

COVID-19 Resource Desk

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New Research

*note, **PREPRINTS** have not undergone formal peer review

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

Clinical Syndrome

1. **Gastrointestinal implications in COVID-19.** Zoghi G, et al. *BMC Infect Dis.* 2021 Nov 4;21(1):1135. doi: 10.1186/s12879-021-06824-y.
<https://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-021-06824-y>
The typical respiratory symptoms of COVID-19 are quite commonly accompanied by GI symptoms, with nausea and/or vomiting being the most prevalent. A subgroup of COVID-19 patients may exclusively present with GI symptoms. Special attention should be paid to these patients in order to avoid misdiagnosis or delayed treatment.

Epidemiology & Public Health

2. **How an outbreak became a pandemic: a chronological analysis of crucial junctures and international obligations in the early months of the COVID-19 pandemic.** Singh S, et al. *Lancet.* 2021 Nov 8:S0140-6736(21)01897-3. doi: 10.1016/S0140-6736(21)01897-3.
<https://www.sciencedirect.com/science/article/pii/S0140673621018973?via%3Dihub>
The Independent Panel for Pandemic Preparedness and Response has developed a chronology of events, actions, and recommendations, from December, 2019, when the first cases of COVID-19 were identified in China, to the end of March, 2020, by which time the outbreak had spread extensively worldwide and had been characterised as a pandemic. Datapoints are based on two literature reviews, WHO documents and correspondence, submissions to the Panel, and an expert verification process. The retrospective analysis of the chronology shows a dedicated initial response by WHO and some national governments, but also aspects of the response that could have been quicker, including outbreak notifications under the International Health Regulations (IHR), presumption and confirmation of human-to-human transmission of SARS-CoV-2, declaration of a Public Health Emergency of International Concern, and, most importantly, the public health response of many national governments. The chronology also shows that some countries, largely those with previous experience with similar outbreaks, reacted quickly, even ahead of WHO alerts, and were more successful in initially containing the virus. Mapping actions against IHR obligations, the chronology shows where efficiency and accountability could be improved at local, national, and international levels to more quickly

alert and contain health threats in the future. In particular, these improvements include necessary reforms to international law and governance for pandemic preparedness and response, including the IHR and a potential framework convention on pandemic preparedness and response.

3. **COVID-19 vaccine acceptance among adults in four major US metropolitan areas and nationwide.** El-Mohandes A, et al. *Sci Rep.* 2021 Nov 4;11(1):21844. doi: 10.1038/s41598-021-00794-6. <https://www.nature.com/articles/s41598-021-00794-6>

This study assesses attitudes towards COVID-19 vaccination and the predictive value of COVID-VAC, a novel scale, among adults in the four largest US metropolitan areas and nationally. A 36-item survey of 6037 Americans was conducted in mid-April 2021. The study reports factors for COVID-19 vaccine acceptance among: (1) already vaccinated; (2) unvaccinated but willing to accept a vaccine; and (3) unvaccinated and unwilling to vaccinate. More than 20% were unwilling to vaccinate, expressing concerns about vaccine efficacy and safety and questioning the disease's severity. Poverty, working outside of the home and conservative political views are predictors of unwillingness. Conversely, those who either personally tested positive for COVID-19, or had a family member who did so, were more likely to accept vaccination. Majorities of all respondents supported vaccination mandates for employees and university students. Respondents preferred to receive vaccines in their doctor's office. Lower income and conservative ideology, but not race, were strongly associated with vaccine unwillingness. The predictive value of COVID-VAC was demonstrated. While vaccination mandates are likely to be accepted, additional effective, targeted interventions to increase vaccine uptake are needed urgently.

4. **Influenza Vaccinations during the COVID-19 Pandemic - 11 U.S. Jurisdictions, September-December 2020.** Roman PC, et al. *MMWR Morb Mortal Wkly Rep.* 2021 Nov 12;70(45):1575-1578. doi: 10.15585/mmwr.mm7045a3. <https://www.cdc.gov/mmwr/volumes/70/wr/mm7045a3.htm>

During September–December 2020, overall influenza vaccine administration was 9.0% higher than the average during September–December in 2018 and 2019; however, the number of administered doses declined among children aged 6–23 months (13.9%) and 2–4 years (11.9%). Continued strategic efforts are needed to ensure high influenza vaccination coverage among all eligible persons aged ≥ 6 months, especially children aged ≤ 4 years.

Prognosis

5. **Better outcomes of COVID-19 in vaccinated compared to unvaccinated patients with systemic rheumatic diseases.** Papagoras C, et al. *Ann Rheum Dis.* 2021 Nov 10:annrheumdis-2021-221539. doi: 10.1136/annrheumdis-2021-221539. <https://ard.bmj.com/content/early/2021/11/10/annrheumdis-2021-221539>

Between 1 March 2020 and 31 August 2021, 195 patients with SRD with COVID-19 were included; 147 unvaccinated and 48 vaccinated with at least one dose of a SARS-CoV-2 vaccine. Among vaccinated patients, 29 developed breakthrough COVID-19 >14 days after the second vaccine dose (fully vaccinated), while 19 between the first and <14 days after the second

vaccine dose (partially vaccinated). Despite no differences in demographics, SRD type, treatment or comorbidities between unvaccinated and vaccinated patients, hospitalisation and mortality rates were higher in unvaccinated (29.3% and 4.1%, respectively) compared with partially vaccinated (21% and 0%) or fully vaccinated (10.3% and 0%) patients. Vaccinated patients with SRD with breakthrough COVID-19 have better outcomes compared with unvaccinated counterparts with similar disease/treatment characteristics.

Survivorship & Rehabilitation

- 6. Association of Self-reported COVID-19 Infection and SARS-CoV-2 Serology Test Results with Persistent Physical Symptoms among French Adults During the COVID-19 Pandemic.** Matta J, et al. *JAMA Intern Med.* 2021 Nov 8. doi: 10.1001/jamainternmed.2021.6454.

<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2785832>

In this cross-sectional analysis of 26 823 adults from the population-based French CONSTANCES cohort during the COVID-19 pandemic, self-reported COVID-19 infection was associated with most persistent physical symptoms, whereas laboratory-confirmed COVID-19 infection was associated only with anosmia. Those associations were independent from self-rated health or depressive symptoms. Findings suggest that persistent physical symptoms after COVID-19 infection should not be automatically ascribed to SARS-CoV-2; a complete medical evaluation may be needed to prevent erroneously attributing symptoms to the virus.

Therapeutics

- 7. Effect of Prone Positioning on Clinical Outcomes of Non-Intubated Subjects with COVID-19: A Comparative Systematic Review and Meta-Analysis.** Beran A, et al. *Respir Care.* 2021 Nov 9:respcare.09362. doi: 10.4187/respcare.09362.

<http://rc.rcjournal.com/content/early/2021/11/09/respcare.09362>

APP has the potential to reduce the in-hospital mortality rate in COVID-19 subjects with hypoxia without a significant effect on the need for intubation or length of hospital stay. However, there was a significant decrease in the need for intubation on subgroup analysis of RCTs. More large-scale trials with a standardized protocol for prone positioning are needed to better evaluate its effectiveness in this select population.

- 8. Dexamethasone 12 mg versus 6 mg for patients with COVID-19 and severe hypoxaemia: a pre-planned, secondary Bayesian analysis of the COVID STEROID 2 trial.** Granholm A, et al. *Intensive Care Med.* 2021 Nov 10. doi: 10.1007/s00134-021-06573-1.

<https://link.springer.com/article/10.1007/s00134-021-06573-1>

We found high probabilities of benefit and low probabilities of clinically important harm with dexamethasone 12 mg versus 6 mg daily in patients with COVID-19 and severe hypoxaemia on all outcomes up to 90 days.

- 9. Inhaled and intranasal ciclesonide for the treatment of covid-19 in adult outpatients: CONTAIN phase II randomised controlled trial.** Ezer N, et al. *BMJ.* 2021 Nov 2;375:e068060. doi: 10.1136/bmj-2021-068060. <https://www.bmj.com/content/375/bmj-2021-068060/related>

Compared with placebo, the combination of inhaled and intranasal ciclesonide did not show a statistically significant increase in resolution of symptoms among healthier young adults with covid-19 presenting with prominent respiratory symptoms. As evidence is insufficient to determine the benefit of inhaled and intranasal corticosteroids in the treatment of covid-19, further research is needed.

Vaccines / Immunology

- 10. Safety and immunogenicity of concomitant administration of COVID-19 vaccines (ChAdOx1 or BNT162b2) with seasonal influenza vaccines in adults in the UK (ComFluCOV): a multicentre, randomised, controlled, phase 4 trial.** Lazarus R, et al. *Lancet*. November 11, 2021
DOI:[https://doi.org/10.1016/S0140-6736\(21\)02329-1](https://doi.org/10.1016/S0140-6736(21)02329-1)
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02329-1/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02329-1/fulltext)
Concomitant vaccination with ChAdOx1 or BNT162b2 plus an age-appropriate influenza vaccine raises no safety concerns and preserves antibody responses to both vaccines. Concomitant vaccination with both COVID-19 and influenza vaccines over the next immunisation season should reduce the burden on health-care services for vaccine delivery, allowing for timely vaccine administration and protection from COVID-19 and influenza for those in need.
- 11. Characteristics and risk of COVID-19-related death in fully vaccinated people in Scotland.** Grange Z, et al. *Lancet*. 2021 Oct 28:S0140-6736(21)02316-3. doi: 10.1016/S0140-6736(21)02316-3. <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2821%2902316-3/fulltext?rss=yes>
COVID-19-related deaths were extremely uncommon in those fully vaccinated with either BNT162b2 or ChAdOx1 nCoV-19. Most individuals who died after two doses of COVID-19 vaccine were older than 75 years and had multiple comorbidities. These results are similar to the risk profile for mortality in unvaccinated individuals with COVID-19 infection and in vaccinated individuals who have received one dose of vaccine. Risk of COVID-19-related death is therefore not completely eliminated when fully vaccinated; the results of this study suggest the importance of continued caution and non-pharmaceutical interventions, in particular for older adults with multiple comorbidities.
- 12. 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.** ATACCC Study Investigators. *Lancet Infect Dis*. 2021 Oct 29:S1473-3099(21)00648-4. doi: 10.1016/S1473-3099(21)00648-4. [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(21\)00648-4/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00648-4/fulltext)
Vaccination reduces the risk of delta variant infection and accelerates viral clearance. Nonetheless, fully vaccinated 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. Host–virus interactions early in infection may shape the entire viral trajectory.

13. Evaluation of the BNT162b2 Covid-19 Vaccine in Children 5 to 11 Years of Age. C4591007

Clinical Trial Group. *N Engl J Med.* 2021 Nov 9. doi: 10.1056/NEJMoa2116298.

<https://www.nejm.org/doi/10.1056/NEJMoa2116298>

During the phase 1 study, a total of 48 children 5 to 11 years of age received 10 µg, 20 µg, or 30 µg of the BNT162b2 vaccine (16 children at each dose level). On the basis of reactogenicity and immunogenicity, a dose level of 10 µg was selected for further study. In the phase 2–3 trial, a total of 2268 children were randomly assigned to receive the BNT162b2 vaccine (1517 children) or placebo (751 children). At data cutoff, the median follow-up was 2.3 months. In the 5-to-11-year-olds, as in other age groups, the BNT162b2 vaccine had a favorable safety profile. No vaccine-related serious adverse events were noted. One month after the second dose, the geometric mean ratio of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) neutralizing titers in 5-to-11-year-olds to those in 16-to-25-year-olds was 1.04, a ratio meeting the prespecified immunogenicity success criterion. Covid-19 with onset 7 days or more after the second dose was reported in three recipients of the BNT162b2 vaccine and in 16 placebo recipients (vaccine efficacy, 90.7%; 95% CI, 67.7 to 98.3). A Covid-19 vaccination regimen consisting of two 10-µg doses of BNT162b2 administered 21 days apart was found to be safe, immunogenic, and efficacious in children 5 to 11 years of age.

14. Protective immunity after recovery from SARS-CoV-2 infection. Kojima N, Klausner JD. *Lancet Infect Dis.* 2021 Nov 8:S1473-3099(21)00676-9. doi: 10.1016/S1473-3099(21)00676-9.

<https://www.sciencedirect.com/science/article/pii/S1473309921006769?via%3Dihub>

Although longer follow-up studies are needed, clinicians should remain optimistic regarding the protective effect of recovery from previous infection. Community immunity to control the SARS-CoV-2 epidemic can be reached with the acquired immunity due to either previous infection or vaccination. Acquired immunity from vaccination is certainly much safer and preferred. Given the evidence of immunity from previous SARS-CoV-2 infection, however, policy makers should consider recovery from previous SARS-CoV-2 infection equal to immunity from vaccination for purposes related to entry to public events, businesses, and the workplace, or travel requirements.

Women & Children

15. Timing of SARS-CoV-2 vaccination during the third trimester of pregnancy and transplacental antibody transfer: a prospective cohort study. Rottenstreich A, et al. *Clin Microbiol Infect.* 2021 Nov 2:S1198-743X(21)00601-7. doi:10.1016/j.cmi.2021.10.003.

[https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X\(21\)00601-7/fulltext](https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X(21)00601-7/fulltext)

Early compared with late third-trimester maternal SARS-CoV-2 immunization enhanced transplacental antibody transfer and increased neonatal neutralizing antibody levels. Our findings highlight that vaccination of pregnant women early in the third trimester may enhance neonatal seroprotection.

16. Myopericarditis after messenger RNA Coronavirus Disease 2019 Vaccination in Adolescents 12 to 18 Years of Age. Das BB et al. *J Pediatr.* 2021 Nov;238:26-32.e1. doi:

10.1016/j.jpeds.2021.07.044. [https://www.jpeds.com/article/S0022-3476\(21\)00736-8/fulltext](https://www.jpeds.com/article/S0022-3476(21)00736-8/fulltext)

Our data suggest that symptoms owing to myopericarditis after the mRNA COVID-19 vaccination tend to be mild and transient. Approximately two-thirds of patients underwent cardiac magnetic resonance imaging, which revealed evidence of myocardial inflammation despite a lack of echocardiographic abnormalities.

17. **Association of Human Milk Antibody Induction, Persistence, and Neutralizing Capacity With SARS-CoV-2 Infection vs mRNA Vaccination.** Young BE, et al. *JAMA Pediatr.* 2021 Nov 10. doi: 10.1001/jamapediatrics.2021.4897.

<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2786219>

In this cohort study of a convenience sample of lactating parents, the pattern of IgA and IgG antibodies in human milk differed between COVID-19 infection vs mRNA vaccination out to 90 days. While infection was associated with a highly variable IgA-dominant response and vaccination was associated with an IgG-dominant response, both were associated with having human milk that exhibited neutralization activity against live SARS-CoV-2 virus.

GUIDELINES & CONSENSUS STATEMENTS

[COVID-19 Vaccines in Children and Adolescents.](#) Committee on Infectious Diseases. *Pediatrics.* 2021 Nov 5:e2021054332. doi: 10.1542/peds.2021-054332.

FDA / CDC / NIH / WHO Updates

CDC - [The Advisory Committee on Immunization Practices' Interim Recommendations for Additional Primary and Booster Doses of COVID-19 Vaccines - United States, 2021.](#) Mbaeyi S et al. *MMWR Morb Mortal Wkly Rep.* 2021 Nov 5;70(44):1545-1552. doi: 10.15585/mmwr.mm7044e2.

CDC - [The Advisory Committee on Immunization Practices' Interim Recommendation for Use of Pfizer-BioNTech COVID-19 Vaccine in Children Aged 5-11 Years - United States, November 2021.](#) Woodworth KR, et al. *MMWR Morb Mortal Wkly Rep.* 2021 Nov 12;70(45):1579-1583. doi: 10.15585/mmwr.mm7045e1.

Commentary

[COVID-19 Vaccine Boosters for All Adults: An Optimal U.S. Approach?](#) Sarpatwari A, et al. *Ann Intern Med.* 2021 Nov 9. doi: 10.7326/M21-3927.

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