

COVID-19: Information for Employers

**Brought to you by:
Healthnetwork Foundation**

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Please note that this discussion is based on information that is known as of March 13, 2020

A Point of Clarification on Terminology:

- COVID-19 is the disease (the viral infection)
- The virus itself is called SARS-CoV-2 (sometimes referred to as the 2019 novel coronavirus)

An Important Appeal to Everyone:

Fear and panic are more infectious than disease. Please, beware of fake medical news. For example, maybe you've seen the UNICEF recommendation to avoid eating ice cream to help prevent the spread of the disease. Fake. UNICEF put out a press release saying they never made that claim, and yet some people are still repeating the fake news. Please check reputable sources for your information and do not share alarmist fake medical news.

How Bad Is It?

With any early outbreak we only see the worst patients first—those who were hospitalized, those who are dying. With any epidemic, the numbers seem worse at first than later as we get more data.

Most of our information at this point is coming from China. Here is what we know:

- A range of people get it and can be asymptomatic.
- About 80% of people with this infection have mild or moderate illness (similar to routine respiratory coronaviruses).

- On average if you've acquired the virus, you'll begin to develop symptoms 5-6 days after exposure.
- Early information from China indicated the average age of infection was in mid 50s, with the more serious illness occurring in the elderly and those with chronic medical conditions.
- Children and young adults seem less affected. (This is also true of seasonal influenza.)
- People who are 80 and older are at the highest risk for death
- Conditions that seem to predispose people to getting a more serious infection include: cardiovascular disease, diabetes, chronic respiratory disease, hypertension, cancer

How to Prevent Yourself from Getting Sick:

It's really not hard to render this virus noninfectious. The preventive recommendations are straight forward. Wash your hands. Don't touch your face.

Soap and water

- Regular soap and water work very well.
- Gel sanitizer products are good for when you're on the fly, but don't despair if you do not have access to them. Simply wash your hands with soap and water.
- There's evidence that washing for 20 seconds with soap and water works even better than hand-based sanitizers.

Laundry

Normal laundry and drying cycles are perfectly adequate to disinfect fabrics.

Masks

- Do not use a mask if you are well.
- If you are coughing or sneezing, you may want to wear a mask.
- If your mask is infected, it's difficult to keep it sanitary, remember to clean your hands after touching it, etc.

Social Distancing

Social distancing has become prevention method of choice. Especially for people who are at high risk for infection, social distancing is recommended.

We hope social distancing will help slow the virus. Interestingly, in Japan when people took measures to prevent COVID-19, influenza took a dramatic drop.

I'm telling people it's a numbers game. The more people you see, the higher your risk of exposure. If you are a risk adverse person, you don't want to be around a lot of people.

What if You Are Exposed to the Virus?

- If you have a COVID-19 patient in your household, your risk of developing the infection is about 10%.
- If you were casually exposed to the virus in the workplace (e.g., you were not locked up in conference room for six hours with someone who was infected), your chance of infection is about 0.5%
- 14 days seems to be the time frame that's adequate to figure out if you're going to develop symptoms or infect other people.
- (These odds are almost identical to seasonal influenza. The coronavirus behaves similarly in that way.)

Symptoms of COVID-19:

- Fever (most common symptom)
- Dry cough
- Similar to seasonal influenza, some people experience muscle ache and fatigue
- Some people feel short of breath early into illness, and this would be a sign of a more serious infection
- In some cases, sore throat, headache, cough producing phlegm, gastrointestinal complaints

How the Virus Is Transmitted:

This coronavirus is spread predominantly by droplet transmission, which is good news because it's easier to avoid.

If you don't cover your sneeze, the droplet can travel 3-6 feet if there's no wind (e.g., you are indoors). So that's why the recommendation is to cover your sneezes and coughs and wash your hands.

It's thought that this virus can survive on surfaces such as hands, hard surfaces and fabrics. Preliminary data indicates up to 72 hours on hard surfaces like steel and plastic, and up to 12 hours on fabric.

Room temperature and 40% humidity are best for this virus, which is why it's probably a seasonal wintertime virus.

How Likely Are You to Die from COVID-19?

The overall fatality rate for COVID-19 is being talked about as 2-4%. But my sense it's probably lower—somewhere between 0.5-2% when you're looking at an entire population of a country. In comparison, the overall case fatality rate for seasonal influenza is around 0.1%.

The data below is from China, but there is a variability to the disease that we don't understand. For example, in South Korea and Japan there were fewer deaths than China, while the mortality rate in Italy seems similar to China. As you can see in the chart below, the risk falls dramatically by decade.

AGE	FATALITY RATE
80	14.8%
70-79	8.0%
60-69	3.6%
50-59	1.3%
40-49	0.4%
30-39	0.2%
20-29	0.2%
10-19	0.2%
0-9	none

Guidelines for Businesses:

Many of the larger companies have set up "Syndromic Surveillance," meaning anyone with fever and cough and anyone who has been exposed to COVID-19 would stay home.

[Here's a link to some guidance from the CDC for businesses.](#)

COVID-19 Compared to Other Coronaviruses:

- Coronaviruses have been around for a long time.
- There are four routine coronaviruses, which cause chest colds, coughs, and bronchitis typically in wintertime.
- Typically, when people get one, they're immune to that one but not the other three.
- SARS (2002-2003) and MERS (2012-present) can cause severe illness, but they are not considered "successful" viruses because they're not efficient at being passed along. As a virus, you do not want to kill most of your hosts; you want to be passed along.
- This current novel coronavirus has features of being spread worldwide rapidly and has a higher mortality rate than a routine coronavirus. In that way, it seems to be a more "successful" virus than SARS or MERS.

Coronaviruses & Children:

In Norway last year 10% of children hospitalized, mostly under age 2, had a [typical] coronavirus infection. When they sampled all children walking around hospital (healthy visitors) 10% of them were shedding coronavirus.

This is why—even though we're not sure how often this new coronavirus affects children—the concern is that children have it and are shedding it. This is one possible reason schools are closing.

Origin of COVID-19:

- The new coronavirus is thought to have started in Wuhan City, China, which has been described as the Chicago of China.
- It may have jumped from animal to human in animal market
- It's probably related to or emerged from a bat or pangolin (the only scaled mammal in the world, prized in China for its scales)

What About Testing?

- At first testing was limited by FDA, now commercial labs are offering it.
- It is a molecular test, which means you're looking for RNA components of virus, and there's a problem nationwide getting the chemical components necessary to run the tests. For example, at Johns Hopkins our capacity is 40 tests a day. But we expect that to be ramping up soon.

- This situation should significantly improve by end of March/early April, and testing will be widely available.
- Antibody-based tests, which are under development, will give us a clearer picture of the virus because they'll tell us who has been exposed to the virus, who has had the infection and recovered.

What About Treatment Drugs or a Vaccine?

- We are looking at Remdesivir, a drug that was developed for the Ebola virus but shelved when antibody-based drugs proved more effective.
- It was studied with the cousin coronavirus MERS-CoV and worked well in test tube to render the virus ineffective. Studies in monkeys seemed effective in preventing infection.
- Data on this may be ready to disseminate in early April, so stay tuned on whether this drug looks like it might be effective against the virus.
- There are a number of other drugs which in test tubes have some effect on cell cultures infected with the virus. These include: chloroquine, some anti-influenza drugs, tocilizumab, and traditional Chinese medications. We don't have any published information on these treatments.
- A vaccine is at least 6-12 months in future.

Questions posed by the audience to Dr. Auwaerter:

Q: The build-up curve for China was over a period of four months. What do you anticipate the US curve to look like and what parameters will control the range and magnitude of the US curve?

(Dr. A): So, a couple of things. I think heightened awareness of the virus and people working from home, schools closing—that should help flatten the curve. One of the things I think we can hope for is that this virus behaves more like a seasonal virus, that is with warmer spring and summer temperatures it will wane.

I think one of the questions is whether this virus becomes the fifth coronavirus. It will likely establish itself and probably circulate regularly. But as people become exposed and build up immunity, it will become less and less of a concern on a regular basis. For the time being, we don't know if it will behave as a seasonal virus or continue at high rates of infection even through the spring and summer months.

I think some of the maneuvers that the public health officials have been advocating—limiting travel, avoiding mass gathering—are among the most effective, along with people taking great care to keep their hands away from their face and washing, and so on.

Those who are ill should really self-quarantine at the moment. If they are very ill or short of breath they should go to the hospital, but really trying to limit exposures even in households, if you have the ability to use separate sections of the house all would be helpful to slow transmission.

Q: Once a person is infected with the virus and cured, are they immune to catching it again?

(Dr. A): We don't know yet, but I will tell you for MERS, for the standard coronaviruses, the answer is yes. We know that if you get one coronavirus, there is not cross-immunity protection with other coronaviruses. But my bet is that if you get this new coronavirus and you recuperate and recover, you will be immune.

And this is why this so-called serology, and antibody-based tests would be very helpful. Especially for people in critical occupations, such as first responders, healthcare workers and perhaps in companies, you may want to test like we do for tuberculosis or measles immunizations. We may ask employees to take the antibody test to see if you are immune. This would give you a shield of immunity or some sense of protection that you wouldn't have to worry and be so careful. So hopefully an antibody test will be available soon because people are being infected and recovering—that is actually the majority of people and this is very helpful before there is a general availability of the vaccine.

Q: What are the lasting results of the infection, if it is contracted—are there lasting injuries to the lungs after the infection is gone?

(Dr. A): It is too soon to know. Certainly, we know from patients who develop ARDS (Acute Respiratory Distress Syndrome) which is a lung injury where you have a lot of scarring to the lung. Those people do have reduced lung capacity.

So here we are in March and these descriptions were first made in January, and we don't know the long-term effects, whether those slowly resolve or reverse. But my suspicion is that for people that are critically ill they may have some permanent lung damage, a subset of people. Also, anyone who is severely ill in the ICU could have damage to other organ systems. This could be true of anyone with a critical illness. As far as we know, people who

have mild or moderate illness like influenza and other respiratory viruses probably will not have long term issues.

Q: How long is it recommended to have people work from home, if my company decides to do this?

(Dr. A): The current recommendations, and I think what many companies are doing, is to self-quarantine for 14 days. Because on average if someone does not develop symptoms by that time, they don't have the infection and they are not shedding a significant amount of the virus.

Now for someone who is ill, some have said to wait at least a day after the resolution of all respiratory symptoms such as cough and fever, much like the standard flu advice. Some people are more conservative, because we don't know the kinetics of viral shedding, how long people shed virus that will infect other people. Some wait three to five days or longer. It is a range of opinions and I think many people are trying to be more conservative until we have clear evidence to back up recommendations.

Q: What's your best guess on how long the government will be requiring gatherings of 100 people not to take place.

(Dr. A): If you look at the Wuhan experience, the restrictions were put in place at the end of January and just now beginning to be lifted in early March. That's about six weeks. I think in the US there will be certain hotspot areas where we will have more restricted movement recommendations made by public health officials and the government.

If this behaves like influenza, that season typically lasts anywhere from eight to sixteen weeks, that's two to four months. If this virus behaves just like seasonal virus, starting in the wintertime, as we move into spring it may be blunted. But if it is not, it could be a three to four-month period of very high rate of transmission. But again, what we don't know, and we have not had in modern history, are these restrictions and the impact they have on the spread to know if it will change the dynamics of what we usually see from influenzas. My sense is that it will be four to ten weeks. That is my best guess.

Q: Spring break is upon us. Should we be concerned about domestic travel? What are your thoughts on this? Should we go to popular destinations like Cancun?

(Dr. A): At the moment, with such limited testing, this is a numbers game. If you're in a high-risk group, then I would strongly avoid any travel. If you need to travel—do so in a car or a private jet, something where you have few encounters with people.

From a public health person, I would say if you can restrict travel, the benefit is that you would be helping your community because there will be less people encountering each other. From a public health perspective anything you can do—like working from home, avoiding travel, minimizing encounters in your community—as difficult as they are for people of any age, it will be helpful. Which is why schools have been closed. If you follow that philosophy, I would urge people to reduce your activities, wait for us to get a vaccine rolled out, have the disease wane, have effective anti-viral therapies before resuming normal activities. As more information is derived over the next couple of weeks, we'll have more advice along these lines.

Q: How do we know if the cold or flu we are experiencing should be tested, especially when there is such a shortage of tests?

(Dr. A): My advice is to say that if your symptoms are minimal, not too far out of range of what to expect from a common cold or mild flu, I would just sit tight and stay home. If you're developing shortness of breath or if you feel severely ill, then you should go to your local emergency department for evaluation.

Current testing mechanisms require that the use of a nasopharyngeal swab. A swab would go straight back through the nostril to the back of your pharynx, which is quite a way, then you twist it before pulling it out. That has to be done in a medical office, and you can't go to Quest or LabCorp to get the testing done.

I think we will have availability of widespread testing in about 10 to 14 days. At that point I think it's reasonable to get checked. Certainly, this would be great information for your household and for your employer. If you are ill, of course, stay home. You shouldn't go to work with a fever or cough.

Q: I heard the flu of 1918 came back with a vengeance in the second wave. Do we expect that to happen with this?

(Dr. A): Well if you were to ask me to make my best guess, I think this will become an established respiratory virus that will join the other four established coronaviruses. It won't be nearly as big of a deal as more and more people get exposed, infected and acquire immunity. It is making a very big ballyhoo right now, but that will diminish.

Q: Do you know of any impact on pregnant women?

(Dr. A): Not yet. Women who are pregnant are more prone to significant infection. For example, one of the highest risk groups for influenza is pregnant women. I would think anyone would want to avoid the virus in any way possible. I would put pregnancy into one of the high-risk groups and anyone who is pregnant should minimize travel, minimize social gatherings, and avoid encounters at this time.

Q: What is the recommended response if one employee tests positive for COVID-19 or if one of their family members test positive? We are a manufacturing facility and telecommuting is not a viable option for many employees.

(Dr. A): If you want to keep your manufacturing company running, here is my advice: If an employee or someone in their household are in close contact with an infected person, (by that I mean relatively close proximity, six to ten feet for more than a brief period of time) they should probably be furloughed for a brief period of 14 days.

For companies that are more conservative, and coworkers have casual contact, like on a factory floor, you can give everyone 2 weeks off. Because then everyone should come back without illness. That is easier in white collar jobs and telecommuting environments where people can still work. I understand that with manufacturing may not be possible.

The casual contact rate is only 0.5%. So, you can play the numbers game. If you have an employee who tests positive and you have 200 employees, on average 1 of those employees may develop it. So those are pretty good odds. You can advise everyone at the company: Look if you have only had casual contact (meaning in same workplace but not close in) there is a 1 in 200 chance of you becoming ill or 0.5%. If you should develop a fever or cough or any illness you should then stay home and please let us know at work. That is how I generally think about it, but really it is up to companies to come up with their own policies and risk tolerances.

Q: What is your opinion on the heightened concern and panic?

(Dr. A): Whenever there is uncertainty, and you see this in financial markets, there is a lot of see-saw action. This is like a snowstorm, and we don't know when it will end. I think it is right for everyone to be cautious, but I think there has been collateral damage to this

panic—not only to our portfolios, but also to our supply chain. People who may need medications to take care of people who are ill on a routine basis may be stressed. Stores are out of supplies, people who are not as savvy to get supplies or food on a timely basis may run into trouble.

It's like a traffic jam. People have said that if you have a highway with heavy traffic if everyone drove at 40 miles per hour perfectly a lot more traffic would flow through, but as everyone crunches up you will get backups. This is what we are seeing now, but I think for the moment everyone feels better doing something. It is very much the American way; you feel more in control. If you go out and buy things you feel safe and it relieves your anxiety.

I try to tell people, of course, you want to be prepared. Doing some things that make you feel better, like people buying pulse oximeters or N95 masks, really puts a stress on the supply. Hospitals are having trouble getting them and they are sorely needed. These are the kind of things that cause other problems, and I hope more of our government and public officials talk about this, because these all have unintended consequences.

Please stay well and try to look for reliable information when trying to make decisions for your employees or families.

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