



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

July 31, 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 outbreak of SARS-CoV-2 at an overnight camp in Georgia resulted in 260 confirmed infections among 597 attendees, with an overall attack rate of 44% and high attack rates in all age groups of children and young adults.** [More.](#)
- **A majority of patients discharged after recovering from COVID-19 report new illness-related fatigue, breathlessness, and psychological distress after their hospital stays.** [More.](#)
- **People who traveled to China, Italy, or Iran accounted for almost two-thirds of the first patients reported with COVID-19 in 99 other countries.** [More](#)

### Non-pharmaceutical interventions

- An analysis of daily COVID-19 case counts and average mobility data concluded that social distancing policies reduced global COVID-19 transmission by 65% over a two-week time period. McGrail et al. also conclude that statewide social distancing policies in the US correspond with reduced COVID-19 transmission, which was found to be proportional to reductions in mortality.

*McGrail et al. (July 30, 2020). Enacting National Social Distancing Policies Corresponds with Dramatic Reduction in COVID19 Infection Rates. PLOS ONE.*

<https://doi.org/10.1371/journal.pone.0236619>

### Transmission

- An outbreak investigation in an overnight camp in Georgia found evidence of widespread transmission of SARS-CoV-2 among children of all ages. SARS-CoV-2 tests were available for 344 of 597 camp attendees, of whom 260 (76%) were positive. The overall attack rate was 44% (260 of 597). The attack rate was 51% among those aged 6–10 years, 44% among those aged 11–17 years, and 33% among those aged 18–21 years.
- The camp involved large groups sleeping in the same cabin and engaging in singing, cheering, and both indoor and outdoor activities. Use of cloth masks was not required among campers. All trainees, staff members, and campers provided documentation of a negative viral SARS-CoV-2 test ≤12 days before arriving.
- An ongoing investigation into specific exposures associated with infection, illness course, and secondary transmission to household members is being conducted.

*Szablewski CM, Chang KT, Brown MM, et al. (July 2020). SARS-CoV-2 Transmission and Infection Among Attendees of an Overnight Camp — Georgia, June 2020. MMWR.*

<http://dx.doi.org/10.15585/mmwr.mm6931e1>



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- Identifying cases of COVID-19 using official websites, press releases, press conference transcripts, and social media feeds of national ministries of health, Dawood et al. conclude that travelers to China, Italy, or Iran accounted for almost two-thirds of the first reported cases in 99 other countries.
- Although clusters of household transmission associated with these index cases were common, clusters in occupational or community settings tended to be larger.

*Dawood et al. (July 2020). Observations of the Global Epidemiology of COVID-19 from the Prepandemic Period Using Web-Based Surveillance: A Cross-Sectional Analysis. The Lancet Infectious Diseases. [https://doi.org/10.1016/S1473-3099\(20\)30581-8](https://doi.org/10.1016/S1473-3099(20)30581-8)*

## Testing and Treatment

- Gupta et al. demonstrate that pool testing with 8 RNA samples analyzed with RT-qPCR can achieve a sensitivity of 95.4%, a specificity of 100% (280 samples tested: 40 positive and 240 negative).
- The authors conclude that the results of pool testing are not affected by the number of positive samples in a pool, suggesting the utility of pooled testing at various stages of the pandemic.

*Gupta et al. (July 30, 2020). Pooled RNA Sample Reverse Transcriptase Real Time PCR Assay for SARS CoV-2 Infection: A Reliable, Faster and Economical Method. PLOS ONE.*

<https://doi.org/10.1371/journal.pone.0236859>

## Vaccines

- A single dose of an adenovirus serotype 26 vaccine expressing the SARS-CoV-2 spike protein induced robust neutralizing antibody responses and provided complete or near-complete protection after SARS-CoV-2 challenge in rhesus macaques.
- A version of the vaccine (Ad26.COVS.2.S) is currently being evaluated in clinical trials.

*Mercado et al. (July 30, 2020). Single-Shot Ad26 Vaccine Protects against SARS-CoV-2 in Rhesus Macaques. Nature. <https://doi.org/10.1038/s41586-020-2607-z>*

- A single dose of a vaccine similar to one previously discovered to protect against MERS was reported by van Doremalen et al. to produce neutralizing antibodies specific to SARS-CoV-2 in both mice and rhesus macaques. A booster shot significantly improved humoral immune response in macaques. The vaccine candidate is moving on to clinical trials.

*van Doremalen et al. (July 30, 2020). ChAdOx1 NCoV-19 Vaccine Prevents SARS-CoV-2 Pneumonia in Rhesus Macaques. Nature. <https://doi.org/10.1038/s41586-020-2608-y>*

## Clinical Characteristics and Health Care Setting

- Halpin et al. evaluated 100 COVID-19 survivors between 29 and 71 days after hospital discharge, including 32 people who had required ICU admission. Commonly reported symptoms among recovered patients included new illness-related fatigue (72% of the ICU group and 60% of the general admission group), breathlessness (66% of ICU group, 43% of general admission), and psychological distress (47% of ICU group, 24% of general admission).
- Survivors were also assessed using the EQ-5D-5L scale, which measures mobility, self-care, usual activities, pain/discomfort, and anxiety/depression in patients. A clinically significant decline in scale scores was reported in 69% of ICU patients and 46% of general admissions.

*Halpin et al. (July 30, 2020). Post-discharge Symptoms and Rehabilitation Needs in Survivors of COVID-19 Infection: A Cross-sectional Evaluation. Journal of Medical Virology.*

<https://doi.org/10.1002/jmv.26368>

- Seresirikachorn et al. evaluated the effectiveness of existing decontamination methods of surgical masks and N95 respirators with a systematic review of 15 studies published before April 11, 2020 that described 14 decontamination methods. They find a low level of evidence supporting the use of four of the methods for decontamination and reuse of N95 masks, including ultraviolet germicidal irradiation, moist heat, microwave-generated steam, and hydrogen peroxide vapor.
- None of the studies assessed surgical masks or contamination with SARS-CoV-2 specifically.  
*Seresirikachorn et al. (July 30, 2020). Decontamination and Reuse of Surgical Masks and N95 Filtering Facepiece Respirators during COVID-19 Pandemic: A Systematic Review. Infection Control & Hospital Epidemiology. <https://doi.org/10.1017/ice.2020.379>*

## Modeling and Prediction

- Using agent-based models, Hernandez-Mejia et al. test the effects of various distancing rules and population sizes on the transmission of SARS-CoV-2 in a small- to medium-size supermarket. Policies that require at least 1 meter (3.3 feet) between shoppers and limit the number of shoppers to 15 in a store of about 30 m by 16 m (100 feet by 52 feet) may reduce transmission by 90%. The model did not incorporate the use of face coverings.  
*Hernandez-Mejia and Hernandez-Vargas. (July 2020). When Is SARS-CoV-2 in Your Shopping List? Mathematical Biosciences. <https://doi.org/10.1016/j.mbs.2020.108434>*

## Other Resources and Commentaries

- [Ocular COVID-19: Eyes as a Reservoir to Conceal and Spread SARS-CoV-2](#) – Infectious Disorders Drug Targets (July 29)
- [COVID-19, Racism, and the Pursuit of Health Care and Research Worthy of Trust](#) – The Journal of Clinical Investigation (July 30)
- [Multisystem Inflammatory Syndrome in Children and COVID-19 Are Distinct Presentations of SARS-CoV-2](#) – The Journal of Clinical Investigation (July 30)
- [Child Malnutrition and COVID-19: The Time to Act Is Now](#) – The Lancet (July 27)
- [The Impact of Mutations in SARS-CoV-2 Spike on Viral Infectivity and Antigenicity](#) – Cell (July 17)
- [COVID-19 Pandemic: Disparate Health Impact on the Hispanic/Latinx Population in the United States](#) – The Journal of Infectious Diseases (July 30)
- [Consequences of Chemical Impact of Disinfectants: Safe Preventive Measures against COVID-19](#) – Critical Reviews in Toxicology (July 30)
- [Infectious Disease Outbreak Related Stigma and Discrimination during the COVID-19 Pandemic: Drivers, Facilitators, Manifestations, and Outcomes across the World](#) – Brain, Behavior, and Immunity (July 27)
- [Confidence in Political Leaders Can Slant Risk Perceptions of COVID-19 in a Highly Polarized Environment](#) – Social Science & Medicine (Sept)
- [COVID-19 and Telehealth in Older Adult Psychiatry- Opportunities for Now and the Future](#) – International Journal of Geriatric Psychiatry (July 30)
- [COVID-19: Understanding the Science of Antibody Testing and Lessons from the HIV Epidemic](#) – Diagnostic Microbiology and Infectious Disease (July 23)
- [A Scoping Review of Literature About Mental Health and Well-Being Among Immigrant Communities in the United States](#) – Health Promotion Practice (July 30, 2020).

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