

Himmelfarb Health Sciences Library, The George Washington University

## Health Sciences Research Commons

---

GW COVID-19 Intelligence Reports

GW Covid-19 Collection

---

8-24-2020

### GW Covid-19 Intelligence Reports: August 24, 2020

George Washington University

Follow this and additional works at: <https://hsrc.himmelfarb.gwu.edu/intelligencereports>

---

## Policy and New

[Crisis Standards of Care \(CSC\)](#) provide a framework for the fair allocation of scarce resources during emergencies, however, there is wide variability in the existence and specificity of CSC across the US and the authors conclude, "CSC may disproportionately impact disadvantaged populations due to inequities in comorbid condition prevalence, expected lifespan, and other effects of systemic racism."

## Epidemiology

In this large cohort of [children](#) (from our own Children's National Hospital) tested for SARS-CoV-2 through a community-based testing site, racial/ethnic minorities and socioeconomically disadvantaged children carry the highest burden of infection.

A prospective, [observational](#) cohort study of the general community (over 2 million individuals in the UK and US), including nearly 100,000 front-line health-care workers, using self-reported data, showed risk was increased among front-line health-care workers.

A [study of an outbreak of SARS-CoV-2 on a fishing vessel](#) showed that presence of neutralizing antibodies from prior infection was significantly associated with protection against re-infection.

## Disease Presentation, Course, and Complications

### Pediatrics

The common [clinical](#) pediatric COVID-19 presentations and diagnostic testing are reviewed including laboratory and radiological features and described treatment and complications. Fever, cough and lymphopenia, which are common in adult presentation, are not consistently so in pediatric disease.

CDC has updated their Advisory on [multisystem](#) inflammatory syndrome in children (MIS-C) which is a rare but severe condition that has been reported approximately 2–4 weeks after the onset of COVID-19 in children and adolescents and advises that clinicians must readily distinguish this from other severe inflammatory conditions in children.

Analysis of [pediatric](#) COVID-19 hospitalization data from 14 states found one in three hospitalized children was admitted to an intensive care unit. Children are at risk for severe COVID-19.

### Internal Medicine

In a [cohort](#) study of patients who had recently recovered from COVID-19, cardiac magnetic resonance imaging revealed cardiac involvement in 78 patients (78%) and ongoing myocardial inflammation in 60 patients (60%) highlighting the potential for long-term cardiac consequences of COVID-19 infection.

Preliminary [evidence](#) from a systematic review and meta analysis of 11 cohort studies including nearly 2,000 patients indicates that prophylactic-dose thromboprophylaxis may be inadequate to control the increased risk of venous thromboembolism (VTE) in patients hospitalized for coronavirus disease 2019 (COVID-19) infection.

[Systematic](#) review of 41 studies and over 5,000 patients provides clinical and radiologic guidance for early identification of severe COVID-19 patients in order to identify those to transport to specialised centres and initiation of appropriate treatment.

A [systematic review](#) (62 studies and over 8,000 patients) and meta analysis (26 studies and 4700 patients) show that GI and hepatic involvement should be investigated in patients with COVID-19 since it portends a severe clinical course.

#### Geriatrics

Four cases of [elderly](#) patients developed altered mental status as their primary COVID-19 presenting symptom without associated fever or respiratory symptoms.

#### Dermatology

[Dermatological](#) lesions are frequent in patients with SARS-CoV-2, especially erythema, urticaria, and varicella-like rash. The rash is not correlated to the severity of SARS-CoV-2 infection.

#### Neurology

Considering [neurological](#) involvement in patients with SARS-CoV-2 infection can result in earlier diagnosis and treatment. Particularly, young adults with unexplained and unexpected stroke as well as patients with newly diagnosed Guillain–Barré syndrome should be tested for SARS-CoV-2 infection.

Patients with COVID-19 presenting with acute [neurologic](#) symptoms warrant a lower threshold for suspicion of large vessel stroke, and prompt workup for large vessel stroke is recommended.

#### **Transmission:**

Study of the Diamond Princess Cruise Ship shows close-range and long-range [transmission](#) likely contributed similarly to disease progression aboard the ship, with fomite transmission playing a smaller role.

This [quality](#) improvement study of samples from an ophthalmology examination room showed viral material was found on room surfaces, however, the infectivity of the virus samples was unknown.

[Viral](#) load was similar between asymptomatic and symptomatic patients; therefore, isolation of infected persons should be performed regardless of symptoms.

Patients with [respiratory](#) manifestations of COVID-19 produce aerosols that contain viable SARS-CoV-2 in the absence of aerosol-generating procedures, and these aerosols may serve as a source of transmission of the virus.

[Vertical](#) transmission of SARS-CoV-2 is possible and appears to occur in a minority of cases of maternal COVID-19 infection in the third trimester.

Assessment of SARS-CoV-2 on an international flight does not rule out the possibility of [airborne](#) transmission in an airplane cabin.

#### **Risk Factors**

A prospective population-based cohort study shows that existing use of [ACE](#) inhibitors and ARBs are associated with reduced risks of COVID-19 disease after adjusting for a wide range of variables. And another large single center [retrospective](#) analysis observed a protective effect of pre-hospitalization use of RAS inhibitors on mortality in hypertensive COVID-19 patients.

The Veterans Health Administration analysed EHR of nearly 7,000 Veterans diagnosed with SARS CoV-2 infection and developed a COVID-19 [Care Assessment Need \(CAN\) score](#), which is an efficient way to utilize existing EHR data to predict the clinical course.

A [retrospective](#) study identified seven easily available prognostic factors and proposed a simple nomogram for early detection of patients at risk of disease aggravation, in order to optimize clinical care and initiate specific therapies. Those factors are age, respiratory rate, overweight, temperature, C-reactive protein, troponin and lymphocyte counts were risk factors of an unfavorable outcome in hospitalized adult patients.

The [BMI](#) plays a significant role in COVID-19 infection and severity at all ages, especially in the elderly population.

A [retrospective](#) observational study found that history of macular degeneration (a proxy for complement-activation disorders) and history of coagulation disorders (thrombocytopenia, thrombosis and hemorrhage) are risk factors for SARS-CoV-2-associated morbidity and mortality.

### **Treatments & Research**

Variegated T cell [memory](#) to coronaviruses that cause the common cold may underlie at least some of the extensive heterogeneity observed in COVID-19 disease.

[Rhesus](#) macaque models of SARS-CoV-2 infection found that animals developed immune responses that protected against a second infection.

In a large cohort of [hospitalised](#) patients admitted with COVID-19, bacterial, fungal and viral co-infections and superinfections were low; however, when present, they may cause severe diseases with worse outcomes.

Based on an analysis of 23 RCTs, [glucocorticoids](#) were the only intervention with evidence for a reduction in death compared with standard care.

A clinical practice guideline recommends [remdesivir](#) for patients with severe covid-19.

Good outcomes for patients with critical COVID-19 can be achieved with early noninvasive–invasive [sequential](#) ventilation and bundled pharmacotherapy.

A review of seven studies, including two RCTs and five cohort studies, with a total of 5444 patients concludes that [convalescent plasma therapy](#) may be an effective therapeutic option, until the availability of therapeutic and/or prophylactic agents for COVID-19, with some early, promising evidence on safety, viral clearance, and reduction in mortality. **NOTE: On August 23, the US FDA granted an Emergency Use Authorization for the use of this therapy.**

Many trials of potential therapies for COVID-19 disease are underway. Current evidence does not support a clear role for any specific [pharmacotherapy](#) in COVID-19 yet.

There is insufficient [evidence](#) regarding the clinical efficacy and safety of tocilizumab in patients with COVID-19.

[Novaferon](#) exhibited anti-SARS-CoV-2 effects in vitro and in COVID-19 patients.

Given the potential differences in response to [anticoagulant](#) therapy, it remains unclear whether standard dosing effectively achieves the appropriate level of anticoagulation among hospitalized COVID-19-positive African Americans.

A study found evidence of an association between receipt of the bradykinin 2 receptor antagonist [icatibant](#) and improved oxygenation.

Use of [ACEI/ARB](#) does not worsen the prognosis of COVID-19, and could even be protective in hypertensive subjects. [RAAS](#) inhibitors should be continued in patients who are at risk for, are being evaluated for, or have COVID-19.

No significant [differences](#) among three regimens of several antiviral regimens in effectiveness in patients with mild to moderate COVID-19 were found in this study.

### **Vaccines**

The [inactivated](#) COVID-19 vaccine had a low rate of adverse reactions and demonstrated immunogenicity, but longer-term assessment of safety and efficacy will require phase 3 trials.

### **Diagnostic Testing**

The U.S. Food and Drug Administration authorized the first two COVID-19 [serology](#) tests that provide an estimated quantity of antibodies present in the individual's blood.

Preliminary findings indicate that trained detection [dogs](#) can identify respiratory secretion samples from hospitalized and clinically diseased SARS-CoV-2 infected individuals.

### **PPE**

Facial [masks](#) work to prevent the spread of viral particles from asymptomatic individuals to others and by reducing the inoculum of virus to which a mask-wearer is exposed which will result in milder disease.

[Mandatory](#) mask-wearing policies reduced face-touching behavior among the general population in public areas.

Nine minutes of [UVC](#) irradiation represents a suitable disinfection method for SARS-CoV-2.

### **RESOURCES**

[Comprehensive](#) COVID Care Resources from the Cleveland Clinic is available in English and Spanish.

---

This report was produced by Nathalie Quion, MD, MPH and Himmelfarb Reference Librarians and the GW Covid-19 Intelligence Unit. If you have a question that the Intelligence Unit can assist you with, or if you would like to provide suggestions or feedback, please email Dr. Lawrence Deyton, lead for the Intelligence at [L.Deyton@gwu.edu](mailto:L.Deyton@gwu.edu).

NOTE: Intelligence Reports will be issued monthly with Special Intelligence Reports issued on topics of immediate interest on an as needed basis. Interim updates are available –see Dr. Akselrod's Department of Medicine weekly Infectious Disease Update available on the GW Covid-19 Intelligence Reports webpage at <https://guides.himmelfarb.gwu.edu/SituationReport>

Searchable GW Covid-19 resources can be found through the following links:  
GW Covid-19 Research Guide: <https://guides.himmelfarb.gwu.edu/covid-19>  
GW Covid-19 Intelligence Reports: <https://guides.himmelfarb.gwu.edu/SituationReport>