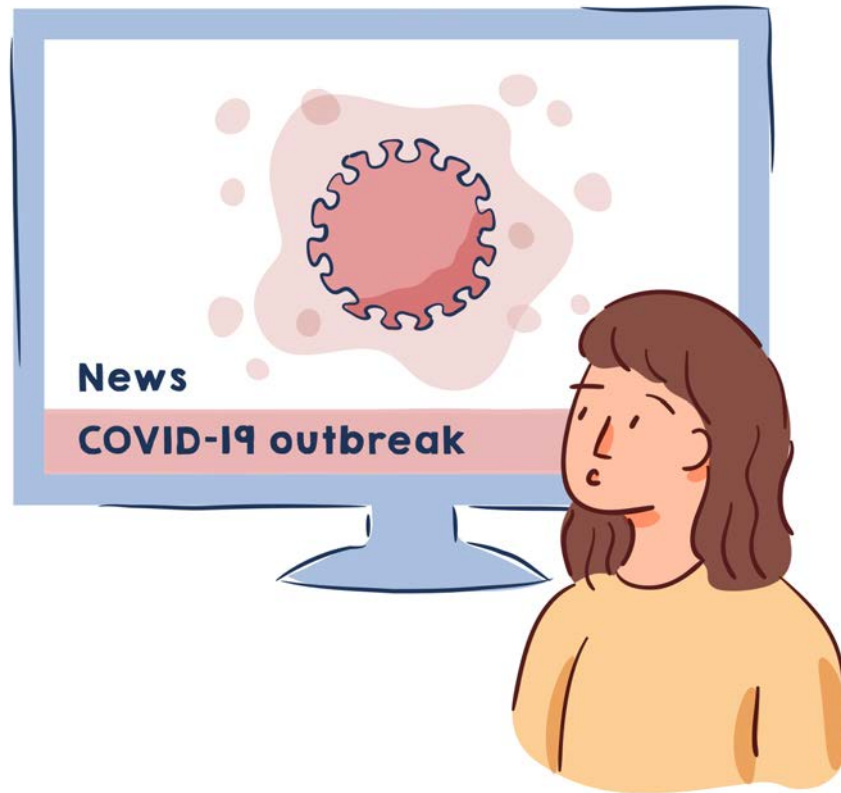




LIFEOLOGY 2019 NOVEL CORONAVIRUS

Author: Shauna Bennett, PhD.

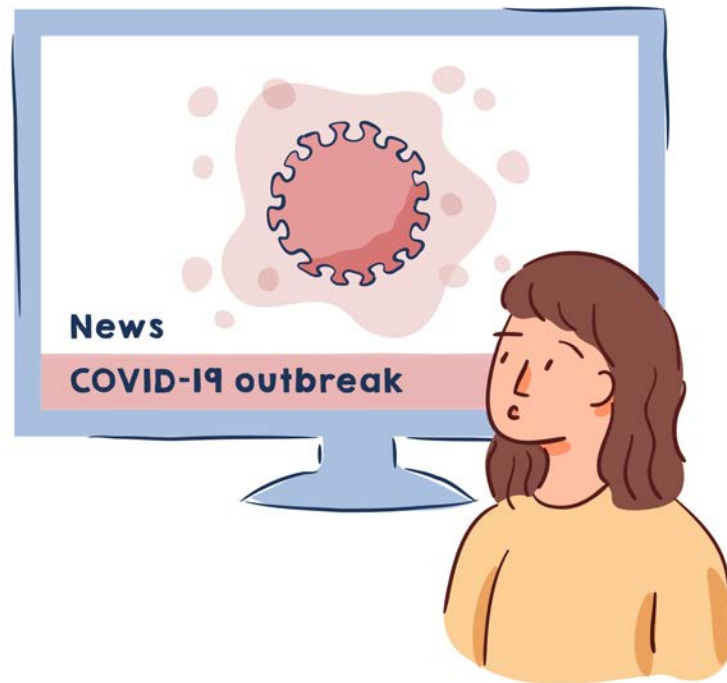
Artist: Elfy Chiang



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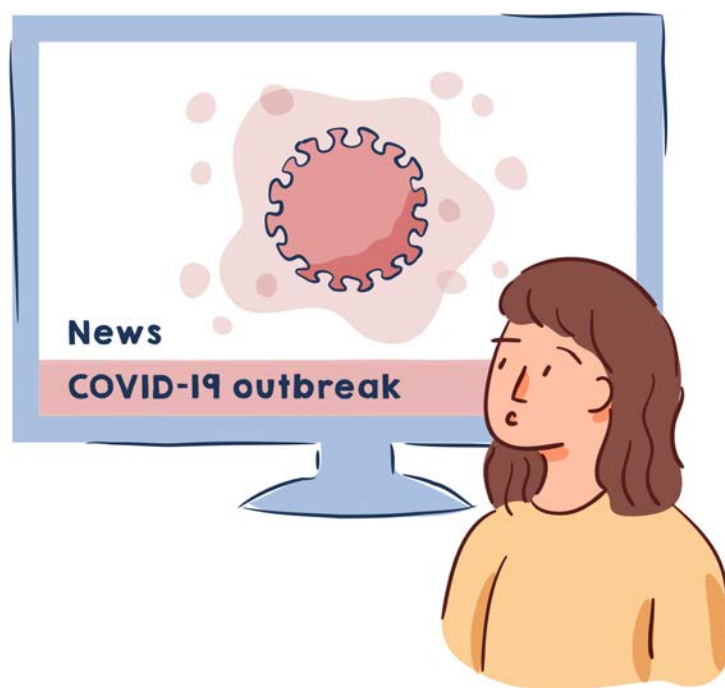


In this course, you will learn about this virus and the sickness scientists call COVID-19. What is it, where did it come from, what might it mean for you?

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Artist: Elfy Chiang

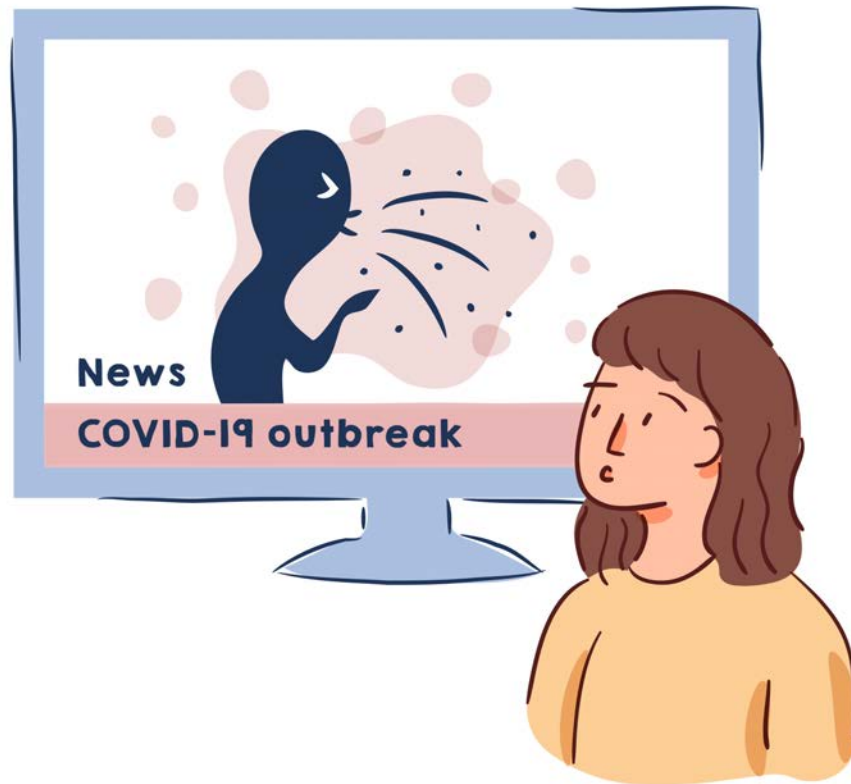


Let's learn with Susan, who lives in a busy city. She is nervous about this novel coronavirus. She wants to know what to expect and her family's chances of getting sick or dying.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



The coronavirus is a virus that can spread between people. Scientists think the virus spreads through droplets containing virus particles from spit or coughs, like the flu does.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



Susan has a low risk of getting this virus because there have been no cases of coronavirus in her city and she has not traveled.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



Her partner, Bill, has a slightly higher chance of getting a coronavirus infection.

He commutes and works as a nurse. Yesterday he treated a patient who had a fever and a cough.

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Artist: [Elfy Chiang](#)



Bill's clinic takes many precautions, though. When people come in with a cough, they are given a mask to wear and wait in a separate waiting area to protect others.

2019 NOVEL CORONAVIRUS

Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



Susan's daughter Jackie also has a slightly higher risk of infection. She visited a friend in a city where people have been diagnosed with coronavirus. Her friend is now sick.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



Although there have been no confirmed cases of COVID-19 in Susan's city, it could easily spread here as people travel. So the family takes steps to prepare.

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Artist: Elfy Chiang



Susan and Bill buy cleaners and soap to protect their hands and their home from coronavirus. They refill prescriptions for Susan's elderly mother so that she can stay safe at home.

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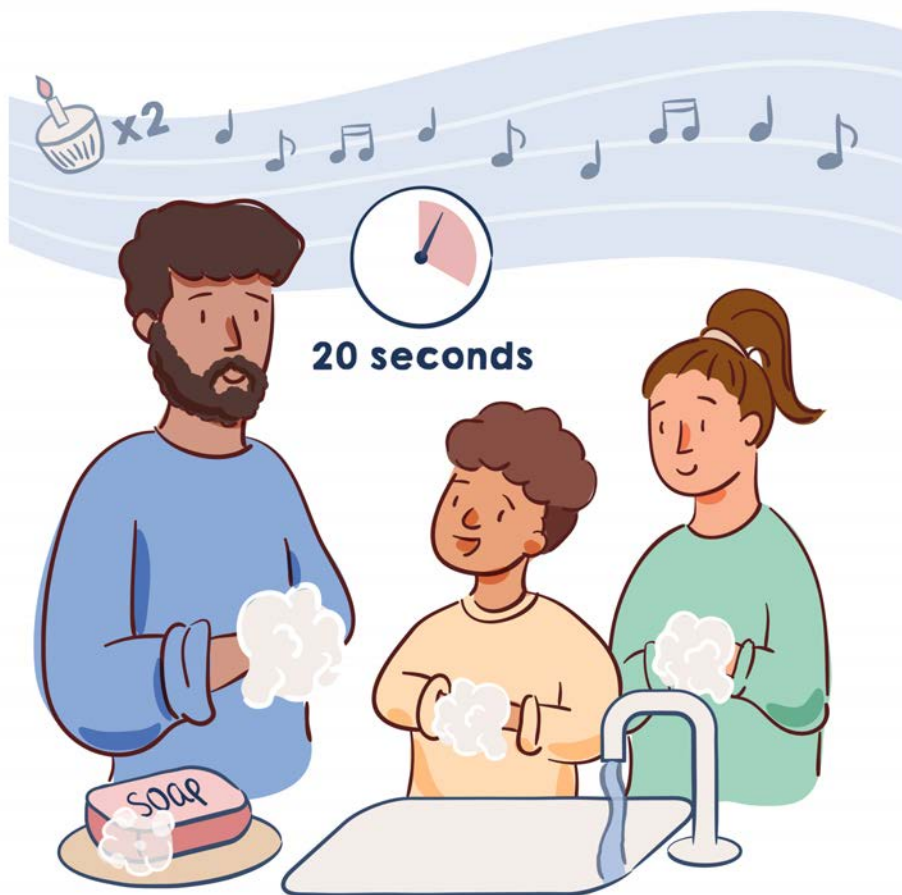


Susan prepares for possible changes in her family's daily routines. She checks with her boss about working from home. She makes plans for her kids in case their schools close.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



Bill shows his kids how to wash their hands correctly. Wash your hands after using the bathroom, moving through public areas, blowing your nose or coughing, and before eating or touching your face.

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Don't have soap and water nearby?
Use hand sanitizer with at least 60%
alcohol. Antibacterial hand sanitizers
are not as effective without a high
proportion of alcohol.



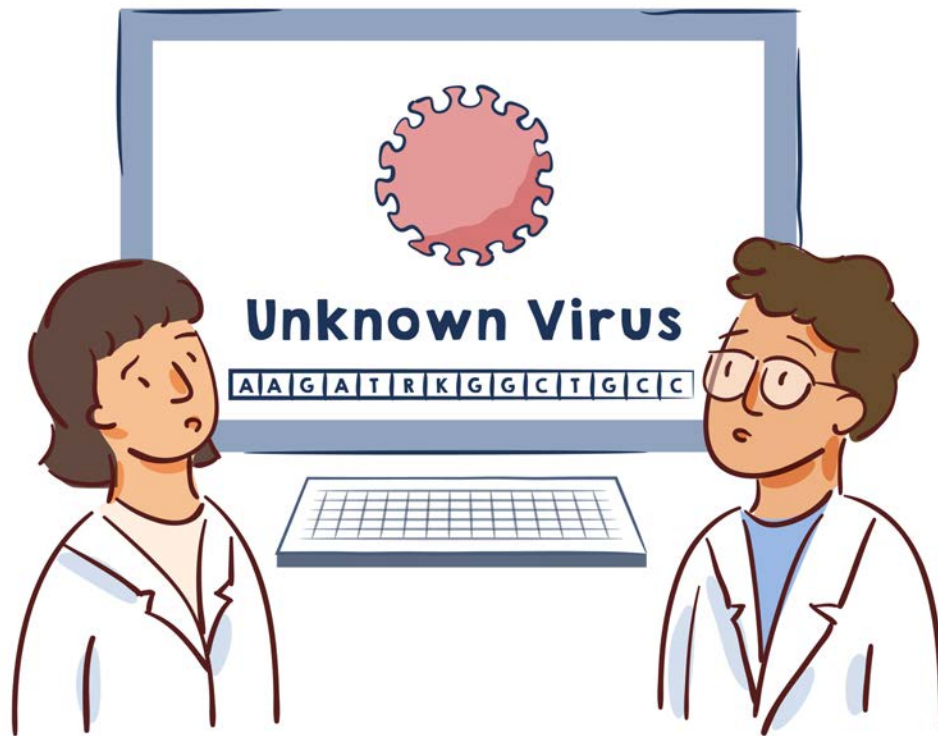
Recap

- Your risk of getting the novel coronavirus depends on how close you have been to someone who has it.
- Keep your risk low by staying away from areas where the virus has caused illness.
- Create a habit of washing your hands often.
- Avoid touching your face.

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Artist: Elfy Chiang

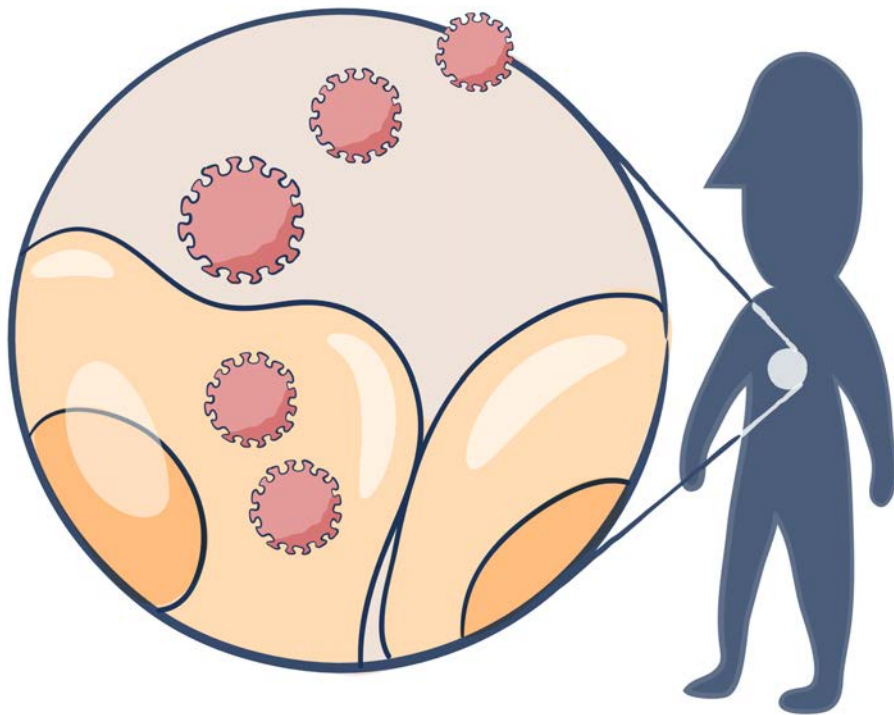


Doctors found the “**novel coronavirus**” in December 2019 when many people in Wuhan, China, became sick with a flu-like illness. It is novel because scientists haven’t seen it before.

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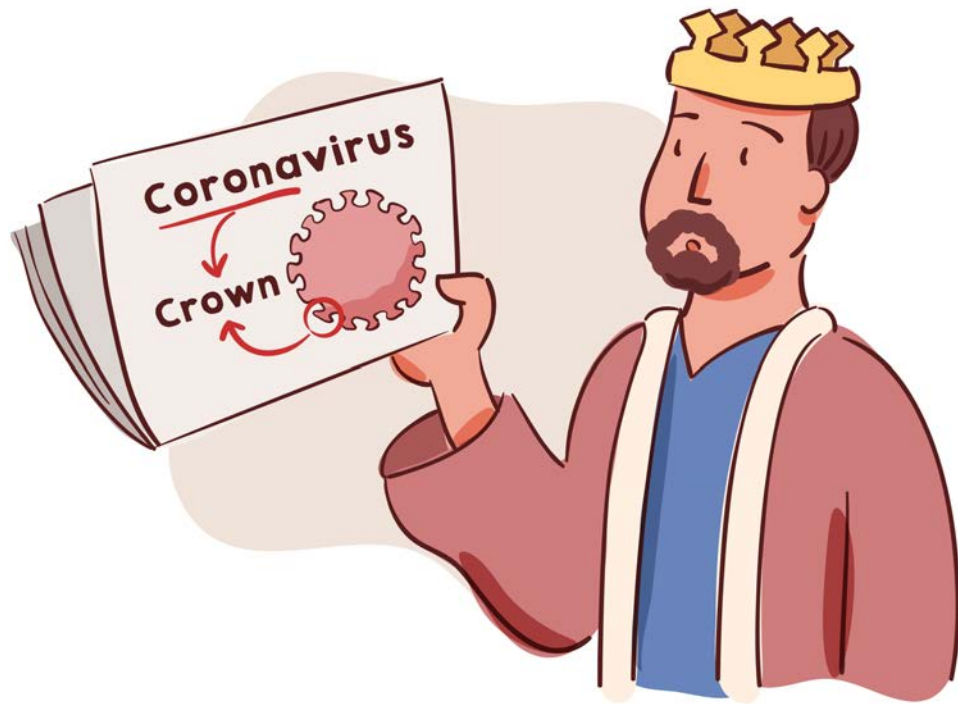


New viruses are found all the time. A virus is a type of microscopic parasite that needs living things to survive. Viruses copy themselves inside of the cells of living organisms.

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Artist: [Elfy Chiang](#)

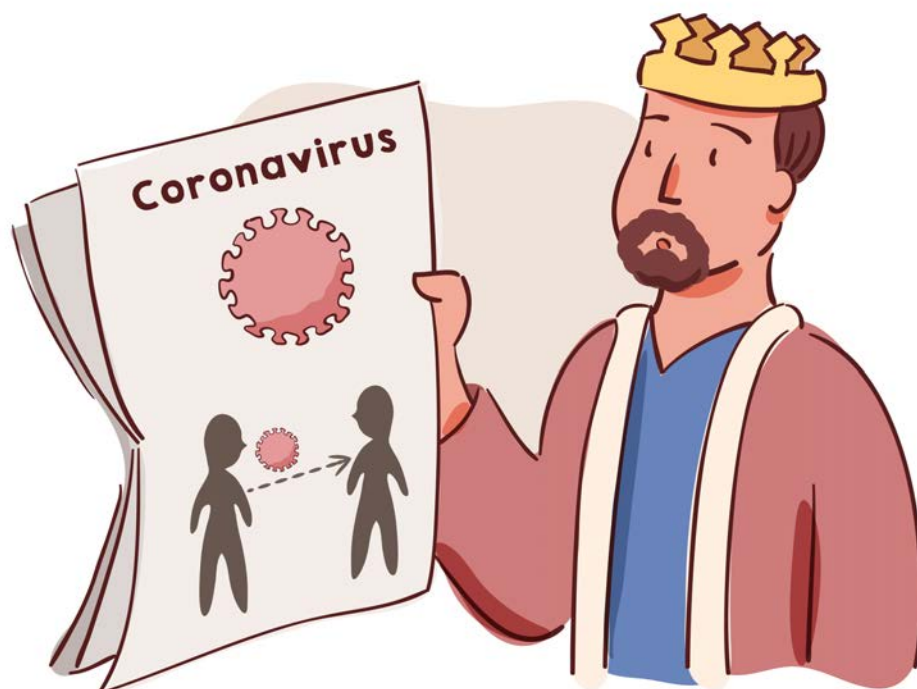


Coronaviruses are viruses with protein “crowns” around them. There are many coronaviruses. Many are found in animals like bats and birds.

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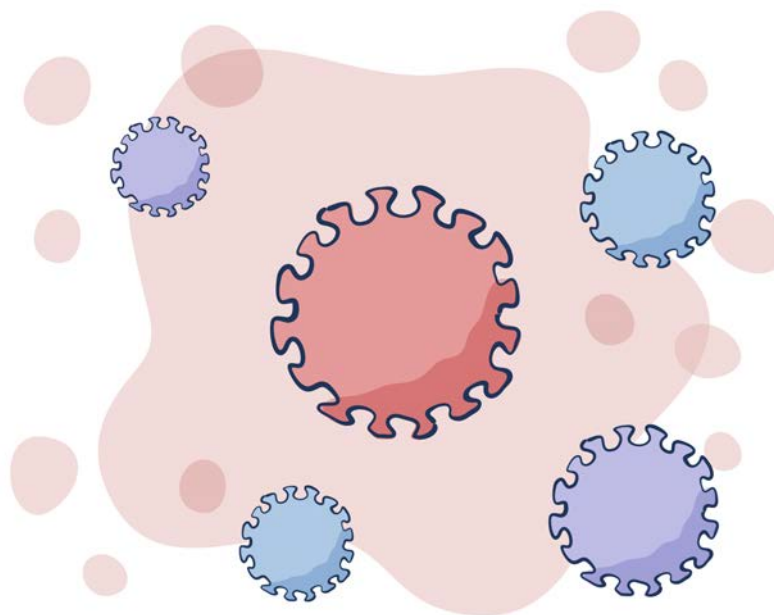
Where animals and humans cross paths,
an animal virus can sometimes infect a
human. Sometimes, the human can then
pass that virus to another human.

COVID-19 appeared this way.

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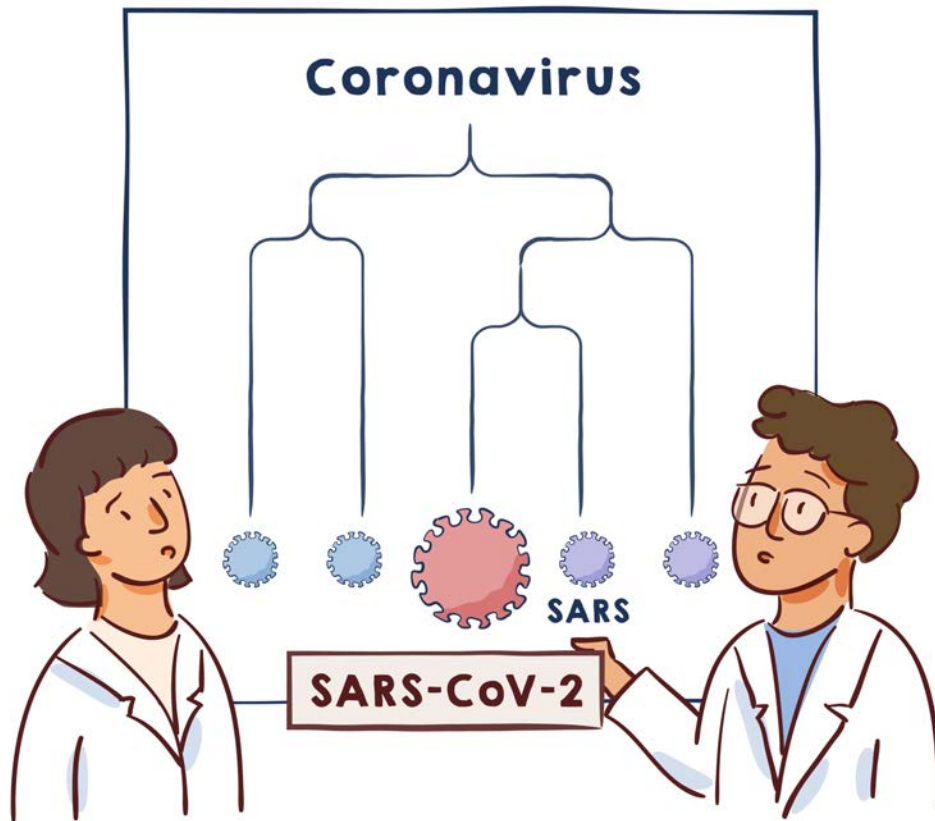


Just like there are different types of flu, there are different types of coronaviruses. Some cause mild illness while others can be more severe, like the SARS coronavirus.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



The 2019 novel coronavirus is somewhat similar to the SARS coronavirus, so scientists have named it SARS coronavirus 2, or **“SARS-CoV-2”** for short.



Recap

- The novel coronavirus is a virus. It needs living things to make more of itself.
- It is related to other coronaviruses, such as the SARS coronavirus, but it typically causes less severe illness than SARS but spreads more easily.
- It likely passed originally from an animal to a person.

2019 NOVEL CORONAVIRUS

Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



Susan now hears on the local news that people in her city have recently tested positive for this coronavirus.

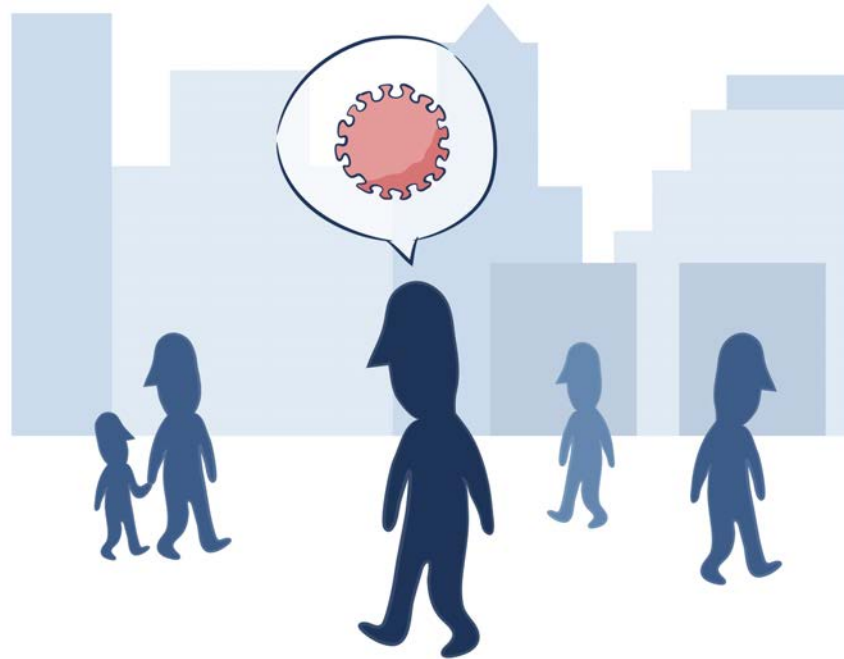
Health experts are talking about

“community spread.”

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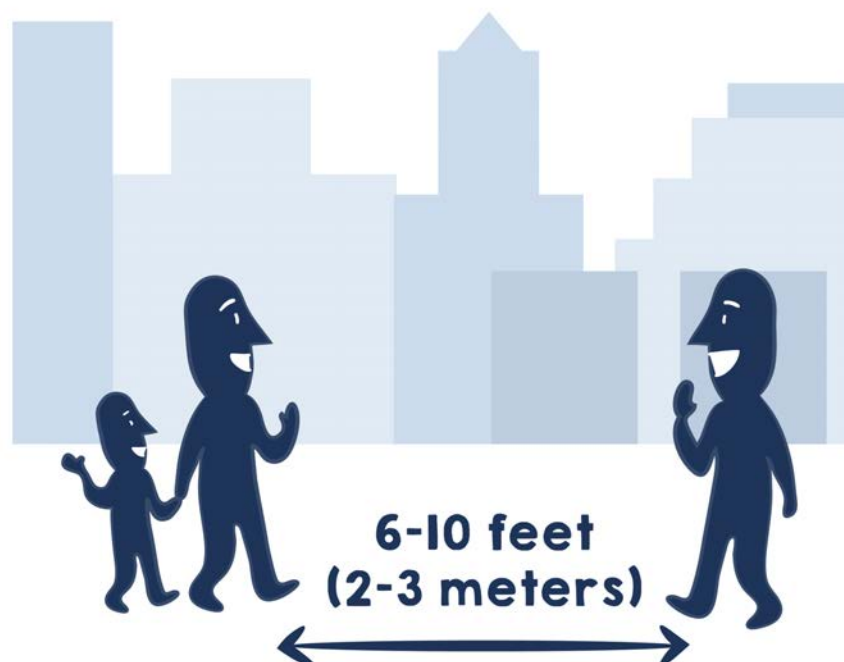


Community spread means that at least a few people in one area have gotten sick from the virus, but some do not know how they got sick. It means the virus is spreading person to person.

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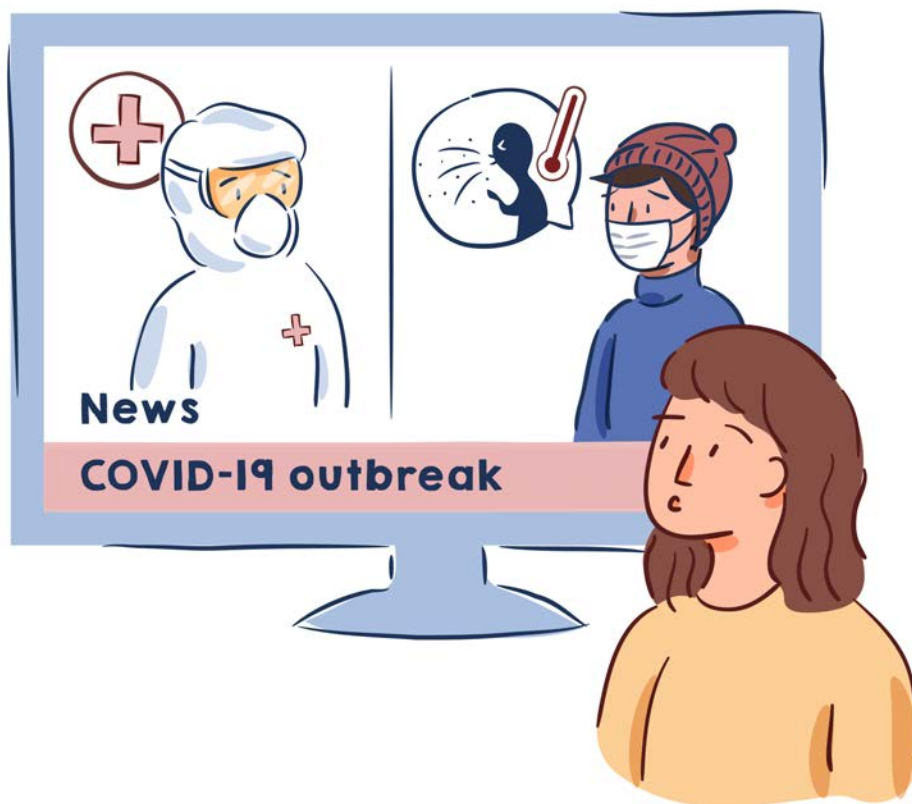


If community spread of coronavirus is occurring in your area, limit your visits to public places and crowds. Avoid shaking hands or being very close to someone sick. This is “**social distancing.**”

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Artist: Elfy Chiang



What about masks? Some special types of face masks worn properly can protect doctors and nurses in your community. They can also contain infected people's coughs and sneezes.

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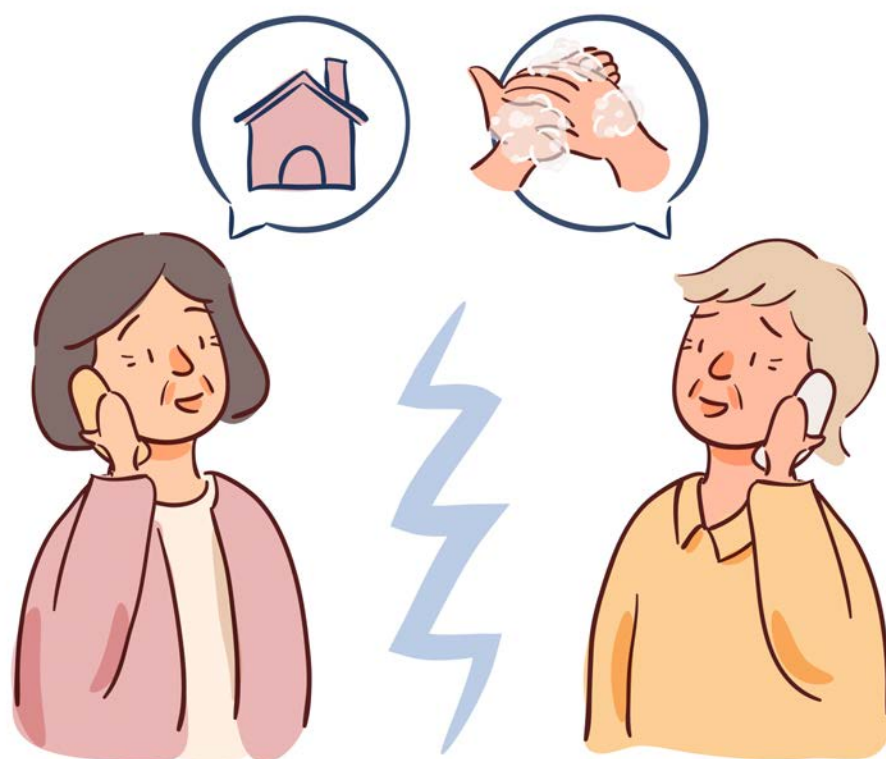


But if you are healthy, you don't need a face mask. They don't stop virus particles from coming in. If you do wear a mask, wash your hands before putting it on or adjusting it.

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Getting sick is more dangerous for people who have heart, lung or kidney disease. People with these conditions, and people over age 65, should try to stay home and away from sick people.

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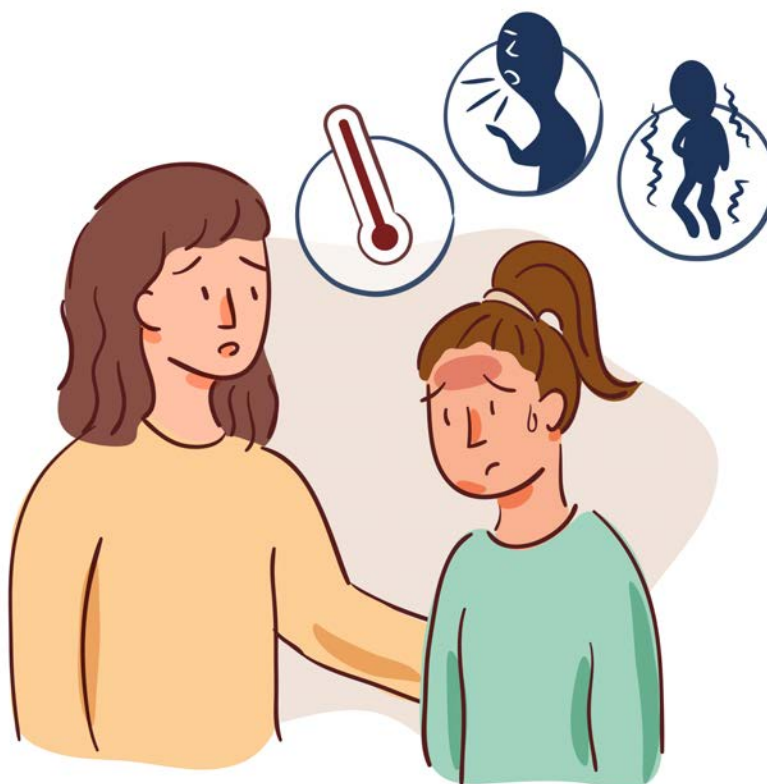


What if you get sick, even though you've taken precautions? Unless you have an underlying chronic disease, you will probably experience minor illness.

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Susan's daughter Jackie has started to feel unwell and has a slightly high temperature. Symptoms for coronavirus are fever, coughing, body aches, shortness of breath, and sometimes headache, sore throat or diarrhea.

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Artist: Elfy Chiang



Jackie decides to self-isolate. She stays home from classes and calls in sick. This protects others in case she has the virus. When her Grandma stops by, she stays in her room.

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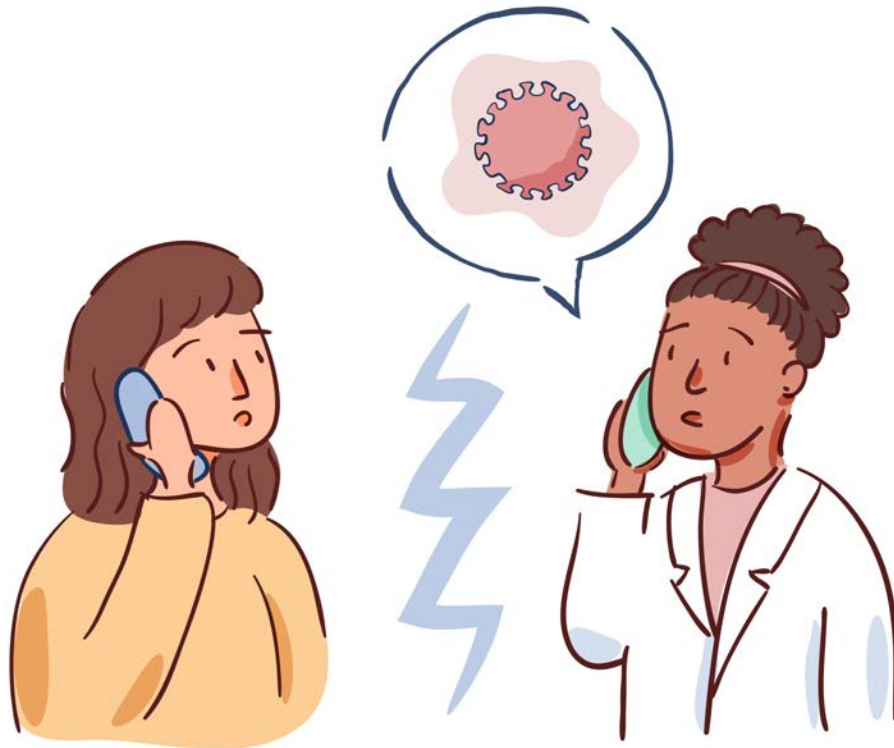


When Jackie starts coughing more, she uses a tissue or does it into her elbow. People who are sick should wear a face mask if they must leave their house.

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Artist: Elfy Chiang



Jackie's coughing and fever suggest coronavirus. Susan calls their family doctor.

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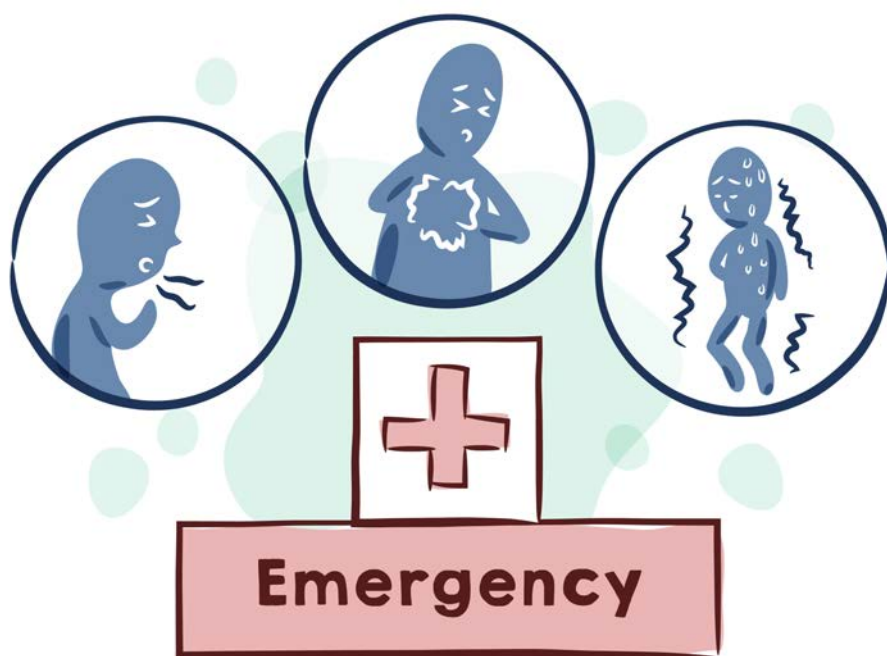


Since Jackie's symptoms are not severe, the doctor tells her to stay home. She can take cough medicine. Properly used gloves and a mask can protect Susan.

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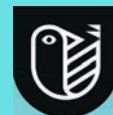


Severe symptoms - difficulty breathing, sharp chest pain, shaking and sweating - may suggest pneumonia. Someone with those symptoms should visit an emergency department.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



The family cleans the house thoroughly. Household cleaners that claim to kill the flu virus should similarly work against coronavirus.

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Artist: Elfy Chiang



Susan's son is afraid someone is going to take his sister away for **"quarantine."** But, by staying home for 2 weeks, Jackie is already protecting other people while she is sick.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



Because his sister is sick, Susan keeps her son home from school. She does not want him to make other families sick.

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Artist: Elfy Chiang



If you get sick, it is very unlikely that you will die. Children have been getting less sick than older people. People who are over age 80 are the most at risk of life-threatening illness.

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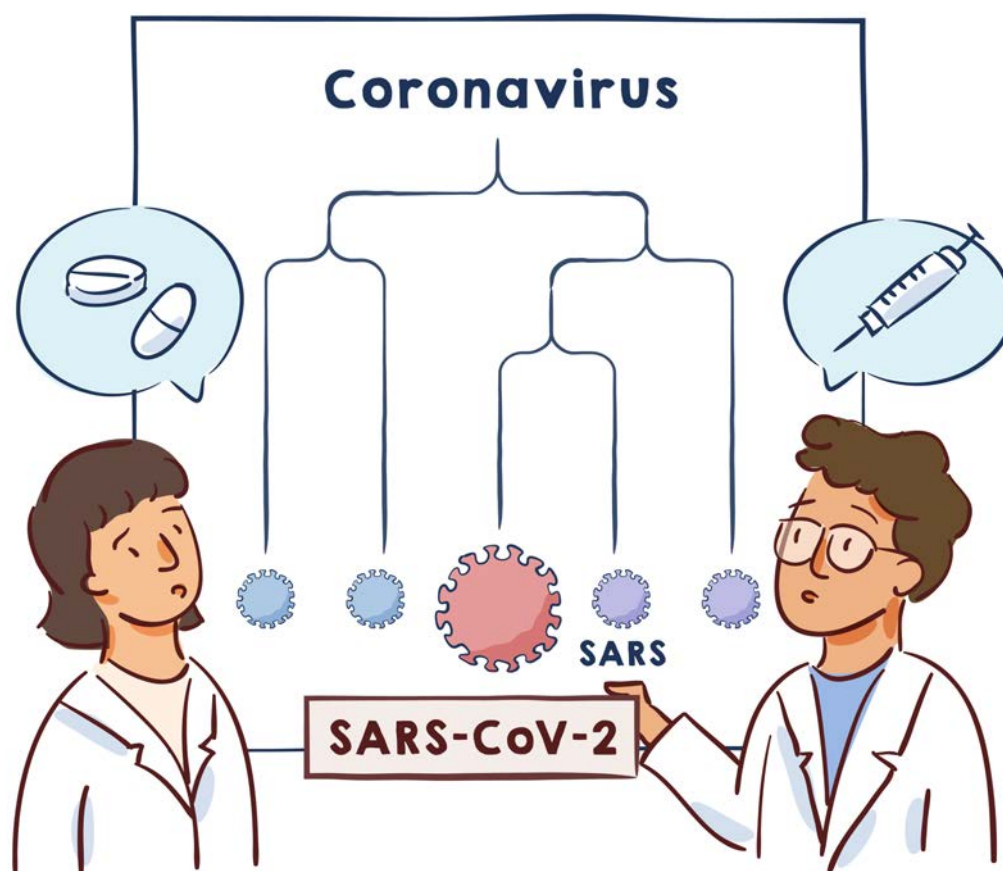


If you have symptoms of coronavirus, stay home, keep your distance from others and wear a face mask. If you develop trouble breathing, a cold sweat, stabbing chest pain or intense sleepiness, get emergency care.

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Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



There are no vaccines or cures for coronavirus. Scientists are working on new potential vaccines and medicines but this may take many months or years.



Summary

- Being informed is the first step to keeping yourself safe.
- Protect yourself and others by practicing good personal hygiene and distancing yourself from others when sick.
- When outbreaks occur, keep up to date on news from your local health department.

2019 NOVEL CORONAVIRUS



Author: Shauna Bennett, PhD.

Artist: Elfy Chiang



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Shauna Bennett, PhD.

I'm a health science writer and educator with a PhD in virology.



ARTIST

Elfy Chiang

I'm an artist and science communicator from Taiwan with a background in Biological Sciences. I work with scientists and educators on creating professional and engaging visuals to communicate science.



Author: Shauna Bennett, PhD.

Artist: Elfy Chiang

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Ian Mackay, PhD.

Dr. Mackay works in public health virology. He detects and characterizes viruses that are a threat to the public.



Harrison Kalodimos, MD.

Dr. Kalodimos is a family doctor practicing primary care in Seattle, Washington.



Author: [Shauna Bennett, PhD.](#)

Artist: [Elfy Chiang](#)

Sources

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- [CDC How COVID-19 Spreads](#)
- [CDC People at Risk for Serious Illness from COVID-19](#)
- [CDC guidance for home care of COVID-19](#)
- [CDC Environmental Cleaning and Disinfection Recommendations](#)
- [Elsevier Novel Coronavirus Information Center](#)
- [US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus Disease 2019](#)
- [CDC Resources for Households](#)
- [Stat news on community spread of coronavirus](#)
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