

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

August 28, 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

- **A cohort study of children admitted to hospitals in the UK with proven or highly-likely COVID-19 found that 11% of children met criteria for multisystem inflammatory syndrome, and that acute COVID-19 was associated with age < 1 month, age 10-14 years, and Black ethnicity. [More](#)**
- **In a case series of children in South Korea with SARS-CoV-2, 22% of children were asymptomatic and 66% of symptomatic children had symptoms that were unrecognized at the time of diagnosis, indicating that symptom screening would miss a large proportion of infected children. [More](#)**
- **An observational study found that treatment of inpatients with COVID-19 with famotidine, a histamine-2 blocker used to treat acid reflux and ulcers, was associated with a decreased risk of in-hospital mortality and a combined outcome of death or intubation. [More](#)**
- **An online survey of American and Canadian adults who were not health care workers found that more than one quarter of participants believed that health care workers should be avoided and/or be subject to isolation restrictions to prevent infection. [More](#)**

### Transmission

- A systematic review of stool testing for SARS-CoV-2 (95 studies) showed that 934/2149 (43%) patients tested positive by stool sample or by anal swab, with positive results up to 70 days after symptom onset. Fecal samples of 282/443 (64%) remained positive even after respiratory samples became negative, for a mean of 12.5 days, and viable SARS-CoV-2 was found in 6/17 (35%) patients in whom this was specifically investigated.

*van Doorn et al. (Aug 27, 2020). Systematic Review with Meta-Analysis: SARS-CoV-2 Stool Testing and the Potential for Faecal-Oral Transmission. Alimentary Pharmacology & Therapeutics. <https://pubmed.ncbi.nlm.nih.gov/32852082>*

### Testing and Treatment

- A retrospective propensity-matched observational study (n=878) found that famotidine, a histamine-2 blocker used to treat acid reflux and ulcers, was associated with a decreased risk of in-hospital mortality (OR=0.4, 95% CI: 0.2-0.96) as well as combined outcome of death or intubation (OR=0.5, 95% CI: 0.2-0.96). While patients treated with famotidine were younger (63.5 +/- 15 vs 67.5 +/- 15.8), propensity score matching to adjust for age did not change the associations. Forty-eight of 83 (58%) patients in the famotidine group received corticosteroids versus 329/689 (48%) of patients in the non-famotidine group.

Mather et al. (Aug 26, 2020). *Impact of Famotidine Use on Clinical Outcomes of Hospitalized Patients With COVID-19*. *American Journal of Gastroenterology*.

[https://journals.lww.com/ajg/Documents/AJG-20-2074\\_R1.pdf](https://journals.lww.com/ajg/Documents/AJG-20-2074_R1.pdf)

- Catteau et al. conducted a retrospective analysis of in-hospital mortality using Belgian national COVID-19 hospital surveillance data (n=8,075) and found that, after adjusting for clinical and demographic features, mortality was lower among patients who received low-dose hydroxychloroquine (2400 mg over 5 days) compared to supportive care alone (HR=0.7, 95%CI: 0.6-0.8).

Catteau et al. (Aug 24, 2020). *Low-Dose Hydroxychloroquine Therapy and Mortality in Hospitalized Patients with COVID-19: A Nationwide Observational Study of 8075 Participants*. *International Journal of Antimicrobial Agents*.

<https://doi.org/10.1016/j.ijantimicag.2020.106144>

- A prospective observational cohort study found that people with multiple sclerosis (MS) and those taking immunomodulatory disease-modifying therapies were not at elevated risk of COVID-19. Among people with MS, 237 of 3,910 (6%) participants reported self-diagnosed COVID-19, which was a similar risk to among their siblings without MS (OR: 1.2, 95%CI: 0.9-1.6). Participants taking disease-modifying therapies were less likely to have self-diagnosed COVID-19 (OR=0.64, 95% CI: 0.43-0.96).

Evangelou et al. (Aug 27, 2020). *Self-Diagnosed COVID-19 in People with Multiple Sclerosis: A Community-Based Cohort of the UK MS Register*. *Journal of Neurology, Neurosurgery & Psychiatry*. <https://doi.org/10.1136/jnnp-2020-324449>

### Clinical Characteristics and Health Care Setting

- A prospective observational cohort study in the UK of children and young adults (n=651, median age=4.6, IQR 0.3-13.7) found that 52/456 (11%) participants met the WHO case definition for multisystem inflammatory syndrome in children and adolescents temporally related to COVID-19 (MIS-C). Children who met criteria for MIS-C were older than children who did not (median 10.7 years vs 1.6 years) and were more likely to be of non-white ethnicity (64% vs 42%). The most common symptom clusters among the whole cohort were a respiratory illness followed by a systemic mucocutaneous enteric illness cluster that included headache, muscle ache, sore throat, vomiting, abdominal pain, rash, swollen lymph nodes and conjunctivitis. In multivariable analysis, acute COVID-19 was associated with age <1 month (OR: 3.2, 95% CI 1.4-7.7), age 10-14 years (OR: 3.2, 95% CI: 1.6-7.0), and Black ethnicity (OR: 2.8, 1.4 to 5.6).

Swann et al. (Aug 27, 2020). *Clinical Characteristics of Children and Young People Admitted to Hospital with Covid-19 in United Kingdom: Prospective Multicentre Observational Cohort Study*. *BMJ*. <https://doi.org/10.1136/bmj.m3249>

- Han et al. report a case series of children (age <19 years; n=91) with SARS-CoV-2 across 20 hospitals and 2 isolation facilities across Korea (mid-February to March) and found that 22% of children were asymptomatic. Only 9% of symptomatic cases were diagnosed at the time of symptom onset, while among those with symptoms, 66% had unrecognized symptoms before diagnosis and 25% developed symptoms after diagnosis. SARS-CoV-2 RNA persisted in upper respiratory samples for a mean of 17.6 days among all children and 14.1 days among asymptomatic children. Among the symptomatic children, 65% had mild illness, 28% had moderate illness, and 3% had severe illness and received supplemental oxygen via nasal prongs. No children required mechanical ventilation.

Han et al. (Aug 28, 2020). *Clinical Characteristics and Viral RNA Detection in Children with Coronavirus Disease 2019 in the Republic of Korea*. *JAMA Pediatrics*.

<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2770150>

- A retrospective cohort study of 1,419 patients with COVID-19 who were seen in emergency departments and discharged found that 66 (5%) returned to a hospital within 72 hours and were admitted. Those age > 60 years were more likely to experience a return hospital admission compared to those age 18-39 (aOR=4.6). Hypoxia (aOR=2.9), presentation with fever (aOR=2.4), and abnormal chest radiography (aOR=2.4) were also associated with return hospital admission.

Kilaru et al. (Aug 27, 2020). *Return Hospital Admissions Among 1419 Covid-19 Patients Discharged from Five US Emergency Departments*. *Academic Emergency Medicine*.

<https://doi.org/10.1111/acem.14117>

- In a quality improvement study of a radiation oncology department in New Jersey, 128 environmental swabs were obtained following WHO protocols over 6 days from May 1 to May 13 (peak daily rate for New Jersey), of which none were positive for SARS-CoV-2. The investigators suggest routine cleaning and disinfecting protocols appear to be adequate for limiting fomite transmission of SARS-CoV-2.

Jan et al. (Aug 27, 2020). *Prevalence of Surface Contamination With SARS-CoV-2 in a Radiation Oncology Clinic*. *JAMA Oncology*. <https://doi.org/10.1001/jamaoncol.2020.3552>

## Mental Health and Personal Impact

- An online survey of a random sample of adults from the US and Canada who were not healthcare workers (HCWs) (n=3,551) found that over a quarter of respondents believed that restrictions should be placed on HCWs, such as being isolated from their communities and families, and over a third of respondents avoided HCWs for fear of infection. Demographic factors were not associated with HCW stigmatization, while variables related to COVID-19 Stress Syndrome had a stronger association.

Taylor et al. (Aug 19, 2020). *Fear and Avoidance of Healthcare Workers: An Important, under-Recognized Form of Stigmatization during the COVID-19 Pandemic*. *Journal of Anxiety Disorders*.

<https://doi.org/10.1016/j.janxdis.2020.102289>

## Other Resources and Commentaries

- [Evaluation of SARS-CoV-2 Serology Assays Reveals a Range of Test Performance](#) – Nature Biotechnology (Aug 27)
- [The Dynamic Changes in Cytokine Responses in COVID-19: A Snapshot of the Current State of Knowledge](#) – Nature Immunology (Aug 27)
- [Misconceptions about Weather and Seasonality Must Not Misguide COVID-19 Response](#) – Nature Communications (Aug 27)
- [Recommendations for Future University Pandemic Responses: What the First COVID-19 Shutdown Taught Us](#) – PLOS Biology (Aug 27)
- [Symptomatic and Asymptomatic Viral Shedding in Pediatric Patients Infected with Severe Acute Respiratory Syndrome Coronavirus 2 \(SARS-CoV-2\): Under the Surface](#) – JAMA Pediatrics (Aug 28)
- [Who Can Go Back to Work When the COVID-19 Pandemic Remits?](#) – PLOS ONE (Aug 27)
- [Drug Interactions of Psychiatric and COVID-19 Medications](#) – Basic and Clinical Neuroscience Journal (July 1)

- [Fear, Loss, Social Isolation, and Incomplete Grief Due to COVID-19: A Recipe for a Psychiatric Pandemic](#) – Basic and Clinical Neuroscience Journal (July 30)
- [Coinfections among COVID-19 Patients: A Need for Combination Therapy?](#) – Journal of Microbiology, Immunology and Infection (Aug 18)
- [Unexpected Health Insurance Profits and the COVID-19 Crisis](#) – JAMA Health Forum (Aug 27)
- [Current Clinical Trials Protocols and the Global Effort for Immunization against SARS-CoV-2](#) – Vaccines (Aug 25)
- [African-Americans Have a Higher Propensity for Death from COVID-19: Rationale and Causation.](#) – Journal of National Black Nurses' Association (July 31)

*Report prepared by the UW MetaCenter 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*