

# CONTAGIOUS COMMENTS

## Department of Epidemiology

### SARS-CoV-2: FREQUENTLY ASKED QUESTIONS (Updated 3/2/2020)

Samuel R. Dominguez, MD, PhD and Ann-Christine Nyquist, MD, MSPH

#### 1. What is the SARS-CoV-2 and where did it come from?

- SARS-CoV-2 (previously called 2019 novel coronavirus) is a coronavirus identified as the cause of a respiratory illness outbreak first detected in Wuhan City, Hubei Province, China beginning December 2019. The illness that it causes has been named COVID-19 (COronaVirus Disease-19). This is a new virus that has not been previously identified in the human population. Genetic sequencing of the virus show that it is in the same family of viruses (but a different virus) as SARS-CoV and MERS-CoV which are two other novel coronaviruses which first emerged into the human population in 2002 and 2012, respectively.
- As of March 2, 2020, there has been over 90,241 confirmed cases, including health care workers, and 3,048 deaths. The majority of deaths have occurred in elderly patients and in patients with underlying medical conditions. For the most recent update on global COVID-19 cases please visit: <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>.
- Over the past week there has been significant spread to countries outside of China with evidence of sustained human to human transmission in several communities. Countries of particular concern include South Korea, Japan, Italy, Iran, and Hong Kong.
- As of March 2, 2020, there have been 88 confirmed cases in the U.S and 6 deaths. 47 of these cases have occurred among persons repatriated to the US from China or the Diamond Princess Cruise Ship. There have been no cases detected in Colorado. On February 26, 2020 the CDC confirmed the first US COVID-19 case of unknown origin with no foreign travel or known contact with an infected patient. Additional cases of person-to-person spread are being identified on the West Coast. For the most up to date information on US COVID-19 cases please visit: <https://www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html>

#### 2. What are the clinical symptoms of patients with COVID-19?

- The full extent of the clinical spectrum of infections due to SARS-CoV-2 is not known. Reported COVID-19 cases have ranged from people with little to no symptoms to people being severely ill and dying. The most common presenting symptoms are fever, cough, myalgias, fatigue, and shortness of breath. A few patients have reported headaches and diarrhea. Up to 70-80% of people infected have mild symptoms.
- The overall case fatality rate is currently estimated to be in the range of 0.5 – 2%. The majority of deaths have been reported in people older than 60 years of age or with underlying medical conditions.
- There is very limited data about pediatric cases. There are case reports of asymptomatic children, children with mild upper respiratory tract infections and children with pneumonia

requiring hospitalizations. There have been no reported pediatric deaths. Similarly, there have been only a few pediatric cases with MERS and previous SARS outbreaks. It is unclear if this is related to exposure to virus or differences in physiology of children.

- The current estimates of the incubation period of the virus (time from exposure to development of symptoms) is 2-14 days.
- Recent data from China suggest that the recovery time for those with mild disease is about 2 weeks and for those with severe or critical disease about 3-6 weeks.
- Several reports suggest the potential for clinical deterioration of infected patients during the second week of illness.

### **3. Where did SARS-CoV-2 come from and how is it spread?**

- Analysis of the genetic tree of the virus is ongoing, but early studies suggest that it likely originated from a bat virus.
- The virus likely originated from an animal source that “jumped” into the human population. However, the virus is now spreading from person to person.
- The current estimated basic reproductive number ( $R_0$ ), a measure of how many additional persons an infected person can spread the disease to, is somewhere in the range of 2-5. This makes SARS-CoV-2 more easily transmissible than SARS-CoV or pandemic influenza but less transmissible than measles which has an  $R_0$  of 12-18.
- Currently it is thought that the virus likely spreads through respiratory droplets produced when a person coughs or sneezes, similar to how other respiratory pathogens spread. Additional potential modes of transmission include fecal-oral (the virus has been isolated from stool specimens) and from contact with fomites (although at this point in time it is not clear how long the virus can survive on surfaces outside of the body). Because the transmission dynamics are not definitive the personal protective equipment recommendations for healthcare workers include airborne protection with N95 masks or PAPRS.
- Recent data supports that persons infected with SARS-CoV-2 can transmit the virus before developing clinical symptoms. Other viruses such as seasonal influenza virus also have the ability to spread before onset of clinical symptoms.

### **4. Should I be concerned for the SARS-CoV-2 if a “coronavirus is detected” on the respiratory pathogen panel?**

- The respiratory pathogen panel (RPP) utilized at CHCO is able to detect four of the common respiratory coronaviruses (human coronaviruses HKU1, NL63, OC43, and 229E) that circulate every year in the U.S. and are known to usually cause mild upper and lower respiratory tract infections. Therefore, it is not able to detect the novel SARS-CoV-2.
- Currently, the only test available in the US that is capable of detecting SARS-CoV-2 is a PCR test performed at the Center for Disease Control and Prevention (CDC) and the Colorado Department of Public Health and Environment (CDPHE).
- Testing for common causes of respiratory symptoms and pneumonia (with an RPP and/or chest radiograph) is recommended as part of an evaluation of a person under investigation for the SARS-CoV-2.

## 5. What is CHCO doing to prepare for the SARS-CoV-2?

- Team members at CHCO are meeting regularly to update and further develop our preparedness and response plan building upon our current processes to screen for contagious illnesses and protect patients, families and healthcare workers. Some of our current measures include:
  - i. Travel screening questions for all patients, family members, and visitors arriving at CHCO have been updated to include risk factors for COVID-19.
  - ii. PPE conservation strategies have been implemented due to global shortages.
  - iii. Surge planning protocols are being reviewed and revised.
  - iv. We are working closely with our public health partners regarding communication strategies and utilization of prehospitalization services such as nurse call lines. Our ParentSmart Healthline 720-777-0123 is available 24/7 to help answer health questions and has been updated with current COVID-19 recommendations.
  - v. Internal communications via the CHCO intranet are updated under the “EPI ALERT” flag as the situation evolves and recommendations change.

## 6. How can I protect myself and others from COVID-19?

- The CDC has issued a Travel 3 travel warning to China, South Korea, Italy and Iran recommending travelers avoid all nonessential travel to these countries. The CDC has also issued a Travel 2 warning to Japan and a Travel 1 warning to Hong Kong.  
<https://wwwnc.cdc.gov/travel/notices>
- Similar to preventive methods to prevent the spread of other respiratory viruses, the CDC recommends:
  - Practice good hand hygiene
  - Avoid touching your eyes, nose and mouth with unwashed hands
  - Cover you cough and sneezes
  - Avoid close contact with people who are ill
  - Influenza vaccination for everyone 6 months and older
  - Stay home when you are sick
  - For CHCO team members, call the sick line 720-777-4251 if you are having respiratory symptoms, have had recent travel to any affected regions or are concerned about a potential exposure to COVID-19.
  - The CDC does not recommend wearing isolation masks outside of a health care setting.
  - When widespread community spread of SARS-CoV-2 occurs, social distancing measures should be encouraged.

## 7. Which patients should be evaluated for COVID-19?

- As we are still in a containment phase in the US and have not yet moved towards a mitigation strategy identifying persons infected with SARS-CoV-2 is strongly encouraged.
- Patients should be considered at possible risk for infection if they meet the following criteria:
  - Have fever OR respiratory symptoms such as cough or difficulty breathing AND
  - Have a history of travel to a country with known community transmission OR close contact with a person under investigation (PUI) for COVID-19 in the last 14 days before symptoms onset
  - *Fever with severe acute lower respiratory illness (e.g. pneumonia, ARDS) requiring hospitalization and without an alternate explanatory diagnosis (e.g. influenza) [newly added by CDC on February 27, 2020]*

## **8. What should I do if I suspect a patient may have COVID-19?**

- If you are concerned that a patient might have a COVID-19 you should immediately place an isolation mask on them and anyone accompany them (family, relatives, etc.).
- Place any suspect patient and family/visitors in a private room with the door closed or in a negative pressure room if available.
- All health care providers entering the room to evaluate a suspect patient should wear gown, gloves, isolation mask (N95 mask or PAPR if available), and eye protection (goggles or face shield – glasses are not sufficient).
- Notify your local health department or the CDPHE to discuss the patient and potential need for testing.
- If you need to send a patient that you suspect might have a COVID-19 infection for further evaluation and/or treatment please call the infectious disease fellow/physician on call via One Call (Denver 720-777-3999, Colorado Springs 719-305-3999). We request that these patients sent for evaluation are sent only to the Anschutz ED or Colorado Springs ED after prior notification to the ED via One Call.

## **9. Who should be admitted to the hospital for COVID-19?**

- Hospitalization is based on need for appropriate level of care. Patients meeting clinical criteria for admission will be cared for in negative pressure rooms with staff adhering to N95/PAPR airborne precautions.

## **10. Are there treatments available for the COVID-19:**

- Currently there are no antivirals or vaccines available for COVID-19. Treatment at this point is primarily supportive care.
- Clinical trials evaluating the use of remdesivir, an investigational antiviral drug, and lopinavir-ritonavir, a licensed HIV medication, are currently being conducted.
- Several research groups are actively working on the development of a SARS-CoV-2 vaccine, but this is many months away.

## **11. Do I need to be worried about SARS-CoV-2?**

- On 1/30/20 the WHO declared the SARS-CoV-2 outbreak a public health emergency of international concern. On 1/31/20 The US declared SARS-CoV-2 virus a US public health emergency.
- Based on the current information, the immediate health risk to the general public in the U.S. is thought to be low at this point in time. However, with recent developments of sustained local transmission in several countries outside of China, the likelihood of eventual widespread community spread of SARS-CoV-2 in the US is high. The CDC has encouraged individuals, businesses, and health care systems to prepare for this possibility.
- This respiratory season, the CDC estimates there has been 29 million flu illnesses, 280,000 hospitalizations, and 16,000 adult and 105 pediatric deaths due to influenza. The overall case fatality rate from influenza is estimated to be less than 0.1%. In contrast to influenza, there is no natural immunity to SARS-CoV-2 in the US and there are no antivirals or vaccines. SARS-CoV-2 is estimated to have a case fatality rate 5-20 times greater than influenza.

For more information:

CDC: <https://www.cdc.gov/coronavirus/index.html>

CDPHE: <https://www.colorado.gov/pacific/cdphe/2019-novel-coronavirus>

AAP Red Book: [https://redbook.solutions.aap.org/ss/rbo\\_outbreaks\\_page\\_3.aspx](https://redbook.solutions.aap.org/ss/rbo_outbreaks_page_3.aspx)

If you wish to receive this publication, please provide us with your e-mail address below.

Name: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Both the Contagious Comments and Bug Watch publications are always posted on Children's Hospital Colorado website at:  
<https://www.childrenscolorado.org/health-professionals/publications/>

Please return your e-mail address to: Gail Vittitoe, Children's Hospital Colorado, Epidemiology – Box B276, 13123 E. 16<sup>th</sup> Avenue, Aurora, CO 80045

or e-mail address: [gail.vittitoe@childrenscolorado.org](mailto:gail.vittitoe@childrenscolorado.org).

Thank you for your interest in our publication.

#### **CONTAGIOUS COMMENTS**

**Department of Epidemiology©**

##### **EDITOR:**

Gail Vittitoe, Senior Administrative Professional  
Children's Hospital Colorado, Dept. of Epidemiology, B-276  
13123 E. 16<sup>th</sup> Avenue, Aurora, CO 80045

Phone: (720) 777-6072; FAX: (720) 777-7295

[gail.vittitoe@childrenscolorado.org](mailto:gail.vittitoe@childrenscolorado.org)

[www.ChildrensColorado.org](http://www.ChildrensColorado.org)

\*\* We Recycle! \*\*