

COVID-19 Resource Desk

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New Research

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COVID-19 related publications by Providence caregivers – see [Digital Commons](#)

Epidemiology & Public Health

1. **A survey of COVID-19 vaccine acceptance across 23 countries in 2022.** Lazarus JV, et al. *Nat Med.* 2023 Jan 9. doi: 10.1038/s41591-022-02185-4. <https://www.nature.com/articles/s41591-022-02185-4>

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continued to mutate and spread in 2022 despite the introduction of safe, effective vaccines and medications. Vaccine hesitancy remains substantial, fueled in part by misinformation. Our third study of Coronavirus Disease 2019 (COVID-19) vaccine hesitancy among 23,000 respondents in 23 countries (Brazil, Canada, China, Ecuador, France, Germany, Ghana, India, Italy, Kenya, Mexico, Nigeria, Peru, Poland, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Turkey, the United Kingdom and the United States), surveyed from 29 June to 10 July 2022, found willingness to accept vaccination at 79.1%, up 5.2% from June 2021. Hesitancy increased in eight countries, however, ranging from 1.0% (United Kingdom) to 21.1% (South Africa). Almost one in eight (12.1%) vaccinated respondents are hesitant about booster doses. Overall support for vaccinating children under 18 years of age increased slightly but declined among parents who were personally hesitant. Almost two in five (38.6%) respondents reported paying less attention to new COVID-19 information than previously, and support for vaccination mandates decreased. Almost a quarter (24%) of those who became ill reported taking medications to combat COVID-19 symptoms. Vaccination remains a cornerstone of the COVID-19 pandemic response, but broad public support remains elusive. These data can be used by health system decisionmakers, practitioners, advocates and researchers to address COVID-19 vaccine hesitancy more effectively.

Prognosis

2. **Outcomes Among Mechanically Ventilated Patients with Severe Pneumonia and Acute Hypoxemic Respiratory Failure From SARS-CoV-2 and Other Etiologies.** Nolley EP, et al. *JAMA Netw Open.* 2023 Jan 3;6(1):e2250401. doi: 10.1001/jamanetworkopen.2022.50401. <https://doi.org/10.1001/jamanetworkopen.2022.50401>

In this study, mechanically ventilated patients with severe COVID-19 pneumonia had similar mortality rates as patients with other causes of severe pneumonia but longer times to liberation from

mechanical ventilation. Mechanical ventilation use in COVID-19 pneumonia should follow the same evidence-based guidelines as for any pneumonia.

Survivorship & Rehabilitation

3. Long covid outcomes at one year after mild SARS-CoV-2 infection: nationwide cohort study.

Mizrahi B, et al. *BMJ*. 2023 Jan 11;380:e072529. doi: 10.1136/bmj-2022-072529.

<https://www.bmj.com/content/380/bmj-2022-072529>

This nationwide study suggests that patients with mild covid-19 are at risk for a small number of health outcomes, most of which are resolved within a year from diagnosis.

Therapeutics

4. Evaluation of publication bias for 12 clinical trials of molnupiravir to treat SARS-CoV-2 infection in 13 694 patients with meta-analysis.

Lawrence JM, et al. *J Antimicrob Chemother*. 2023 Jan 6:dkac440. doi: 10.1093/jac/dkac440. [https://academic.oup.com/jac/advance-](https://academic.oup.com/jac/advance-article/doi/10.1093/jac/dkac440/6972450?login=false)

[article/doi/10.1093/jac/dkac440/6972450?login=false](https://academic.oup.com/jac/advance-article/doi/10.1093/jac/dkac440/6972450?login=false)

In response to the COVID-19 pandemic, Merck Sharp & Dohme (MSD) acquired the global licensing rights for the antiviral molnupiravir, promising affordable access via licensing deals. Numerous Indian pharmaceutical companies subsequently conducted trials of the drug. Registered trials of molnupiravir were searched on the Clinical Trials Registry-India (CTRI) and efforts made to detect resulting public data. Per the CTRI, 12 randomized trials of molnupiravir were conducted in 13 694 Indian patients, from mid-2021. By August 2022, only a preprint and medical conference presentation had resulted. Additionally, two trials were mentioned in press releases suggesting failure of treatment. The available data contain unexplained results that differ significantly from both the PANORAMIC and MSD MOVE-OUT trials. Approximately one-third of the global data on molnupiravir remain unpublished. We conducted a meta-analysis with four studies that provided results and observed that molnupiravir does not have a significant benefit for hospitalizations.

5. Three-day icanitabent on top of standard care in patients with COVID-19 pneumonia (ICAT-COVID): a randomized, open-label, phase 2, proof-of-concept trial.

Malchair P et al. *Clin Infect Dis*. 2023 Jan 4:ciac984. doi: 10.1093/cid/ciac984.

<https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac984/6969085?login=false>

Adding icanitabent to standard care was safe and improved both COVID-19 pneumonia and mortality in this proof-of-concept study. A larger, phase 3 trial is warranted to establish the clinical value of this treatment.

6. Mortality rate in patients with SAR-COV-2 infection treated with extracorporeal membrane oxygenator: A systematic review and meta-analysis.

Indrambarya T, et al. *Heart Lung*. 2023 Jan 6;58:204-209. doi: 10.1016/j.hrtlng.2022.12.012.

<https://jamanetwork.com/journals/jamapediatrics/article-abstract/2800322>

Mortality rate among patients who received ECMO therapy was high. A system of care, including patient selection, resource management and referral system, can impact the outcomes of ECMO therapy.

7. **COVID-19 Convalescent Plasma for the Treatment of Immunocompromised Patients: A Systematic Review and Meta-analysis.** Senefeld JW, et al. *JAMA Netw Open.* 2023 Jan 3;6(1):e2250647. doi: 10.1001/jamanetworkopen.2022.50647.
<https://doi.org/10.1001/jamanetworkopen.2022.50647>

This systematic review and meta-analysis included 3 randomized clinical trials enrolling 1487 participants and 5 controlled studies. Additionally, 125 case series or reports enrolling 265 participants and 13 uncontrolled large case series enrolling 358 participants were included. Separate meta-analyses, using models both stratified and pooled by study type, demonstrated that transfusion of COVID-19 convalescent plasma was associated with a decrease in mortality compared with the control cohort for the amalgam of both randomized clinical trials and matched cohort studies.

8. **Effect of Fluvoxamine vs Placebo on Time to Sustained Recovery in Outpatients with Mild to Moderate COVID-19: A Randomized Clinical Trial.** Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV)-6 Study Group and Investigators. *JAMA.* 2023 Jan 12. doi: 10.1001/jama.2022.24100. <https://doi.org/10.1001/jama.2022.24100>

Among outpatients with mild to moderate COVID-19, treatment with 50 mg of fluvoxamine twice daily for 10 days, compared with placebo, did not improve time to sustained recovery. These findings do not support the use of fluvoxamine at this dose and duration in patients with mild to moderate COVID-19.

Vaccines / Immunology

9. **Neutralisation sensitivity of the SARS-CoV-2 XBB.1 lineage.** Arora P, et al. *Lancet Infect Dis.* 2023 Jan 5:S1473-3099(22)00831-3. doi: 10.1016/S1473-3099(22)00831-3.
[https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(22\)00831-3/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00831-3/fulltext)

Co-infection with multiple SARS-CoV-2 lineages can result in recombination of the viral genomes and the emergence of novel, recombinant SARS-CoV-2 lineages. In January, 2022, the recombinant SARS-CoV-2 XBB lineage was first detected in India and incidence is increasing in Asia and Europe.⁵ The XBB lineage is the result of recombination of two omicron variant sublineages, BJ.1 and BM.1.1.1, and the breakpoint is located in the gene for the spike protein (appendix p 10),⁶ which is responsible for host cell entry and constitutes the target of neutralising antibodies. Five major XBB sublineages (XBB.1 to XBB.5) have evolved so far, and sublineage XBB.1 accounts for most cases.

10. **Stability of hybrid versus vaccine immunity against BA.5 infection over 8 months.** Malato J, et al. *Lancet Infect Dis.* 2023 Jan 5:S1473-3099(22)00833-7. doi: 10.1016/S1473-3099(22)00833-7.
[https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(22\)00833-7/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00833-7/fulltext)

The coverage of SARS-CoV-2 vaccination in large parts of the world, together with the high number of breakthrough infections, especially following the emergence of Omicron subvariants, makes hybrid immunity (resulting from vaccine and infection) common. Hybrid immunity, particularly after BA.1 or BA.2 infection, confers substantial protection against the BA.5 infection. However, although the waning of protection afforded by natural infection in non-vaccinated individuals or by vaccination has been well documented, the stability of hybrid immunity, specifically against the BA.5 subvariant, now dominant in many countries, has not been thoroughly addressed.

11. **Effectiveness of mRNA-1273 vaccination against SARS-CoV-2 omicron subvariants BA.1, BA.2, BA.2.12.1, BA.4, and BA.5.** Tseng HF, et al. *Nat Commun.* 2023 Jan 12;14(1):189. doi: 10.1038/s41467-023-35815-7. <https://doi.org/10.1038/s41467-023-35815-7>

The study includes 30,809 SARS-CoV-2 positive and 92,427 SARS-CoV-2 negative individuals aged ≥ 18 years tested during 1/1/2022-6/30/2022. While 3-dose VE against BA.1 infection is high and wanes slowly, VE against BA.2, BA.2.12.1, BA.4, and BA.5 infection is initially moderate to high (61.0%-90.6% 14-30 days post third dose) and wanes rapidly. The 4-dose VE against infection with BA.2, BA.2.12.1, and BA.4 ranges between 64.3%-75.7%, and is low (30.8%) against BA.5 14-30 days post fourth dose, disappearing beyond 90 days for all subvariants. The 3-dose VE against hospitalization for BA.1, BA.2, and BA.4/BA.5 is 97.5%, 82.0%, and 72.4%, respectively; 4-dose VE against hospitalization for BA.4/BA.5 is 88.5%. Evaluation of the updated bivalent booster is warranted.

Women & Children

12. **BNT162b2 Vaccine Effectiveness Against the SARS-CoV-2 Omicron Variant in Children Aged 5 to 11 Years.** Jang EJ, et al. *JAMA Pediatr.* 2023 Jan 9. doi: 10.1001/jamapediatrics.2022.5221. <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2800322>

A rapid increase in COVID-19 cases due to the SARS-CoV-2 Omicron variant among children has raised concerns. We estimated the effectiveness associated with the BNT162b2 messenger RNA vaccine (Pfizer BioNTech) against SARS-CoV-2 infection and critical infection among children aged 5 to 11 years during an Omicron-dominant period in South Korea.

13. **Safety Monitoring of Bivalent COVID-19 mRNA Vaccine Booster Doses Among Children Aged 5-11 Years - United States, October 12-January 1, 2023.** Hause AM, et al. *MMWR Morb Mortal Wkly Rep.* 2023 Jan 13;72(2):39-43. doi: 10.15585/mmwr.mm7202a5. <https://doi.org/10.15585/mmwr.mm7202a5>

Among 3,259 children aged 5-11 years registered in v-safe who received a bivalent booster dose, local (68.7%) and systemic reactions (49.5%) were commonly reported in the week after vaccination. Approximately 99.8% of reports to VAERS for children aged 5-11 years after bivalent booster vaccination were nonserious. There were no reports of myocarditis or death after bivalent booster vaccination. Eighty-four percent of VAERS reports were related to vaccination errors, 90.5% of which did not list an adverse health event. Local and systemic reactions reported after receipt of a bivalent booster dose are consistent with those reported after a monovalent booster dose; serious adverse events are rare. Vaccine providers should provide this information when counseling parents or guardians about bivalent booster vaccination. Preliminary safety findings from the first 11 weeks of bivalent booster vaccination among children aged 5-11 years are reassuring. Compared with the low risk of serious health effects after mRNA COVID-19 vaccination, the health effects of SARS-CoV-2 infection include death and serious long-term sequelae. ACIP recommends that all persons aged ≥ 6 months receive an age-appropriate bivalent mRNA booster dose ≥ 2 months after completion of a COVID-19 primary series or receipt of a monovalent booster dose.

14. **Detection of SARS-CoV-2 IgA and IgG in human milk and breastfeeding infant stool 6 months after maternal COVID-19 vaccination.** Stafford LS et al. *J Perinatol.* 2023 Jan 12. doi: 10.1038/s41372-022-01581-5. <https://www.nature.com/articles/s41372-022-01581-5>

The presence of SARS-CoV-2-specific antibodies in infant stool following maternal vaccination offers further evidence of the lasting transfer of these antibodies through breastfeeding.

FDA / CDC / NIH / WHO Updates

[Update to living WHO guideline on drugs for covid-19](#). BMJ. 2023 Jan 12;380:p57. doi: 10.1136/bmj.p57.

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