



2019-nCoV Literature

Situation Report (Lit

Rep)

October 16, 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

- **Children who were infected with SARS-CoV-2 at an overnight camp in Georgia in June transmitted the virus to 9% of their household contacts, with 10% of the adult secondary cases requiring hospitalization. [More](#)**
- **Results from the WHO Solidarity trial indicate that remdesivir, hydroxychloroquine, lopinavir/ritonavir and interferon regimens did not appear to reduce mortality, initiation of ventilation, or duration of hospital stay in patients with COVID-19. [More](#)**
- **T-cell immunity against SARS-CoV-2 was found in 78% of potential convalescent plasma donors who had a PCR-confirmed SARS-CoV-2 infection but had undetectable antibodies against the virus, indicating that immunity may be mediated through T-cells even in the absence of an antibody response. [More](#)**

### Transmission

- *[Pre-print, not peer reviewed]* Children and adolescents who acquired SARS-CoV-2 infection during an overnight camp in June transmitted the virus to both pediatric and adult contacts in their households, with 10% of the adult secondary cases requiring hospitalization, based on a retrospective cohort study from Georgia. Among 526 tested household contacts of 224 infected individuals, 48 secondary cases were identified, corresponding to a secondary attack rate (SAR) of 9%. The authors note that because the exposure at camp was known, many of the young people self-isolated or wore masks upon returning home, potentially contributing to a lower SAR than had been observed in other studies. *[EDITORIAL NOTE: An earlier manuscript associated with this outbreak was summarized in the Lit Rep on July 31, 2020].*  
*Chu et al. (Oct 12, 2020). Transmission of SARS-CoV-2 from Children and Adolescents. Pre-print downloaded Oct 16 <https://doi.org/10.1101/2020.10.10.20210492>*
- *[Pre-print, not peer reviewed]* Preliminary data from a study of SARS-CoV-2 transmission in Italian schools showed that transmission appears to be low among younger students. As of October 5, a total of 1,350 SARS-CoV-2 infections had been registered in Italian territory schools in an online database of media news about infections in schools. Schools reported a single infection in 93% of reports, with only one high school reporting an outbreak of more than 10 cases. The largest percentage of cases (34%) were from high schools, with lower percentages for younger grades. The authors suggest that monitoring school settings is key to providing guidelines that consider different risks within different age groups.



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Buonsenso et al. (Oct 11, 2020). SARS-CoV-2 Infections in Italian Schools Preliminary Findings after One Month of School Opening during the Second Wave of the Pandemic. Pre-print downloaded Oct 16 <https://doi.org/10.1101/2020.10.10.20210328>

- In a study of COVID-19 outcomes among child care providers who provided in-person child care during the first three months of the pandemic versus those who did not, no association was found between exposure to child care and testing positive for or being hospitalized with COVID-19 in both unmatched (OR =1.06) and matched (OR=0.94) analyses. Being a home-based provider was associated with COVID-19 (OR=1.6) in the matched analysis, but it did not show an interaction with exposure to children. The authors note that their results should be interpreted with consideration to the extensive infection mitigation efforts that were implemented by many child care programs during this time.

Gilliam et al. (2020). COVID-19 Transmission in US Child Care Programs. *Pediatrics*. <https://doi.org/10.1542/peds.2020-031971>

## Testing and Treatment

- Observations from a cross-sectional, general adult population pilot study in France indicated high practicability and satisfaction of SARS-CoV-2 IgG-IgM self-testing using the Exacto COVID-19 self-test. The study used a variety of questionnaires to determine if participants could both use the test and interpret its results correctly. All 167 participants correctly used the self-test, although 12 asked for verbal help. The agreement between the results interpreted by the participants and the expected results was 99%. All participants reported that performing the COVID-19 self-test was easy, and 99% found the interpretation of the self-test results easy.

Tonen-Wolyec et al. (Oct 15, 2020). Capillary Whole-Blood IgG-IgM COVID-19 Self-Test as a Serological Screening Tool for SARS-CoV-2 Infection Adapted to the General Public. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0240779>

- [Pre-print, not peer reviewed] Interim results for the original four drugs in the WHO Solidarity trial indicated that remdesivir, hydroxychloroquine, lopinavir/ritonavir and interferon regimens did not appear to reduce mortality, initiation of ventilation, or duration of hospital stay. Out of 11,266 adults in 30 countries who were randomized, 1,253 deaths were reported. Kaplan-Meier analysis of 28-day mortality was 12% (39% if already ventilated at randomization, 10% otherwise). Death rate ratios were: remdesivir RR=0.95, hydroxychloroquine RR=1.19, lopinavir/ritonavir RR=1.00, and interferon RR=1.16.

WHO Consortium et al. (Oct 15, 2020). Repurposed Antiviral Drugs for COVID-19 Interim WHO SOLIDARITY Trial Results. Pre-print downloaded Oct 16 from <https://doi.org/10.1101/2020.10.15.20209817>

## Vaccines and Immunity

- Immunity to SARS-CoV-2 infection may be mediated through T-cells, even among those with undetectable levels of antibodies against the virus. A study of immune responses against severe SARS-CoV-2 among a group of convalescent, potential blood donors in Germany found T-cell immunity against SARS-CoV-2 in 78% of volunteers who had a PCR-confirmed SARS-CoV-2 infection but had undetectable antibodies. The study analyzed participants who had strong antibody responses as positive controls and asymptomatic individuals with no household contact with infected individuals as negative controls. A similar frequency (80%) of T-cell immunity was observed in donors with strong antibody responses, and immunity was not detected in negative controls.

Schwarzkopf et al. (Oct 15, 2020). Cellular Immunity in COVID-19 Convalescents with PCR-Confirmed Infection but with Undetectable SARS-CoV-2–Specific IgG. *Emerging Infectious Disease Journal*. [https://wwwnc.cdc.gov/eid/article/27/1/20-3772\\_article](https://wwwnc.cdc.gov/eid/article/27/1/20-3772_article)

## Clinical Characteristics and Health Care Setting

- A population-based prospective cohort study of residents of long-term care homes, people living in shelters, and members of the general population in Toronto, Canada found that residents of long-term care homes were 2.4 times more likely to test positive for SARS-CoV-2 than the general population and those who received a diagnosis of COVID-19 were 1.4 times more likely to die. The study found that cumulatively, the diagnosed cases per capita was 64-fold higher among long-term care home residents and 19-fold higher among shelter residents, compared with the rest of the population.

Wang et al. (Oct 9, 2020). Heterogeneity in Testing, Diagnosis and Outcome in SARS-CoV-2 Infection across Outbreak Settings in the Greater Toronto Area, Canada: An Observational Study. *CMAJ Open*. <https://doi.org/10.9778/cmajo.20200213>

- A retrospective review of SARS-CoV-2-positive molecular testing results in the US between early (March–April 2020) and later periods (June–July 2020) found a trend toward decreasing age among people with laboratory-confirmed SARS-CoV-2 infection, but that these trends seem to be specific to the outpatient population. In the early period, the median age of individuals testing positive was 41 years, while in June–July, the median was 36 years. In addition, the positivity rate for individuals under 50 increased from 6% to 11%, and the positivity rate for those over 50 decreased from 6% to 5% between the two periods. Almost all of the samples were collected from Utah, and the authors note that this may impact generalizability of the findings. [EDITORIAL NOTE: A pre-print version of this article was summarized in the Lit Rep on July 27, 2020].

Greene et al. (Oct 15, 2020). Decreasing Median Age of COVID-19 Cases in the United States—Changing Epidemiology or Changing Surveillance? *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0240783>

## Modeling and Prediction

- A model examining the effects of policy choices regarding social distancing, testing, and hospital triaging found that the most successful practices for reducing COVID-19 mortality were social distancing, increasing test availability while reducing the delay between administration and results, and prioritizing the care of the least-severely infected patients. The model simulated how SARS-CoV-2 spreads in a community of 10,000 people and found that reducing public contacts (people encountered while shopping, banking, etc.) had a stronger effect on the number of deaths than an equal reduction in private contacts (friends, family). The efficacy of a given policy choice was found to depend on what other policies were implemented at the time.

McCombs and Kadelka. (Oct 15, 2020). A Model-Based Evaluation of the Efficacy of COVID-19 Social Distancing, Testing and Hospital Triage Policies. *PLOS Computational Biology*. <https://doi.org/10.1371/journal.pcbi.1008388>

## Public Health Policy and Practice

- Among COVID-19–associated deaths reported to the US National Vital Statistics System from May to August, deaths in people over the age of 65 and members of minority racial and ethnic groups were disproportionately represented. Analysis of 114,411 COVID-19–associated deaths found that 51% were among non-Hispanic white individuals, 24% were among Hispanic or Latino individuals, and 19% were among non-Hispanic Black individuals. The percentage of deaths among Hispanic

individuals increased from 16% in May to 26% in August, and a geographic shift in deaths occurred from the Northeast into the South and West during this time.

Gold et al. (Oct 16, 2020). *Race, Ethnicity, and Age Trends in Persons Who Died from COVID-19 — United States, May–August 2020*. MMWR. <https://doi.org/10.15585/mmwr.mm6942e1>

- Levels of public confidence in the health care system were related to differences in compliance behavior during the COVID-19 pandemic in a study of mobility measures across 38 European countries. Areas in which people had low levels of confidence in their health care system initially showed a faster response with respect to staying home. However, this response plateaued sooner, and declined more dramatically compared to areas in which people had high confidence in their health care system. The study also found that people living in regions with higher health care system confidence were more likely to reduce mobility once the government instituted a stay-at-home order, compared to those with lower health care system confidence. Regions in which people had high trust in the government but low confidence in the health care system largely reduced their mobility.

Chan et al. (Oct 15, 2020). *How Confidence in Health Care Systems Affects Mobility and Compliance during the COVID-19 Pandemic*. PLOS ONE. <https://doi.org/10.1371/journal.pone.0240644>

### Other Resources and Commentaries

- [The Impact of Social Distancing for SARS-CoV-2 on Respiratory Syncytial Virus and Influenza Burden](#) – Clinical Infectious Diseases (Oct 10, 2020)
- [Telehealth treatment engagement with Latinx populations during the COVID-19 pandemic](#) – The Lancet Psychiatry (Oct 8, 2020)
- [The necessity for intra-action reviews during the COVID-19 pandemic](#) – The Lancet Global Health (Oct 8, 2020)
- [REGN-COV2 antibodies prevent and treat SARS-CoV-2 infection in rhesus macaques and hamsters](#) – Science (Oct 9, 2020)
- [The COVID-19 Pandemic and the \\$16 Trillion Virus](#) – JAMA (Oct 12, 2020)
- [Mitigating Asian American Bias and Xenophobia in Response to the Coronavirus Pandemic: How You Can Be an Upstander](#) – Journal of the American College of Radiology (Oct 6, 2020)
- [Large Meta-analysis Digs Into Obesity's COVID-19 Risks](#) – JAMA (Oct 15, 2020)
- [The Lombardy region of Italy launches the first investigative COVID-19 commission](#) – The Lancet (Oct 15, 2020)
- [Postapproval Vaccine Safety Surveillance for COVID-19 Vaccines in the US](#) – JAMA (Oct 16, 2020)
- [Is It Lawful and Ethical to Prioritize Racial Minorities for COVID-19 Vaccines?](#) – JAMA (Oct 14, 2020)

*Report prepared by the UW Alliance for Pandemic Preparedness and Global Health Security and the START Center in collaboration with and on behalf of WA DOH COVID-19 Incident Management Team*