



2019-nCoV Literature

Situation Report (Lit

Rep)

January 22, 2021

The scientific literature on COVID-19 is rapidly evolving and these articles were selected for review based on their relevance to Washington State decision making around COVID-19 response efforts. Included in these Lit Reps are some manuscripts that have been made available online as pre-prints but have not yet undergone peer review. Please be aware of this when reviewing articles included in the Lit Reps.

Key Takeaways

- **During early vaccination campaigns, low rates of anaphylaxis and other allergic reactions were reported for both the Moderna and Pfizer-BioNTech COVID-19 vaccines, with no deaths due to anaphylaxis reported for either.** More [here](#) and [here](#)
- **Among 1,055 Americans adults who reported needing medical care between March and July of 2020, 544 (52%) reported forgoing care for any reason, 307 (29%) reported forgoing care due to fear of SARS-CoV-2 transmission, and 75 (7%) reported forgoing care due to financial concerns associated with the pandemic.** [More](#)
- **The National Strategy for the COVID-19 Response and Pandemic Preparedness released on January 21 is organized around seven goals that include restoring trust, vaccination, mitigating spread, safe reopening, and advancing equity.** [More](#)

Transmission

- *[pre-print, not peer-reviewed]* Among undergraduate students at a single college in Indiana, fraternity or sorority membership, having multiple romantic partners, knowing someone with COVID-19, drinking alcohol more than 1 day per week, and attending social gatherings with more than 4 people when drinking alcohol increased both the likelihood of seropositivity and self-reported history of SARS-CoV-2. SARS-CoV-2 antibodies were found in 5% of students, although 10% of students self-reported a history of having tested positive for SARS-CoV-2.

Kianersi et al. (Jan 22, 2021). A Cross-Sectional Analysis of Demographic and Behavioral Risk Factors of SARS-CoV-2 Antibody Positivity among a Sample of U.S. College Students. Pre-print downloaded Jan 22 from <https://doi.org/10.1101/2021.01.20.21249905>

Testing and Treatment

- In a phase 2 randomized trial with 577 adult patients with mild to moderate COVID-19, there was no significant difference in the change in SARS-CoV-2 viral load with 3 doses of bamlanivimab, an antispike monoclonal antibody, compared with a placebo. However, treatment with a combination of bamlanivimab and etesevimab, another monoclonal antibody, significantly decreased SARS-CoV-2 viral load at day 11 compared to treatment with placebo. Nine patients reported hypersensitivity reactions, including 6 who received bamlanivimab, 2 who received the combination treatment, and 1 who received placebo.



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Gottlieb et al. (Jan 21, 2021). Effect of Bamlanivimab as Monotherapy or in Combination With Etesevimab on Viral Load in Patients With Mild to Moderate COVID-19. JAMA. <https://doi.org/10.1001/jama.2021.0202>

Vaccines and Immunity

- Between December 21, 2020 and January 10, 2021, monitoring by the Vaccine Adverse Event Reporting System detected ten cases of anaphylaxis after administration of a reported 4,041,396 first doses of the Moderna COVID-19 vaccine in the US. In nine cases, onset occurred within 15 minutes of vaccination. Nine of the ten cases of anaphylaxis occurred in people with histories of allergies or allergic reactions, and five occurred in people with a previous history of anaphylaxis. Among the eight people for whom follow-up information was available, all had recovered or been discharged home, and no anaphylaxis-related deaths were reported.
- Among the 43 cases of non-anaphylaxis allergic reactions, 26 (60%) were classified as nonserious. Reactions included itching, rash, itchy sensations in the mouth and throat, sensations of throat closure, and respiratory symptoms.

CDC COVID-19 Response Team. (Jan 22, 2021). Allergic Reactions Including Anaphylaxis After Receipt of the First Dose of Moderna COVID-19 Vaccine — United States, December 21, 2020–January 10, 2021. MMWR. <http://dx.doi.org/10.15585/mmwr.mm7004e1>

- CDC identified 21 case reports of anaphylaxis during the administration of a reported 1,893,360 first doses of Pfizer-BioNTech COVID-19 vaccine between December 14 and 23, 2020. Of these 21 cases, four people (19%) were hospitalized and 17 (81%) were treated in emergency departments. No deaths from anaphylaxis were reported. Seventeen (81%) of 21 patients with anaphylaxis had a documented history of allergies or allergic reaction; 7 (33%) had experienced an episode of anaphylaxis in the past. Commonly reported symptoms in non-anaphylaxis allergic reactions included itching, rash, itchy and scratchy sensations in the throat, and mild respiratory symptoms. [EDITORIAL NOTE: The analysis in this article was included in an MMWR article summarized in the Lit Rep on January 6, 2021. <http://dx.doi.org/10.15585/mmwr.mm7002e1>]

Shimabukuro and Nair. (Jan 21, 2021). Allergic Reactions Including Anaphylaxis After Receipt of the First Dose of Pfizer-BioNTech COVID-19 Vaccine. JAMA. <https://doi.org/10.1001/jama.2021.0600>

- A serological study of specimens from 104 people who survived severe COVID-19 infections demonstrated that neutralizing antibodies to SARS-CoV-2 persisted for at least six months. Researchers also found that although IgG levels among severe COVID-19 patients at the convalescent phase were generally lower compared to those at the acute phase, the antibodies in serum from more than 95% of patients were still able to neutralize SARS-CoV-2.

Han et al. (Jan 21, 2021). Effective Virus-Neutralizing Activities in Antisera from the First Wave of Severe COVID-19 Survivors. JCI Insight. <https://doi.org/10.1172/jci.insight.146267>

Clinical Characteristics and Health Care Setting

- Although deaths and hospitalizations are rare among children in the United States diagnosed with COVID-19, Black and multiracial children are more likely than white children to be hospitalized (OR=1.5) and die (OR=3.0). Children with a prior medical condition are also more likely to be hospitalized (OR=3.6) and to die (OR=8.8). Of the 27,045 children whose data were drawn from CDC's hospitalization surveillance network, 1,274 (5%) required hospitalization. Of these, 39 (0.2%) died.
- The authors point out that parents are among the most likely routes of transmission to their children, and that parents who work in high "viral-contact" jobs are more likely to be ethnic or racial

minorities. They also observe that poverty, which is more common in these same groups, is tied to larger household sizes, crowding, and therefore greater risk of in-home transmission of SARS-CoV-2.

Moreira et al. (Jan 20, 2021). Demographic Predictors of Hospitalization and Mortality in US Children with COVID-19. European Journal of Pediatrics. <https://doi.org/10.1007/s00431-021-03955-x>

- A hospital-based registry found a low prevalence of neurological complications in patients hospitalized for COVID-19. Among 2,750 people hospitalized for COVID-19 in a single hospital in Spain, 71 (3%) experienced at least one neurological complication within four months of follow-up. The most common diagnoses were neuromuscular disorders (34%), cerebrovascular diseases (27%), acute encephalopathy (19%), and seizures (8%). Neurological symptoms developed between zero and 60 days after other COVID-19 symptoms, with a median of 13 days.

Portela-Sánchez et al. (Jan 21, 2021). Neurological Complications of COVID-19 in Hospitalized Patients: The Registry of a Neurology Department in the First Wave of the Pandemic. European Journal of Neurology. <https://doi.org/10.1111/ene.14748>

Mental Health and Personal Impact

- Among 1,055 Americans adults who reported needing medical care between March and July of 2020, 544 (52%) reported forgoing care for any reason, 307 (29%) reported forgoing care due to fear of SARS-CoV-2 transmission, and 75 (7%) reported forgoing care due to financial concerns associated with the pandemic. In addition, 108 (8%) survey participants reported missing at least one dose of a prescription medication typically acquired at a retail pharmacy, and 38 of 74 respondents (51%) with a severe mental or physical health issue that emerged after the start of the pandemic reported forgoing care.
- Hispanic respondents, respondents between the ages of 18 to 49, respondents in households with annual incomes below \$35,000, unemployed respondents, and respondents receiving Medicaid more often reported forgoing some form of care.

Anderson et al. (Jan 21, 2021). Reports of Forgone Medical Care Among US Adults During the Initial Phase of the COVID-19 Pandemic. JAMA Network Open. <https://doi.org/10.1001/jamanetworkopen.2020.34882>

- Data from a predominantly Black cohort living in low-income, racially isolated neighborhoods in Pittsburgh showed an 80% increase in food insecurity as a result of the COVID-19 pandemic, in contrast to a nation-wide increase of 60%. Within weeks of stay-at-home orders going into effect, the prevalence of food insecurity in the sample was 37%. By comparison, in the general US population, the prevalence of food insecurity in May 2020 was 18%. Within the sample, food bank use and SNAP participation had not significantly increased by May 2020, suggesting that safety net programs did not successfully immediately reach people in need in the early months of the pandemic.

Dubowitz et al. (Jan 21, 2021). Food Insecurity in a Low-Income, Predominantly African American Cohort Following the COVID-19 Pandemic. American Journal of Public Health. <https://doi.org/10.2105/AJPH.2020.306041>

- A cross-sectional study in Philadelphia found that the beginning of the city's stay-at-home order on March 23, 2020 was associated a 52% increase in opioid overdose among non-Hispanic Black individuals but a 24% decrease among non-Hispanic white people. Researchers compared mean counts of fatal opioid overdoses in the 3 months after the beginning of Philadelphia's stay-at-home order to 3 months before and the same 3-month period the year prior.

Khatri et al. (Jan 21, 2021). *Racial/Ethnic Disparities in Unintentional Fatal and Nonfatal Emergency Medical Services–Attended Opioid Overdoses During the COVID-19 Pandemic in Philadelphia*. *JAMA Network Open*. <https://doi.org/10.1001/jamanetworkopen.2020.34878>

Public Health Policy and Practice

- Qualitative research conducted in under-resourced communities in Alabama found that Black community members highlighted concerns about contracting COVID-19 and noted apathy, difficulty with social distancing, lack of information, mixed messages from authority figures, and lack of PPE as barriers to prevention. Facilitators to coping with the pandemic included religious faith, increased physical activity, and a sense of hope; barriers included insecurity, mental health issues, isolation, economic hardships, lack of health care access, and issues with virtual schooling and church services, which were exacerbated by Internet connectivity problems. Facilitators to testing included incentives, clear information from trusted sources, convenient testing locations, and free tests, while misunderstanding, fear, mistrust, testing restrictions, and location of testing sites were identified as barriers.

Bateman et al. (Jan 21, 2021). *Confronting COVID-19 in under-Resourced, African American Neighborhoods: A Qualitative Study Examining Community Member and Stakeholders' Perceptions*. *Ethnicity & Health*. <https://doi.org/10.1080/13557858.2021.1873250>

- An analysis of case investigation and contact tracing metric data reported by 56 U.S. health departments found wide variation in capacity and ability to conduct timely and effective contact tracing. A median of 57% of COVID-19 patients were interviewed within 24 hours of report of the case to a health department; a median of 1.2 contacts were identified and prioritized for interview per patient; and a median of 55% of contacts were notified within 24 hours of identification by a patient.
- When departments' caseloads of COVID-19 were higher, the percentage of COVID-19 patients interviewed within 24 hours and the number of contacts identified per patient were both lower. The inverse relationship suggests that increases in staffing capacity might help reduce delays in interviewing patients and identify more contacts, according to the authors.

Spencer et al. (Jan 22, 2021). *COVID-19 Case Investigation and Contact Tracing Efforts from Health Departments — United States, June 25–July 24, 2020*. *MMWR*. <https://doi.org/10.15585/mmwr.mm7003a3>

Other Resources and Commentaries

- [Biden's Science Adviser, COVID Reinfections and Vaccine Tests](#) – Nature (Jan 21)
- [National Strategy for the COVID-19 Response and Pandemic Preparedness](#) – (Jan 21)
- [COVID-19 Is a Marathon, Not a Sprint](#) – Nature Human Behaviour (Jan 20)
- [Analysis of the Persistence Time of the SARS-CoV-2 Virus in the Cadaver and the Risk of Passing Infection to Autopsy Staff](#) – The Medico-Legal Journal (Jan 20)
- [Beyond Tuskegee — Vaccine Distrust and Everyday Racism](#) – New England Journal of Medicine (Jan 20)
- [Safety and Immunogenicity Trial of an Inactivated SARS-CoV-2 Vaccine-BBV152 a Phase 1 Double-Blind Randomised Control Trial](#) – MedRxiv (Dec 15)
- [Suicide Deaths during the Stay-at-Home Advisory in Massachusetts](#) – Medrxiv (Oct 20)
- [COVID-19 in Germany and China: Mitigation versus Elimination Strategy](#) – Global Health Action (Jan 1)
- [Parent-Reported Hesitancy to Seek Emergency Care for Children at the Crest of the First Wave of COVID-19 in Chicago](#) – Academic Emergency Medicine (Jan 21)

- [Pediatric Eye Injuries by Hydroalcoholic Gel in the Context of the Coronavirus Disease 2019 Pandemic.](#) – JAMA Ophthalmology (Jan 21)
- [COVID-19 Information for People Living with Asthma: A Rapid Review of Publicly Available Information](#) – The Journal of Allergy and Clinical Immunology. In Practice (Jan 21)
- [Politics, Pushback, and Pandemics: Challenges to Public Health Orders in the 1918 Influenza Pandemic](#) – American Journal of Public Health (Jan 21)
- [The Manchurian Plague and COVID-19: China, the United States, and the “Sick Man,” Then and Now](#) – American Journal of Public Health (Jan 21)
- [COVID-19 Surveillance Data: A Primer for Epidemiology and Data Science](#) – American Journal of Public Health (Jan 20)
- [Disrupting the COVID-19 Misinfodemic With Network Interventions: Network Solutions for Network Problems](#) – American Journal of Public Health (Jan 21)

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