12. **Bhattacharya J**. Insuring the near-elderly: how much would Medicare save? *Ann Intern Med*. 2009 Dec 1;151(11):816-7. doi: 10.7326/0003-4819-151-11-200912010-00158. PMID: 19949148.

13. Yoo B-K, Kasajima M, **Bhattacharya J**. Public Avoidance and the Epidemiology of novel H1N1 Influenza A. *National Bureau of Economic Research Working Paper Series*. 2010;15752:1–39.
14. Aranovich G, **Bhattacharya J**, Garber A, MaCurdy T, "Coping with Chronic Disease? Chronic Disease and Disability in Elderly American Population 1982-1999," NBER Working Paper *#14811* (2009)
15. Jena AB, Schoemaker L, **Bhattacharya J**, Seabury SA. "Authors' reply to Barbieri and Kovarik, Mariani, and Waxman and Kanzaria." BMJ. 351:h6774. doi: 10.1136/bmj.h6774. (2015) PMID: 26668033
16. Gidwani R, **Bhattacharya J**. "CMS Reimbursement Reform: Authors' Reply." *J Gen Intern Med.* 2015 30(11):1588. doi: 10.1007/s11606-015-3465-5. PMID: 26179821
17. **Bhattacharya J**. "A way out of the dismal arithmetic of hepatitis C treatment." *Am J Manag Care*. (6 Spec No.):SP183-4. (2016) PMID: 27266945
18. Liu V, Fielding-Singh V, Iwashyna TJ, **Bhattacharya J**, Escobar G. "Reply to the Timing of Early Antibiotics and Hospital Mortality in Sepsis - Playing Devil's Advocate. *Am J Respir Crit Care Med*. doi: 10.1164/rccm.201704-0774LE. (2017) PMID: 28485627
19. L Flowers, A Houser, C Noel-Miller, J Shaw, **J Bhattacharya** (2017) "Medicare spends more on socially isolated older adults." *AARP Insight on the Issues* 125, 1119-1143.
20. **Bhattacharya J** and Packalen M (2020) Stagnation and Scientific Incentives. *National Bureau of Economic Research Working Paper* #26752. https://www.nber.org/papers/w26752
21. Bendavid E and **Bhattacharya J** "Is the Coronavirus as Deadly as They Say?" Wall Street Journal, March 24, 2020.
22. Bendavid, E., Mulaney, B., Sood, N., Shah, S., Ling, E., Bromley-Dulfano, R., Lai, C., Weissberg, Z., Saavedra, R., Tedrow, J., Tversky, D., Bogan, A., Kupiec, T., Eichner, D., Gupta, R., Ioannidis, J., & **Bhattacharya, J**. (2020). COVID-19 Antibody Seroprevalence in Santa Clara County, California. medRxiv, 2020.04.14.20062463. https://doi.org/10.1101/2020.04.14.20062463
23. **Bhattacharya J** and Packalen M "Lives vs. Lives: The Global Cost of Lockdown" Spectator, May 13, 2020
24. **Bhattacharya J** and Packalen M "Focused COVID-19 Restrictions Will Save Lives in Poor Countries", Financial Post, July 3, 2020.
25. **Bhattacharya J** and Agarwal S. "Lift lockdowns, protect the vulnerable, treat Covid like a health issue and not a disaster" The Print. July 24, 2020
26. Fronsdal TL, **Bhattacharya J**, Tamang S. (2020) Variation in Health Care Prices Across Public and Private Payers. *National Bureau of Economic Research Working Paper* #27490. https://www.nber.org/papers/w27490
27. **Bhattacharya J** and Kulldorff M. "The Case Against Covid Tests for the Young and Healthy" Wall Street Journal, Sept. 3, 2020

28. **Bhattacharya J**, Packalen M. On the Futility of Contact Tracing. *Inference* 5(3) September (2020) https://inference-review.com/article/on-the-futility-of-contact-tracing
29. **Bhattacharya J** and Packalen M. Contact Tracing is Far from Futile: A Reply. Inference 6(1) May (2021) https://inference-review.com/letter/contact-tracing-is-far-from-futile
30. **Bhattacharya J.** A Sensible and Compassionate Anti-COVID Strategy. *Imprimis* 49(10). October 2020. https://imprimis.hillsdale.edu/sensible-compassionate-anti-covid-strategy/
31. Kulldorff M, Gupta S, and **Bhattacharya J.** Great Barrington Declaration. Oct. 4, 2020.
32. Kulldorff M, Gupta S, and **Bhattacharya J.** "Lockdowns do More Harm than Good" New York Post. October 6, 2020.
33. **Bhattacharya J**. "Ask Me Anything – Dr. Jay Bhattacharya." r/LockdownSkepticism. *Reddit*. October 17, 2020
34. **Bhattacharya J.** "It is genuinely possible to shield the vulnerable from Covid, while the rest of us go back to normal" The Telegraph. October 20, 2020
35. Kulldorff M, Gupta S, and **Bhattacharya J** "Our COVID-19 plan would minimize mortality and lockdown-induced collateral damage" USA Today, Oct. 22, 2020.
36. **Bhattacharya J** "It's Time for an Alternative to Lockdown" Spectator, Oct. 29, 2020.
37. Kulldorff M, Gupta S, and **Bhattacharya J** "We Should Focus on Protecting the Vulnerable from COVID Infection" Newsweek, Oct. 30, 2020.
38. Kulldorff M and **Bhattacharya J**. "Lockdown Isn't Working" Spectator, Nov. 2, 2020.
39. Kulldorff M, Gupta S, and **Bhattacharya J.** Focused Protection: The Middle Ground between Lockdowns and "Let it Rip". Great Barrington Declaration, Nov. 25, 2020.
40. **Bhattacharya J** and Makridis C "Facts – not fear – will stop the pandemic" The Hill, Dec. 3, 2020.
41. **Bhattacharya J** and Gupta S. "How to End the Lockdowns Next Month" Wall Street Journal, Dec. 17, 2020.
42. Agarwal S and **Bhattacharya J**. "Majority Indians have natural immunity. Vaccinating entire population can cause great harm" The Print. January 11, 2021
43. Nicholson T and **Bhattacharya J**. "Appropriate Use of PCR Needed for a Focused Response to the Pandemic" The Hill. January 29, 2021.
44. **Bhattacharya J** and Kulldorff M. "Facebook is Silencing Debate on Lockdown." Spiked Online. February 15, 2021.
45. **Bhattacharya J** and Kulldorff M. "California's Failed Response to Covid" Eureka. March 12, 2021
46. Kulldorff M and **Bhattacharya J.** "One of the Lockdowns' Greatest Casualties Could be Science." The Federalist. March 18, 2021
47. **Bhattacharya J** and Kulldorff M. "Vaccine Passports Prolong Lockdowns" Wall Street Journal. April 6, 2021.

48. **Bhattacharya J.** "Masks for Children, Muzzles for Covid-19 News." Wall Street Journal. April 13, 2021.
49. **Bhattacharya J** and Kulldorff M. "Lockdown proponents can't escape the blame for the biggest public health fiasco in history" The Telegraph. April 24, 2021
50. **Bhattacharya J** and Licon JA. "The High Costs of Lockdowns: An Interview with Dr. Bhattacharya" Eudaimonia Junction. April 26, 2021.
51. **Bhattacharya J**. "Editor's Note: Public Health Loses its Innocence." Collateral Global. May 4, 2021.
52. **Bhattacharya J.** "How the West Can Help India" Spectator. May 6, 2021
53. **Bhattacharya J** and Giubilini A. "Immunity Passports: A Debate Between Jay Bhattacharya and Alberto Giubilini" Lockdown Sceptics. May 7, 2021.
54. **Bhattacharya J**. "Editor's Note: Children Are A Casualty of Lockdown." *Collateral Global.* May 11, 2021.
55. Kopinska JA, Atella V, **Bhattacharya J**, Miller G (2021) The Changing Relationship between Bodyweight and Longevity in High- and Low- Income Countries. National Bureau of Economic Research Working Paper #28813. https://www.nber.org/papers/w28813
56. Toubat O, Berg AH, Sobhani K, Mulligan K, Hori AM, **Bhattacharya J**, Sood N (2021) Manufacturer Signal-to-Cutoff Threshold Underestimates Cumulative Incidence of SARS-CoV-2 Infection: Evidence from the Los Angeles Firefighters Study. *medRxiv*. **doi:** https://doi.org/10.1101/2021.04.20.21255829.
57. Bendavid E, Oh C, **Bhattacharya J**, Ioannidis JPA. Response to Letters Re: 'Assessing mandatory stay- At- Home and business closure effects on the spread of COVID- 19'. *European Journal of Clinical Investigation*. 2021 Mar:e13553. DOI: 10.1111/eci.13553.
58. **Bhattacharya J**. "What Does Lockdown and Focused Protection Mean in Nursing Homes?" Collateral Global. May 18, 2021.
59. **Bhattacharya J**. "Cancer and Lockdown" Collateral Global. May 25, 2021.
60. Kulldorff M and **Bhattacharya J** "It's mad that 'herd immunity' was ever a taboo phrase" The Telegraph, May 27, 2021
61. **Bhattacharya J**, Gupta S, Kulldorff M, "The Beauty of Vaccines and Natural Immunity" Smerconish. June 4, 2021
62. **Bhattacharya J** "Stanford professor challenges SJ Merc's "Coronavirus Lessons Learned" assertions" Opportunity Now. June 4, 2021
63. **Bhattacharya J** "On the Catastrophic Misapplication of the Precautionary Principle" Collateral Global. June 14, 2021
64. Kulldorff M and **Bhattacharya J** "The Ill-Advised Push to Vaccinate the Young" The Hill, June 17, 2021
65. Sood N and **Bhattacharya J** "Mandatory Masking of School Children is a Bad Idea" Orange County Register, July 13, 2021.
66. Green T and Bhattacharya J "Lockdowns are Killers in the Global South" UnHerd. July 22, 2021.
67. Kulldorff M and **Bhattacharya J** "The Smear Campaign Against the Great Barrington Declaration" Spiked. Aug. 2, 2021

68. **Bhattacharya J** and Boudreaux D "Eradication of COVID is a Dangerous and Expensive Fantasy" Wall Street Journal. Aug. 4, 2021

BOOKS AND REPORTS (8 total)

1. Yoshikawa A, **Bhattacharya J**, Vogt WB eds. Health Economics of Japan: Patients, Doctors, and Hospitals Under a Universal Health Insurance System, Tokyo: University of Tokyo Press, (1996).
2. Goldman DP, Hurd M, Shekelle PG, Newberry SJ, Panis CWA, Shang B, **Bhattacharya J**, Joyce GF, Lakdawalla D. Health Status and Medical Treatment of the Future Elderly: Final Report, TR-169-CMS, Santa Monica, CA: RAND (2004).
3. **Bhattacharya J**, Currie J, Haider SJ, Variyam J. Evaluating the Impact of School Nutrition Programs: Final Report. E-FAN-04-008, Washington D.C.: Economic Research Service, USDA (2004).
4. **Bhattacharya J**, Hyde T, Tu P. Health Economics, London: Palgrave-MacMillan, (2013).
5. MaCurdy T, **Bhattacharya J**, Perlroth D, Shafrin J, Au-Yeung A, Bashour H, Chicklis C, Cronen K, Lipton B, Saneinejad S, Shrestha E, Zaidi S. Geographic Variation in Spending, Utilization, and Quality: Medicare and Medicaid Beneficiaries. Acumen Report to the Institute of Medicine Committee Study of Geographic Variation in Health Care Spending and Promotion of High-Value Health Care, Washington, DC: Institute of Medicine (2013)
6. MaCurdy T, **Bhattacharya J**, Shafrin J, Chicklis C, Cronen K, Friley J, Lipton B, Rogers D, Zaidi S. IOM Study of Geographic Variation: Growth Analysis. Acumen Report to the Institute of Medicine Committee Study of Geographic Variation in Health Care Spending and Promotion of High-Value Health Care, Washington, DC: Institute of Medicine (2013)
7. **Bhattacharya J**, Chandra A, Chernew M, Goldman D, Jena A, Lakdawalla D, Malani A, Philipson T. Best of Both Worlds: Uniting Universal Coverage and Personal Choice in Health Care, American Enterprise Institute (AEI) White Paper, Washington DC: AEI Press (2013)
8. **Bhattacharya J**, Vail D, Moore D, Vogt W, Choradia N, Do R, Erickson K, Feinberg L, Isara F, Lin E, Narayanan V, Vaikath M, MaCurdy T. Medicare Current State and Future Trends Environment Scan. Center for Medicare and Medicaid Services (CMS) White Paper (2019)

BOOK CHAPTERS (15 total)

1. **Bhattacharya J**, Garber AM, MaCurdy T. "Cause-Specific Mortality Among Medicare Enrollees," in Inquires in the Economics of Aging, D Wise (ed.), Chicago, IL: University of Chicago Press. (1997).
2. MaCurdy T, Nechyba T, **Bhattacharya J**. "Ch. 2: An Economic Model of the Fiscal Impacts of Immigration," The Immigration Debate: Studies on the Economic, Demographic, and Fiscal Effects of Immigration, J Smith (ed.), National Academy of Sciences Commission on Behavioral and Social Sciences and Education: Washington D.C., (1998).
3. **Bhattacharya J**, Currie J. "Youths and Nutritional Risk: Malnourished or Misnourished?" in Risky Behavior Among Youths, J Gruber (ed.), (2001).
4. Yoshikawa A. and **Bhattacharya J**. "Japanese Health Care" in World Health Systems: Challenges and Perspectives, Bruce Fried and Laura M. Gaydos (eds.), Chicago, IL: Health Administration Press (2002).
5. **Bhattacharya J**, Cutler D, Goldman DP, Hurd MD, Joyce GF, Lakdawalla DN, Panis CWA, and Shang B, "Disability Forecasts and Future Medicare Costs" Frontiers in Health Policy Research, Vol. 6, Alan Garber and David Cutler (eds.) Boston, MA: MIT Press (2003).
6. **Bhattacharya J**, Choudhry K, and Lakdawalla D. (2007) "Chronic Disease and Trends in Severe Disability in Working Age Populations" Proceedings from the Institute of Medicine workshop, 'Disability in America: An Update,' Institute of Medicine: Washington, D.C.
7. **Bhattacharya J**, Garber AM, MaCurdy T. "Trends in Prescription Drug Use by the Disabled Elderly" in Developments in the Economics of Aging, D. Wise (ed), Chicago, IL, University of Chicago Press (2009).
8. **Bhattacharya J** and Richmond P "On Work and Health Among the American Poor" in Pathways to Self-Sufficiency: Getting Ahead in an Era Beyond Welfare Reform John Karl Scholz and Carolyn Heinrich (eds), New York, NY, Russell Sage Foundation (2009).
9. **Bhattacharya J**, Garber A, MaCurdy T "The Narrowing Dispersion of Medicare Expenditures 1997-2005" in Research Findings in the Economics of Aging, D. Wise (ed.), Chicago, IL, University of Chicago Press (2010)
10. **Bhattacharya J**, Bundorf MK, Pace N, and Sood N "Does Health Insurance Make You Fat?" in Economic Aspects of Obesity Michael Grossman and Naci Mocan (eds.), Chicago, IL, University of Chicago Press (2010)
11. **Bhattacharya J**, Garber A, Miller M, and Perlroth D "The Value of Progress against Cancer in the Elderly" Investigations in the Economics of Aging, David Wise (ed), Chicago, IL, University of Chicago Press (2012)
12. Yoshikawa A. and **Bhattacharya J**. "Japanese Health Care" in World Health Systems: Challenges and Perspectives, 2nd edition, Bruce Fried and Laura M. Gaydos (eds.), Chicago, IL: Health Administration Press (2012).
13. Hanson, J., Chandra, A., Moss, E., **Bhattacharya, J.** Wolfe, B., Pollak, S.D.. Brain Development and Poverty: Preliminary Findings. In Biological Consequences of

Socioeconomic Inequalities. B. Wolfe, T. Seeman, and W. Evans (Eds). NY: Sage. (2012)

14. **Bhattacharya J** "The Diffusion of New Medical Technologies: The Case of Drug-Eluting Stents (A Discussion of Chandra, Malenka, and Skinner)" In Explorations in the Economics of Aging, David Wise (ed.), Chicago, IL, University of Chicago Press (2014).
15. MaCurdy T and **Bhattacharya J** "Challenges in Controlling Medicare Spending: Treating Highly Complex Patients" in Insights in the Economics of Aging, David Wise (ed.) Chicago, IL, University of Chicago Press (2015).

ABSTRACTS (3)

1. Su CK and **Bhattacharya J**. Longitudinal Hospitalization Costs and Outcomes in the Treatment of the Medicare Breast Cancer Patient. *International Journal of Radiation Oncology Biology Physics* (1996); 36(S1): 282. [abstract]
2. Nguyen C, Hernandez-Boussard T., Davies S, **Bhattacharya J**, Khosla R, Curtin C. *Cleft Palate Surgery: Variables of Quality and Patient Safety*. Presented at the 69th Annual American Cleft-Palate Craniofacial Association (2012). [abstract]
3. Patel MI, Ramirez D, Agajanian R, Bhattacharya J, Milstein A, Bundorf MK. "The effect of a lay health worker-led symptom assessment intervention for patients on patient-reported outcomes, healthcare use, and total costs." Journal of Clinical Oncology 36(15 Suppl):6502 [abstract]

D. PUBLIC AND PROFESSIONAL SERVICE:

JOURNAL EDITING

Journal of Human Capital, Associate Editor (2015-present)
American Journal of Managed Care, Guest Editor (2016)
Journal of Human Resources, Associate Editor (2011-13)
Forum for Health Economics & Policy, Editorial Board Member (2001-2012)
Economics Bulletin, Associate Editor (2004-2009)

SERVICE ON SCIENTIFIC REVIEW AND ADVISORY COMMITTEES (Selected)

- Standing member of the Health Services Organization and Delivery (HSOD) NIH review panel, 2012-2016
- NIH reviewer (various panels, too numerous to list) 2003-present
- NIH Review Panel Chair: 2018 (P01 review), 2020 (DP1 review).
- Invited Reviewer for the European Research Council, ERC Advanced Grant 2015 RFP
- NIH Stage 2 Challenge Grant Review Panel, July 2009
- Appointed a member of an Institute of Medicine (IOM) panel on the regulation of work hours by resident physicians, 2007-8.
- Standing member of the NIH Social Science and Population Studies Review Panel, Fall 2004-Fall 2008

- Invited Reviewer for National Academy of Sciences report on Food Insecurity and Hunger, November 2005.
- Invited Reviewer for the National Academy of Sciences report on the Nutrition Data Infrastructure, December 2004
- Invited Reviewer for the National Institute on Health (NIH) Health Services Organization and Delivery Review Panel, June 2004, Alexandria, VA.
- Invited Reviewer for the Food Assistance and Nutrition Research Program US Department of Agriculture Economic Research Service Research Proposal Review Panel, June 2004, Stanford, CA.
- Invited Reviewer for the National Institute on Health (NIH) Social Science and Population Studies Review Panel, February 2004, Alexandria, VA.
- Invited Reviewer for the National Institute on Health (NIH) Social Sciences and Population Studies Review Panel, November 2003, Bethesda, MD.
- Invited Reviewer for the National Institute on Health (NIH) Social Science, Nursing, Epidemiology, and Methods (3) Review Panel, June 2003, Bethesda, MD.
- Invited Reviewer for the Food Assistance and Nutrition Research Program US Department of Agriculture Economic Research Service Research Proposal Review Panel, August 2002.
- Research Advisory Panel on Canadian Disability Measurement, Canadian Human Resources Development Applied Research Branch, June 2001 in Ottowa, Canada.
- Invited Reviewer for the National Institute of Occupational Safety and Health R18 Demonstration Project Grants Review panel in July 2000, Washington D.C.
- Research Advisory Panel on Japanese Health Policy Research. May 1997 at the Center for Global Partnership, New York, NY.

TESTIMONY TO GOVERNMENTAL PANELS AND AGENCIES (9)

- US Senate Dec. 2020 hearing of the Subcommittee on Homeland Security and Governmental Affairs. Testimony provided on COVID-19 mortality risk, collateral harms from lockdown policies, and the incentives of private corporations and the government to invest in research on low-cost treatments for COVID-19 disease
- “Roundtable on Safe Reopening of Florida” led by Florida Gov. Ron DeSantis. September 2020.
- “Evaluation of the Safety and Efficacy of COVID-19 Vaccine Candidates” July 2020 hearing of the House Oversight Briefing to the Economic and Consumer Policy Subcommittee.
- US Senate May 2020 virtual roundtable. Safely Restarting Youth Baseball and Softball Leagues, invited testimony
- “Population Aging and Financing Long Term Care in Japan” March 2013 seminar at the Japanese Ministry of Health.
- “Implementing the ACA in California” March 2011 testimony to California Legislature Select Committee on Health Care Costs.
- “Designing an Optimal Data Infrastructure for Nutrition Research” June 2004 testimony to the National Academy of Sciences commission on “Enhancing the Data Infrastructure

in Support of Food and Nutrition Programs, Research, and Decision Making," Washington D.C.

- "Measuring the Effect of Overtime Reform" October 1998 testimony to the California Assembly Select Committee on the Middle Class, Los Angeles, CA.
- "Switching to Weekly Overtime in California." April 1997 testimony to the California Industrial Welfare Commission, Los Angeles, CA.

REFEREE FOR RESEARCH JOURNALS

American Economic Review; American Journal of Health Promotion; American Journal of Managed Care; Education Next; Health Economics Letters; Health Services Research; Health Services and Outcomes Research Methodology; Industrial and Labor Relations Review; Journal of Agricultural Economics; Journal of the American Medical Association; Journal of Health Economics; Journal of Health Policy, Politics, and Law; Journal of Human Resources; Journal of Political Economy; Labour Economics; Medical Care; Medical Decision Making; Review of Economics and Statistics; Scandinavian Journal of Economics; Social Science and Medicine; Forum for Health Economics and Policy; Pediatrics; British Medical Journal

Trainee	**Current Position**
Peter Groeneveld, MD, MS	Associate Professor of Medicine, University of Pennsylvania
Jessica Haberer, MD, MS	Assistant Professor of Medicine, Harvard Medical School
Melinda Henne, MD, MS	Director of Health Services Research, Bethesda Naval Hospital
Byung-Kwang Yoo, MD, PhD	Associate Professor, Public Health, UC Davis
Hau Liu, MD, MS, MBA	Chief Medical Officer at Shanghai United Family Hospital
Eran Bendavid, MD, MS	Assistant Professor, General Medicine Disciplines, Stanford University
Kaleb Michaud, MS, PhD	Associate Professor of Medicine, Rheumatology and Immunology, University of Nebraska Medical Center
Kanaka Shetty, MD	Natural Scientist, RAND Corporation
Christine Pal Chee, PhD	Associate Director of the Health Economics Resource Center, Palo Alto VA
Matthew Miller, MD	VP Clinical Strategy and Head of Innovation, Landmark Health
Vincent Liu, MD	Research Scientist, Kaiser Permanente Northern California Division of Research
Daniella Perlroth, MD	Chief Data Scientist, Lyra Health
Crystal Smith-Spangler, MD	Internist, Palo Alto Medical Foundation
Barrett Levesque, MD MS	Assistant Professor of Clinical Medicine, UC San Diego Health System
Torrey Simons, MD	Clinical Instructor, Department of Medicine, Stanford University
Nayer Khazeni, MD	Assistant Professor of Medicine (Pulmonary and Critical Care Medicine), Stanford University
Monica Bhargava, MD MS	Assistant Clinical Professor, UCSF School of Medicineilan
Dhruv Kazi, MD	Assistant Professor, UCSF School of Medicine
Zach Kastenberg, MD	Resident, Department of Surgery, Stanford University
Kit Delgado, MD	Assistant Professor, Department of Emergency Medicine and Faculty Fellow, University of Pennsylvania
Suzann Pershing, MD	Chief of Ophtalmology for the VA Palo Alto Health Care System
KT Park, MD	Assistant Professor, Department of Medicine, Stanford University
Jeremy Goldhaber-Fiebert, PhD	Associate Professor, Department of Medicine, Stanford University
Sanjay Basu, MD	Assistant Professor, Department of Medicine, Stanford University
Marcella Alsan, MD, PhD	Assistant Professor, Department of Medicine (CHP/PCOR), Stanford Univ.
David Chan, MD, PhD	Assistant Professor, Department of Medicine (CHP/PCOR), Stanford Univ.
Karen Eggleston, PhD	Senior Fellow, Freeman Spogli Institute, Stanford University
Kevin Erickson, MD	Assistant Professor, Department of Nephrology, Baylor College of Medicine
Ilana Richman, MD	VA Fellow at CHP/PCOR, Stanford University

Alexander Sandhu, MD	VA Fellow at CHP/PCOR, Stanford University
Michael Hurley	Medical Student, Stanford University
Manali Patel, MD	Instructor, Department of Medicine (Oncology), Stanford University
Dan Austin, MD	Resident Physician, Department of Anesthesia, UCSF School of Medicine
Anna Luan, MD	Resident Physician, Department of Medicine, Stanford University
Louse Wang	Medical Student, Stanford University
Christine Nguyen, MD	Resident Physician, Department of Medicine, Harvard Medical School
Josh Mooney, MD	Instructor, Department of Medicine (Pulmonary and Critical Care Medicine), Stanford University
Eugene Lin, MD	Fellow, Department of Medicine (Nephrology), Stanford University
Eric Sun, MD	Assistant Professor, Department of Anesthesia, Stanford University
Sejal Hathi	Medical Student, Stanford University
Ibrahim Hakim	Medical Student, Stanford University
Archana Nair	Medical Student, Stanford University
Trishna Narula	Medical Student, Stanford University
Daniel Vail	Medical Student, Stanford University
Tej Azad	Medical Student, Stanford University
Jessica Yu, MD	Fellow, Department of Medicine (Gastroenterology), Stanford University
Daniel Vail	Medical Student, Stanford University
Alex Sandhu, MD	Fellow, Department of Medicine (Cardiology), Stanford University
Matthew Muffly, MD	Clinical Assistant Professor, Dept. of Anesthesia, Stanford University

Dissertation Committee Memberships

Ron Borzekowski	Ph.D. in Economics	Stanford University	2002
Jason Brown	Ph.D. in Economics	Stanford University	2002
Dana Rapaport	Ph.D. in Economics	Stanford University	2003
Ed Johnson	Ph.D. in Economics	Stanford University	2003
Joanna Campbell	Ph.D. in Economics	Stanford University	2003
Neeraj Sood*	Ph.D. in Public Policy	RAND Graduate School	2003
James Pearce	Ph.D. in Economics	Stanford University	2004
Mikko Packalen	Ph.D. in Economics	Stanford University	2005
Kaleb Michaud*	Ph.D. in Physics	Stanford University	2006
Kyna Fong	Ph.D. in Economics	Stanford University	2007
Natalie Chun	Ph.D. in Economics	Stanford University	2008
Sriniketh Nagavarapu	Ph.D in Economics	Stanford University	2008
Sean Young	Ph.D. in Psychology	Stanford University	2008
Andrew Jaciw	Ph.D. in Education	Stanford University	2010
Chirag Patel	Ph.D. in Bioinformatics	Stanford University	2010
Raphael Godefroy	Ph.D. in Economics	Stanford University	2010
Neal Mahoney	Ph.D. in Economics	Stanford University	2011
Alex Wong	Ph.D. in Economics	Stanford University	2012
Kelvin Tan	Ph.D. in Management Science	Stanford University	2012
Animesh Mukherjee	Masters in Liberal Arts Program	Stanford University	2012
Jeanne Hurley	Masters in Liberal Arts Program	Stanford University	2012
Patricia Foo	Ph.D. in Economics	Stanford University	2013
Michael Dworsky	Ph.D. in Economics	Stanford University	2013
Allison Holliday King	Masters in Liberal Arts Program	Stanford University	2013
Vilsa Curto	Ph.D. in Economics	Stanford University	2015
Rita Hamad	Ph.D. in Epidemiology	Stanford University	2016
Atul Gupta	Ph.D. in Economics	Stanford University	2017
Yiwei Chen	Ph.D. in Economics	Stanford University	2019
Yiqun Chen	Ph.D. in Health Policy	Stanford University	2020
Min Kim	Ph.D. in Economics	Iowa State Univ.	2021
Bryan Tysinger	Ph.D. in Public Policy	RAND Graduate School	2021

E. GRANTS AND PATENTS

PATENT (2)

1. "Environmental Biomarkers for the Diagnosis and Prognosis for Type 2 Diabetes Mellitus" with Atul Butte and Chirag Patel (2011), US Patent (pending).
2. "Health Cost and Flexible Spending Account Calculator" with Schoenbaum M, Spranca M, and Sood N (2008), U.S. Patent No. 7,426,474.

GRANTS AND SUBCONTRACTS (42)

CURRENT (6)

2019-2020	Funder: Acumen, LLC. Title: Quality Reporting Program Support for the Long-Term Care Hospital, Inpatient Rehabilitation Facility, Skilled Nursing Facility QRPs and Nursing Home Compare Role: PI
2018-2020	Funder: Acumen, LLC. Title: Surveillance Activities of Biologics Role: PI
2018-2020	Funder: France-Stanford Center for Interdisciplinary Studies Title: A Nutritional Account of Global Trade: Determinants and Health Implications Role: PI
2017-2023	Funder: National Institutes of Health Title: The Epidemiology and Economics of Chronic Back Pain Role: Investigator (PI: Sun)
2017-2021	Funder: National Institutes of Health Title: Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa Role: Investigator (PI: Bendavid)
2016-2020	Funder: Acumen, LLC. Title: MACRA Episode Groups and Resource Use Measures II Role: PI

PREVIOUS (36)

2016-2018	Funder: University of Kentucky Title: Food acquisition and health outcomes among new SNAP recipients since the Great Recession Role: PI
2015-2019	Funder: Alfred P. Sloan Foundation

	Title: Public versus Private Provision of Health Insurance Role: PI
2015-2019	Funder: Natural Science Foundation Title: Health Insurance Competition and Healthcare Costs Role: Investigator (PI: Levin)
2014-2015	Funder: The Centers for Medicare and Medicaid Services Title: Effect of Social Isolation and Loneliness on Healthcare Utilization Role: PI
2014-2015	Funder: AARP Title: The Effect of Social Isolation and Loneliness on Healthcare Utilization and Spending among Medicare Beneficiaries Role: PI
2013-2019	Funder: National Bureau of Economic Research Title: Innovations in an Aging Society Role: PI
2013-2014	Funder: Robert Wood Johnson Foundation Title: Improving Health eating among Children through Changes in Supplemental Nutrition Assistance Program (SNAP) Role: Investigator (PI: Basu)
2011-2016	Funder: National Institutes of Health (R37) Title: Estimating the Potential Medicare Savings from Comparative Effectiveness Research Role: PI Subaward (PI: Garber)
2011-2016	Funder: National Institute of Aging (P01) Title: Improving Health and Health Care for Minority and Aging Populations Role: PI Subcontract (PI: Wise)

2010-2018	Funder: National Institutes of Health Title: Clinic, Family & Community Collaboration to Treat Overweight and Obese Children Role: Investigator (PI: Robinson)
2010-2014	Funder: Agency for Health, Research and Quality (R01) Title: The Effects of Private Health Insurance in Publicly Funded Programs Role: Investigator (PI: Bundorf)
2010-2013	Funder: Agency for Healthcare Research and Quality Title: G-code" Reimbursement and Outcomes in Hemodialysis Role: Investigator (PI: Erickson)
2010-2013	Funder: University of Southern California Title: The California Medicare Research and Policy Center Role: PI
2010-2012	Funder: University of Georgia Title: Natural Experiments and RCT Generalizability: The Woman's Health Initiative Role: PI
2010-2011	Funder: National Bureau of Economic Research Title: Racial Disparities in Health Care and Health Among the Elderly Role: PI
2009-2020	Funder: National Institute of Aging (P30) Title: Center on the Demography and Economics of Health and Aging Role: PI (2011-2020)
2009-2011	Funder: Rand Corporation Title: Natural Experiments and RCT Generalizability: The Woman's Health Initiative Role: PI
2008-2013	Funder: American Heart Association Title: AHA-PRT Outcomes Research Center Role: Investigator (PI: Hlatky)
2007-2009	Funder: National Institute of Aging (R01) Title: The Economics of Obesity Role: PI
2007-2009	Funder: Veterans Administration, Health Services Research and Development Service Title: Quality of Practices for Lung Cancer Diagnosis and Staging Role: Investigator
2007-2008	Funder: Stanford Center for Demography and Economics of Health and Aging Title: The HIV Epidemic in Africa and the Orphaned Elderly

	Role: PI
2007	Funder: University of Southern California Title: The Changes in Health Care Financing and Organization Initiative Role: PI
2006-2010	Funder: National Institute of Aging (K02) Title: Health Insurance Provision for Vulnerable Populations Role: PI
2006-2010	Funder: Columbia University/Yale University Title: Dummy Endogenous Variables in Threshold Crossing Models, with Applications to Health Economics Role: PI
2006-2007	Funder: Stanford Center for Demography and Economics of Health and Aging Title: Obesity, Wages, and Health Insurance Role: PI
2005-2009	Funder: National Institute of Aging (P01 Subproject) Title: Medical Care for the Disabled Elderly Role: Investigator (PI: Garber)
2005-2008	Funder: National Institute of Aging (R01) Title: Whom Does Medicare Benefit? Role: PI Subcontract (PI: Lakdawalla)
2002	Funder: Stanford Center for Demography and Economics of Health and Aging Title: Explaining Changes in Disability Prevalence Among Younger and Older American Populations Role: PI
2001-2003	Funder: Agency for Healthcare Research and Quality (R01) Title: State and Federal Policy and Outcomes for HIV+ Adults Role: PI Subcontract (PI: Goldman)
2001-2002	Funder: National Institute of Aging (R03) Title: The Economics of Viatical Settlements Role: PI
2001-2002	Funder: Robert Woods Johnson Foundation Title: The Effects of Medicare Eligibility on Participation in Social Security Disability Insurance Role: PI Subcontract (PI: Schoenbaum)
2001-2002	Funder: USDA Title: Evaluating the Impact of School Breakfast and Lunch Role: Investigator
2001-2002	Funder: Northwestern/Univ. of Chicago Joint Center on Poverty Title: The Allocation of Nutrition with Poor American Families Role: PI Subcontract (PI: Haider)
2000-2002	Funder: National Institute on Alcohol Abuse & Alcoholism (R03) Title: The Demand for Alcohol Treatment Services Role: PI
2000-2001	Funder: USDA Title: How Should We Measure Hunger?

Role: PI Subcontract (PI: Haider)

F. SCHOLARSHIPS AND HONORS

- Phi Beta Kappa Honor Society, 1988
- Distinction and Departmental Honors in Economics, Stanford University, 1990
- Michael Forman Fellowship in Economics, Stanford University, 1991-1992
- Agency for Health Care Policy and Research Fellowship 1993-1995
- Outstanding Teaching Assistant Award, Stanford University, Economics, 1994
- Center for Economic Policy Research, Olin Dissertation Fellowship, 1997-1998
- Distinguished Award for Exceptional Contributions to Education in Medicine, Stanford University, 2005, 2007, and 2013.
- Dennis Aigner Award for the best applied paper published in the *Journal of Econometrics*, 2013

Charles S. LiMandri, SBN 110841
cslimandri@limandri.com
Paul M. Jonna, SBN 265389
pjonna@limandri.com
Mark D. Myers, SBN 235719
mmyers@limandri.com
Jeffrey M. Trissell, SBN 292480
jtrissell@limandri.com
Robert E. Weisenburger, SBN 305682
rweisenburger@limandri.com
Milan L. Brandon II, SBN 326953
mbrandon@limandri.com
LiMANDRI & JONNA LLP
P.O. Box 9120
Rancho Santa Fe, CA 92067
Telephone: (858) 759-9930
Facsimile: (858) 759-9938

Thomas Brejcha, *pro hac vice**
tbrejcha@thomasmoresociety.org
Peter Breen, *pro hac vice**
pbreen@thomasmorsociety.org
THOMAS MORE SOCIETY
309 W. Washington St., Ste. 1250
Chicago, IL 60606
Tel: (312) 782-1680
*Application forthcoming

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

JOHN DOE, an individual, et al.,

Plaintiffs,

v.

SAN DIEGO UNIFIED SCHOOL DISTRICT, et al.,

Defendants.

Case No.: 3:21-cv-01809-LL-MDD

Request for Judicial Notice in Support of Plaintiffs' Plaintiffs' Motion for a Preliminary Injunction

Judge: Hon. Linda Lopez
Courtroom: 2B
Hearing Date: June 15, 2022

PER CHAMBERS RULES, NO ORAL ARGUMENT UNLESS SEPARATELY ORDERED BY THE COURT

NOTICE OF MOTION AND MOTION

TO: DEFENDANTS AND THEIR ATTORNEY(S) OF RECORD:

PLEASE TAKE NOTICE that Plaintiffs Terry Roe, Taylor Roe, and Adrian Poe, and their parents Plaintiffs Tiffany Roe and Andrew Poe, by and through counsel, will and hereby do request that this Court, pursuant to Fed. R. Evid. 201, take judicial notice of the following exhibits to the First Amended Complaint:

- o FDA information concerning the COVID-19 vaccine:
  - □ Ex. 1: Comirnaty and Pfizer-BioNTech COVID-19 Vaccine, U.S. FOOD & DRUG ADMIN. (Apr. 13, 2022 update).
  - □ Ex. 2: Spikevax and Moderna COVID-19 Vaccine, U.S. FOOD & DRUG ADMIN. (Mar. 29, 2022 update).
  - □ Ex. 3: Janssen COVID-19 Vaccine, U.S. FOOD & DRUG ADMIN. (Apr. 7, 2022 update).
  - □ Ex. 4: FDA Approves First COVID-19 Vaccine, U.S. FOOD & DRUG ADMIN. (Aug. 23, 2021).
- o SDUSD's prior COVID-19 vaccine mandate orders:
  - □ Ex. 7: Vaccination Roadmap, SAN DIEGO UNIFIED SCH. DIST. (Sep. 28, 2021).
  - □ Ex. 8: Allie Raffa, San Diego Unified School District to Vote on Vaccine Mandate For Students, Staff, NBC 7 SAN DIEGO (Sep. 26, 2021).
  - □ Ex. 9: Transcript of San Diego Unified School District, Board of Education Meeting, YOUTUBE (Sep. 28, 2022), https://youtu.be/ve3YmKiOoY8.
  - □ Ex. 10: San Diego Unified to Require COVID-19 Vaccines, SAN DIEGO UNIFIED SCH. DIST. (Sep. 29, 2021).
  - □ Ex. 11: Letter from San Diego Unified School District to San Diego Unified Families (Sep. 29, 2021).
  - □ Ex. 12.1: Media Advisory: New Vaccine Mandate, SAN DIEGO

UNIFIED SCH. DIST. (Sep. 29, 2021)

- □ Ex. 12.2: Melissa Adan, SDUSD Board Members Explain New COVID-19 Vaccine Mandate For Eligible Students and Staff, NBC 7 SAN DIEGO (Sep. 29, 2021).
- □ Ex. 13: Back to School FAQ, SAN DIEGO UNIFIED SCH. DIST. (Sep. 29, 2021 update).
- □ Ex. 14: Nursing & Wellness, COVID-19 Vaccine, SAN DIEGO UNIFIED SCH. DIST. (Oct. 31, 2021 update).
- □ Ex. 15: Kristen Taketa, What you need to know about San Diego Unified's vaccine mandate, S.D. UNION-TRIBUNE (Sep. 29, 2021).

o The COVID-19 vaccine mandates of other jurisdictions:

- □ Ex. 16: States With Religious and Philosophical Exemptions From School Immunization Requirements, NCSL (Jan. 10, 2022).
- □ Ex. 17: Matt Zalaznick, Vaccine tracker: Schools in 14 states now require students to get COVID shots, DIST. ADMIN. (Nov. 15, 2021).
- □ Ex. 18: Resolution No. 2122-19, Requiring COVID-19 Vaccination for Eligible Students, HAYWARD UNIFIED SCH. DIST. (Sep. 22, 2021).
- □ Ex. 19: Board Policy 5141.3, BERKELEY UNIFIED SCH. DIST. (Oct. 6, 2021).
- □ Ex. 20.1: Board Policy 5141.29, OAKLAND UNIFIED SCH. DIST. (Oct. 27, 2021).
- □ Ex. 20.2: Supporting Students Together, Vaccine Requirement, OAKLAND UNIFIED SCH. DIST. (Sep. 22, 2021).
- □ Ex. 21.1: Resolution No. 3233, Requiring COVID-19 Vaccination for Staff and Students Aged 12 and Over, SACRAMENTO CITY UNIFIED SCH. DIST. (Oct. 12, 2021).
- □ Ex. 21.2: Return Together, COVID-19 Vaccination Requirement

FAQs, SACRAMENTO CITY UNIFIED SCH. DIST. (Oct. 12, 2021).

- □ Ex. 22.1: Superintendent's Message–Jan.27th–Vaccination Requirements, PIEDMONT UNIFIED SCH. DIST. (Jan. 27, 2022).
- □ Ex. 22.2: Administrative Regulation 5141.31, PIEDMONT UNIFIED SCH. DIST. (Jan. 26, 2022).
- □ Ex. 23: Safe Steps to Safe Schools, Frequently Asked Questions, LOS ANGELES UNIFIED SCH. DIST. (Sep. 9, 2021).
- □ Ex. 24: COVID-19 Resources & Updates, COVID FAQs, CULVER CITY UNIFIED SCH. DIST. (Aug. 20, 2021).
- □ Ex. 25: West Contra Costa Unified School District Approves Vaccination Mandate, WEST CONTRA COSTA UNIFIED SCH. DIST. (Sep. 30, 2021).
- □ Ex. 26: Resolution No. 13-21/22, EL MONTE UNION HIGH SCH. DIST. (Oct. 6, 2021).

o <u>SDUSD's current COVID-19 vaccine mandate orders:</u>

- □ Ex. 29.1: Transcript of San Diego Unified School District, Board of Education Meeting, YOUTUBE (Feb. 22, 2022), https://youtu.be/O3gsORttXJo.
- □ Ex. 29.2: Transcript of San Diego Unified School District, Board of Education Meeting, YOUTUBE (Mar. 8, 2022), https://youtu.be/kqB9Ab8vvsE.
- □ Ex. 30: Student COVID Vaccination, SAN DIEGO UNIFIED SCH. DIST. (Feb. 2, 2022 update).
- □ Ex. 31: Resolution in the Matter of Implementation of Student Vaccination Requirement Beginning with the 2022-2023 School/Fiscal Year, SAN DIEGO UNIFIED SCH. DIST. (Mar. 8, 2022).
- □ Ex. 32: Safe Schools During COVID FAQ, SAN DIEGO UNIFIED SCH. DIST. (Apr. 3, 2022 update).
- □ Ex. 33: Nursing & Wellness, COVID-19 Vaccine, SAN DIEGO

UNIFIED SCH. DIST. (as of Apr. 19, 2022).

- o Statistical information about SDUSD's student population:
  - □ Ex. 34: About Us, SAN DIEGO UNIFIED SCH. DIST. (as of Mar. 29, 2022).
  - □ Ex. 35: San Diego Unified District Summary, ED-DATA (as of Mar. 29, 2022).

///
///
///
///
///
///
///
///
///
///
///
///
///
///
///
///
///
///
///
///
///
///

INTRODUCTION

Plaintiffs the Roe Family and the Poe Family, by and through their attorneys, hereby request that the Court take judicial notice of various governmental documents, orders, letters, press releases, interviews, meetings, and statistical information, all of which are attached to the Verified First Amended Complaint.

LEGAL STANDARDS

"The court may judicially notice a fact that is not subject to reasonable dispute because it: (1) is generally known within the trial court's territorial jurisdiction; or (2) can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned." Fed. R. Evid. 201(b). "The court … must take judicial notice if a party requests it and the court is supplied with the necessary information." *Id.* at subd. (c)(2); *see also Lyon v. Gila River Indian Cmty.*, 626 F.3d 1059, 1075 (9th Cir. 2010) (abuse of discretion to not take judicial notice "when a party requests it and supplies all necessary information").

Fed. R. Evid. 201 "deals only with judicial notice of 'adjudicative' facts." Adv. Comm. Notes to Fed. R. Evid. 201(a). "Adjudicative facts are *simply the facts of the particular case*. Legislative facts, on the other hand, are those which have relevance to legal reasoning and the lawmaking process, whether in the formulation of a legal principle or ruling by a judge or court or in the enactment of a legislative body." *Id.* (italics added). Stated differently, "[a]djudicative facts are facts that normally go to the jury in a jury case. They relate to the parties, their activities, their properties, their businesses. By contrast, legislative facts do not relate specifically to the activities or characteristics of the litigants. A court generally relies upon legislative facts when it purports to develop a particular law or policy and thus considers material wholly unrelated to the activities of the parties." *Qualley v. Clo-Tex Int'l, Inc.*, 212 F.3d 1123, 1128 (8th Cir. 2000) (quotation marks, brackets, and citations omitted).

///

LEGAL ARGUMENT

Here, Plaintiffs ask that this Court take judicial notice of (1) FDA information concerning the COVID-19 vaccines (Exs. 1-4); (2) SDUSD's prior COVID-19 vaccine mandate orders, as discussed in government documents, meetings, interviews, and press conferences (Exs. 7-15); (3) the COVID-19 vaccine mandates, or lack of mandates, imposed by other jurisdictions (Exs. 16-26); SDUSD's current COVID-19 vaccine mandate orders (Exs. 29-33); and statistical information about SDUSD's student population. (Exs. 34-35.) These are all properly judicially noticeable.

For example, "a court may take judicial notice of 'matters of public record.'" *Lee v. City of Los Angeles*, 250 F.3d 668, 689 (9th Cir. 2001) (citing *Mack v. South Bay Beer Distrib.*, 798 F.2d 1279, 1282 (9th Cir. 1986)). Government documents that are public records are appropriate subjects for judicial notice. *See, e.g.*, *Cachil Dehe Band of Wintun Indians of the Colusa Indian Cmty. v. California*, 547 F.3d 962, 968 n.4 (9th Cir. 2008) (government documents on government website); *Greeson v. Imperial Irr. Dist.*, 59 F.2d 529, 531 (9th Cir. 1932) ("[T]he court is bound to take notice of public facts … [and] public documents").

More specifically, courts have recently taken judicial notice of COVID-19 related orders and restrictions. *See S. Bay United Pentecostal Church v. Newsom*, 494 F. Supp. 3d 785, 791 n.3 (S.D. Cal. 2020) ("The Court considers the public records and government documents attached to the Second Amended Complaint because their authenticity is not questioned. The Court similarly grants the State's and Plaintiffs' requests for judicial notice as to the contents of public records and government documents."), *vacated on other grounds*, 141 S. Ct. 2563 (2021); *Tandon v. Newsom*, 517 F. Supp. 3d 922, 944 (N.D. Cal. 2021), *abrogated on other grounds*, 141 S. Ct. 1294 (2021).

Here, the documents at issue are all attached to the First Amended Complaint, and authenticated by the First Amended Complaint itself, which is verified. Many of

the documents are SDUSD's own documents and their authenticity therefore cannot be disputed. (See Exs. 7, 10-14, 29-34.) Other documents were produced by other federal, state or local governmental bodies (or government/nonprofit partnerships), but the First Amended Complaint provides a hyperlink showing where they are publicly available, thus they also cannot be disputed. (Exs. 1-4, 16, 18-26, 35.)

Some documents are media interviews with key SDUSD officials. (Exs. 8, 12.2), others are certified transcripts of SDUSD Board of Education meetings. (Exs. 9, 29.1, 29.2), and finally others are articles by reputable media organizations. (Exs. 15, 17.) Even for these, however, the issue is simply whether the accuracy of the material they contain can be readily confirmed. If so, they are proper subjects of judicial notice.

For example, the D.C. Circuit noted that it could take judicial notice of facts generally known as a result of newspaper articles in the Washington, D.C. area, including the existence of a criminal investigation and the involvement of a particular witness in that investigation. *Washington Post v. Robinson*, 935 F.2d 282, 291-92 (D.C. Cir. 1991.) Similarly, the Fifth Circuit took judicial notice of the fact that certain high-profile trials and sentencings took place in public based on articles in the New York Times and Los Angeles Times because the fact was "capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned." *In re Hearst Newspapers, LLC*, 641 F.3d 168, 177 & n.3 (5th Cir. 2011); *see also, e.g.*, *Singh v. Ashcroft*, 393 F.3d 903, 906-07 (9th Cir. 2004); *Ritter v. Hughes Aircraft Co.*, 58 F.3d 454, 458-59 (9th Cir. 1995).

Here, the certified transcripts are readily confirmable by comparing them to the videos of the Board of Education meetings; the interviews are of SDUSD officials themselves, sometimes including video; and the media articles (by the San Diego Union-Tribune and a trade group, District Administration) cite to government documents themselves. All these documents are properly judicially noticeable.

///

CONCLUSION

For the foregoing reasons, Plaintiffs respectfully request that this Court take judicial notice of the above-referenced documents, all of which are attached to the Verified First Amended Complaint.

Respectfully submitted,

LiMANDRI & JONNA LLP

Dated: May 11, 2022 By: _____

Charles S. LiMandri
Paul M. Jonna
Mark D. Myers
Jeffrey M. Trissell
Robert E. Weisenburger
Milan L. Brandon II
Attorneys for Plaintiffs