



The COVID-19 Pandemic

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The clinical presentation and course of patients with COVID-19 varies greatly. This overview, with links to more extensive literature, provides a brief synopsis for medical care providers and highlights the treatment issues.

Clinical Findings in Adults

Although some infected adults will remain asymptomatic, this fraction remains unclear. The rest of infected subjects will experience clinical disease, ranging from mild respiratory symptoms to severe [pneumonia with respiratory failure and death](#). The initial signs include: fever (90%), cough (70%), fatigue (40%), shortness of breath (20%), sore throat (15%), headache (15%), nausea or vomiting (5.0%), and diarrhea (4%). Development of [initial symptoms](#) occurs within 14 days of exposure, with the most common range of 5-6 days.

Most adults with clinical disease (80%) will have mild to moderate disease, but existing data suggest that [15% may experience severe disease, with 5% critical with respiratory failure, septic shock, and/or multiple organ dysfunction](#). However, the severity of the disease varies by individual characteristics. Individuals at the highest risk for severe disease and death include people aged over 60 years and those with underlying conditions such as hypertension,

Primary Clinical Considerations in COVID-19 Response

diabetes, cardiovascular disease, chronic respiratory disease and cancer. In China, the case fatality rate (death among cases) was 3.8%, and in Italy was estimated to be 8%. The case fatality rate currently reported in the U.S. ranges between 1.8-3.2%.

Treatment Regimens

The mainstay of therapy is supportive care, which may include fever reducing medications, oxygen, fluids and other approaches. There are no FDA-approved therapeutics for the treatment of this infection. Randomized, clinical trials are evaluating the use of new therapies for COVID-19, including Remdesivir, an investigational antiviral, and chloroquine, an antimalarial drug.

Randomized clinical trials of protease inhibitors lopinavir and ritonavir in patients with COVID-19 from China have not confirmed the efficacy of these agents. The empiric use of steroids and other antiviral agents has not shown to confer therapeutic benefits. There have also been claims about the adverse impact of nonsteroidal antiinflammatory drugs on the disease, but these observations have not been confirmed.

Clinical Findings in Children

[COVID-19 disease in children is less common than in adults](#) and generally more mild at presentation. Common clinical findings include high fever



Information based on data collected as of March 24, 2020

OVERVIEW: SYMPTOMS OF COVID-19 IN ADULTS & CHILDREN

Symptoms and clinical course of COVID-19 patients have varied greatly since the beginning of the pandemic, with some consistent findings. This illustration provides a general overview of some of these symptoms in adults.

Initial signs

Fever (90%)



Cough (70%)



Fatigue (40%)



Shortness of breath (20%)



Sore throat (15%)



Headache (15%)



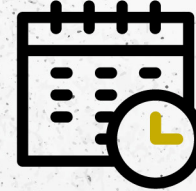
Nausea & Vomiting (5%)



Diarrhea (4%)



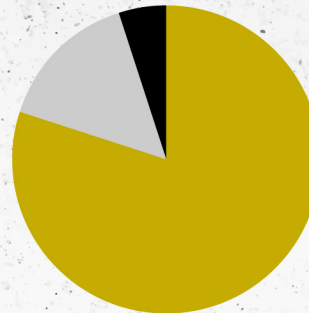
Symptom onset



5-6 days

Average symptom onset after exposure. Range is 1-14 days.

Severity of disease



Mild to moderate

Severe

Critical, including critical with respiratory failure, septic shock, and/or multiple organ dysfunction

Cases in children and infants

5%

Thankfully, a small fraction of the total cases in the United States have been reported in patients under 19 years of age, and just 0.2% of those have been associated with severe disease.

(>39°C/102.2°F), cough and vomiting. Only 5% of the documented cases of COVID-19 infection in the United States are in those under age 19; severe disease was reported in only 2.5% and critical disease in only 0.2%. Several small studies in young children infected with COVID-19 in China also indicate that they are generally spared from severe disease.

COVID-19 in pregnant women and infants

Fortunately, the [clinical presentation of COVID-19 in pregnant women](#) has generally been comparable to the presentation in nonpregnant women with no evidence for intrauterine infection caused by vertical transmission to the fetus. However, some increase in preterm births has been reported. The infants born to infected mothers have not developed severe disease.

Notes: Strategies for combating the spread of COVID-19 and their likely effectiveness, a review of models for forecasting the spread and severity of COVID-19, and other topics will be the subject of additional working papers. The views expressed are those of the advisory group and do not necessarily reflect the views of Vanderbilt University School of Medicine or Vanderbilt University Medical Center.

Please see www.vumc.org/health-policy/covid-19-advisory-memos for those papers.