



## 2019-nCoV Literature Situation Report (Lit Rep)

August 19, 2020

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

- **An assessment of 2 likely SARS-CoV-2 transmissions on an international flight among 102 total passengers with 7 potential index cases suggests possible airborne transmission.** [More](#)
- **Individuals with pre-existing neutralizing antibodies against SARS-CoV-2 were not re-infected while they were aboard a fishing vessel that experienced a SARS-CoV-2 outbreak with a high attack rate, providing some of the first direct evidence for potential immunity following infection.** [More](#)
- **There was a greater risk of SARS-CoV-2 test positivity and severe COVID-19 disease among individuals with non-allergic asthma, based on a nationwide cohort study in South Korea.** [More](#)
- **No new infections were reported after the addition of face shields to the personal protective equipment of community health workers in India, who made more than 18,000 home visits to contacts of patients with COVID-19 and identified 2,682 new infections.** [More](#)
- **Cumulative incidence of COVID-19 among non-Hispanic American Indian and Alaska Native persons is 3.5-fold higher than among non-Hispanic white persons.** [More](#)

### Transmission

- Monitoring of commercial airline passengers (n=102) on an international flight, 24 of whom were part of a tourist group who came in contact with a hotel manager with COVID-19, identified 2 likely SARS-CoV-2 transmissions on the flight, with 7 index cases, indicating possible airborne transmission. Both passengers with likely onboard acquisition were seated within 2 rows of an index case. The airflow in the cabin from the ceiling to the floor and from the front to the rear may have been associated with a reduced transmission rate, though the authors hypothesize that the rate may have been reduced further had the passengers worn masks on the flight.

*Hoehl et al. (Aug 18, 2020). Assessment of SARS-CoV-2 Transmission on an International Flight and Among a Tourist Group. JAMA Network Open.*

<https://doi.org/10.1001/jamanetworkopen.2020.18044>

### Testing and Treatment

- In an open-label, multicenter, randomized clinical trial in adults with moderate or severe COVID-19 admitted to four university hospitals in Iran, the addition of drugs used to treat hepatitis C virus, sofosbuvir and daclatasvir, to standard care (n=33) significantly reduced the duration of hospital stay compared with standard care alone (n=33). Cumulative incidence of hospital discharge was



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significantly higher in the treatment versus the control arm. Although fewer deaths were observed in the treatment arm, the difference was not statistically significant.

*Sadeghi et al. (Aug 19, 2020). Sofosbuvir and Daclatasvir Compared with Standard of Care in the Treatment of Patients Admitted to Hospital with Moderate or Severe Coronavirus Infection (COVID-19): A Randomized Controlled Trial. Journal of Antimicrobial Chemotherapy.*

<https://doi.org/10.1093/jac/dkaa334>

## Immunity

- *[Pre-print, not peer reviewed]* Three individuals with pre-existing neutralizing antibodies against SARS-CoV-2 were not re-infected while they were aboard a fishing vessel that experienced a SARS-CoV-2 outbreak with a high attack rate, providing some of the first direct evidence for potential immunity following infection. Out of a crew of 122, a total of 104 individuals had a positive SARS-CoV-2 RT-PCR test or seroconverted during the follow-up period (attack rate of 85%). Only three crewmembers tested seropositive prior to the boat's departure in initial serological screening and also had neutralizing and spike-reactive antibodies in follow-up assays. None of these crewmembers with neutralizing antibody titers showed evidence of bona fide viral infection or experienced any symptoms during the viral outbreak.

*Addetia et al. (Aug 14, 2020). Neutralizing Antibodies Correlate with Protection from SARS-CoV-2 in Humans during a Fishery Vessel Outbreak with High Attack Rate. Pre-print downloaded Aug 19 from <https://doi.org/10.1101/2020.08.13.20173161>*

## Clinical Characteristics and Health Care Setting

- After the addition of face shields as personal protective equipment, there were no reported infections among the 50 community health workers (CHWs) in India assigned to counsel asymptomatic family contacts of patients who had tested positive for SARS-CoV-2 at their homes. Before implementing face shields, 62 CHWs visited 5,880 homes with 31,164 persons, among whom 222 persons tested positive for SARS-CoV-2 (May 4 to May 13). During this period, 12 CHWs were infected, 8 developed symptoms, and 4 were asymptomatic. After implementing face shields, 50 previously uninfected CHWs continued to provide counseling, visiting 18,228 homes. Among those counseled (n=118,428), 2,682 subsequently tested positive for SARS-CoV-2, while no CHWs developed asymptomatic or symptomatic infection.

*Bhaskar and Arun. (Aug 17, 2020). SARS-CoV-2 Infection Among Community Health Workers in India Before and After Use of Face Shields. JAMA. <https://doi.org/10.1001/jama.2020.15586>*

- *[Pre-print, not peer reviewed]* An observational study used a smartphone application and web-based survey to collect self-reported pregnancy status and COVID-19-related symptom information from >400,000 women in the UK and Sweden and >1.3 million reports from women in the US. Investigators found that the profile of SARS-CoV-2 symptom characteristics and severity among pregnant women were comparable to those observed among non-pregnant women, except for gastrointestinal symptoms. Pregnant women were more likely to have received SARS-CoV-2 testing than non-pregnant women, despite reporting fewer clinical symptoms. Consistent with observations in non-pregnant populations, comorbidities such as lung disease and diabetes were associated with an increased risk of more severe SARS-CoV-2 infection during pregnancy.

*Molteni et al. (Aug 19, 2020). SARS-CoV-2 (COVID-19) Infection in Pregnant Women Characterization of Symptoms and Syndromes Predictive of Disease and Severity through Real-Time Remote Participatory Epidemiology. Pre-print downloaded Aug 19 from <https://doi.org/10.1101/2020.08.17.20161760>*

- In a propensity-score-matched nationwide cohort study (n=219,959) of individuals tested for SARS-CoV-2 in South Korea, patients with allergic rhinitis and asthma were more likely to have a positive SARS-CoV-2 test and to have severe COVID-19 outcomes if infected, compared to individuals without these conditions. The greatest increased risk was among those with non-allergic asthma (for positivity, aOR=1.3, 95%CI 1.1–1.7; for severe disease, aOR=4.1, 95%CI 1.7–10.5).

*Yang et al. (Aug 7, 2020). Allergic Disorders and Susceptibility to and Severity of COVID-19: A Nationwide Cohort Study. Journal of Allergy and Clinical Immunology.*

<https://doi.org/10.1016/j.jaci.2020.08.008>

- Findings from a prospective observational cohort study conducted at seven public hospitals in Singapore show that the 382-nucleotide deletion ( $\Delta$ 382) variant of SARS-CoV-2 is associated with a milder infection. Individuals infected with the  $\Delta$ 382 variant were compared with those infected with wild-type SARS-CoV-2. Between January 22 and March 21, among 131 individuals enrolled, 70% were infected with the wild-type virus, 8% had a mix of wild-type and  $\Delta$ 382-variant viruses, and 22% had only the  $\Delta$ 382 variant. After adjusting for age and presence of comorbidities, infection with the  $\Delta$ 382 variant only was associated with a 93% lower odds of developing hypoxia requiring supplemental oxygen, compared with infection with wild-type virus only.

*Young et al. (Aug 18, 2020). Effects of a Major Deletion in the SARS-CoV-2 Genome on the Severity of Infection and the Inflammatory Response: An Observational Cohort Study. The Lancet.*

[https://doi.org/10.1016/S0140-6736\(20\)31757-8](https://doi.org/10.1016/S0140-6736(20)31757-8)

## Modeling and Prediction

- Mathematical modeling by Grassly et al. indicates optimal SARS-CoV-2 testing strategies would include regular screening of high-risk groups such as health-care and social-care workers during periods of sustained transmission and testing of people with COVID-19 symptoms and tracing and quarantining their contacts. Test and trace requires high coverage and rapid testing and contact tracing to be effective. Testing alone is unlikely to bring the viral reproductive number below 1 at current levels of immunity and would need to be complemented by other interventions.

*Grassly et al. (Aug 18, 2020). Comparison of Molecular Testing Strategies for COVID-19 Control: A Mathematical Modelling Study. The Lancet Infectious Diseases.*

[https://doi.org/10.1016/S1473-3099\(20\)30630-7](https://doi.org/10.1016/S1473-3099(20)30630-7)

## Public Health Policy and Practice

- In 23 states with adequate race/ethnicity data, the cumulative incidence of laboratory-confirmed COVID-19 among non-Hispanic American Indian and Alaska Native (AI/AN) persons was 3.5-fold higher than among non-Hispanic white persons. While AI/AN persons account for only 0.7% of the US population, 1.3% of COVID-19 cases reported to CDC with known race and ethnicity data were among AI/AN persons.

*Hatcher et al. (Aug 19, 2020). COVID-19 Among American Indian and Alaska Native Persons — 23 States, January 31–July 3, 2020. MMWR. <https://doi.org/10.15585/mmwr.mm6934e1>*

- Oh et al. found that the years of life lost (YLLs) due to COVID-19 increased from 1,699,574 YLLs on April 22 to 4,072,325 on July 14 in a sum of estimates for 30 high-incidence countries. The US had the highest number of YLLs as of July 14, followed by Brazil, the UK, Italy, and France. The YLLs per 100,000 population were highest in Belgium, the UK, Italy, Sweden, and France. In Belgium, the estimated YLLs due to COVID-19 exceeded 10% of the total YLLs per 100,000 estimated from 2017, the most recent year published for this estimation.

*Oh et al. (Aug 17, 2020). Years of Life Lost Attributable to COVID-19 in High-Incidence Countries. Journal of Korean Medical Science. <https://doi.org/10.3346/jkms.2020.35.e300>*

- Among a cohort study of 11,210 adults hospitalized with confirmed SARS-CoV-2 in 92 hospitals across 12 states, there was no statistically significant difference in risk of mortality between Black and white patients (HR=0.93, 95% CI 0.80-1.09) after adjusting for age, sex, insurance, comorbidities, neighborhood deprivation, and site of care.  
*Yehia et al. (Aug 18, 2020). Association of Race With Mortality Among Patients Hospitalized With Coronavirus Disease 2019 (COVID-19) at 92 US Hospitals. JAMA Network Open.*  
<https://doi.org/10.1001/jamanetworkopen.2020.18039>

#### Other Resources and Commentaries

- [COVID-19 and School Return: The Need and Necessity](#) – Journal of Pediatric Nursing (Aug 4)
- [Therapeutic Strategies in the Development of Anti-Viral Drugs and Vaccines Against SARS-CoV-2 Infection](#) – Molecular Neurobiology (Aug 18)
- [The Dilemma of COVID-19 Recurrence after Clinical Recovery](#) – Journal of Infection (Aug 15)
- [Race Disparities in the COVID-19 Pandemic-Solutions Lie in Policy, Not Biology](#) – JAMA Network Open (Aug 18)
- [Addressing the Needs of People Living Homeless During the COVID-19 Pandemic](#) – Journal of Public Health Management and Practice (Aug 6)
- [Neutralizing Antibodies Against SARS-CoV-2-Important Questions, Unclear Answers](#) – JAMA Internal Medicine (Aug 18)
- [What the Immune Response to the Coronavirus Says about the Prospects for a Vaccine](#) – Nature (Aug 17)
- [How Schools Can Reopen Safely during the Pandemic](#) – Nature (Aug 18)
- [Millions of Students Are Returning to US Universities in a Vast Unplanned Pandemic Experiment](#) – Nature (Aug 17)
- [How We Accelerated Clinical Trials in the Age of Coronavirus](#) – Nature (Aug 18)
- [Comparison of Readability of Official Public Health Information About COVID-19 on Websites of International Agencies and the Governments of 15 Countries](#) – JAMA Network Open (Aug 18)
- [Examining the Impact of COVID-19 in Ethnically Diverse Families with Young Children with Intellectual and Developmental Disabilities](#) – Journal of Intellectual Disability Research (Aug 18)
- [Public Health Strategies Contain and Mitigate COVID-19: A Tale of Two Democracies](#) – The American Journal of Medicine (Aug 15)
- [Ethical Considerations for COVID-19 Vaccine Trials in Correctional Facilities](#) – JAMA (Aug 17)

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