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Responding to a Public Health Emergency – COVID-19

February 2020

You've seen it covered on the news for weeks, the Minister of Health and Provincial Health Officer have been providing nearly daily updates, and you have likely had patients or others ask concerned questions about it – the novel coronavirus, or COVID-19.

There has also been a slew of misinformation circulating online about the new SARS-like virus, making it potentially challenging to navigate the facts. In an effort to help provide some clarity and to give an update on the situation here in B.C. right from the "top doc" herself, we sat down with Dr. Bonnie Henry, B.C.'s Provincial Health Officer.

Dr. Henry has been at the forefront of the provincial and national responses to the virus and is co-chair of the national Special Advisory Committee of Canada's Chief Medical Officers of Health, alongside the Chief Public Health Officer of Canada, which has been put in place to respond to COVID-19. This committee focuses its attention on coordination of federal, provincial and territorial preparedness and response across Canada's health sector.



Dr. Bonnie Henry, Provincial Health Officer of British Columbia

What is COVID-19?

On December 31, 2019 at 5:16am EST an article called "China probes mysterious pneumonia outbreak amid SARS fears" was published by Agence France Presse and uploaded in the Global Public Health Intelligence Network system about half an hour later.

"We started to be concerned early in January," confirmed Dr. Henry. "China was saying that it was only a small number of cases, but in retrospect, there was a lot of mild illness that was spreading into the community."

As we know, in the weeks that followed, that mysterious outbreak was confirmed to be a serious and brand-new illness, which has infected over 75,000 people worldwide, a vast majority of them in the Hubei province of China.

Coronaviruses are a large family of viruses found mostly in animals. In humans, they can cause diseases ranging from the common cold to more severe diseases such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS-CoV). Some spread easily from person to person while others do not.

“Case fatality is somewhere around 2% -- which doesn't sound like a lot but when you compare to the seasonal influenza rate of about one in a thousand, the impact can be devastating.”

COVID-19 is from the same family of coronaviruses as the SARS virus; however, there are some important genetic differences. COVID-19 differs from influenza and other common respiratory diseases in that it normally circulates only in bats and animals and has only recently crossed the species barrier to cause illness in humans.

Symptoms to date are common to several respiratory illnesses, including other coronaviruses and influenza. They include mainly fever and cough, with some patients having difficulty breathing and chest x-rays showing pneumonia in both lungs. Mild to severe illness has been reported for most confirmed cases, and older people, and people with a weakened immune system or underlying medical condition are considered at higher risk of severe disease.

COVID-19 is transmitted primarily via large droplets that are breathed deep into a person's lungs. Receptors for coronavirus are deep in a person's lungs – they must inhale enough of the virus that it can bind to those receptors.

“It's behaving as coronaviruses do,” said Dr. Henry. “The challenge has been that as this has progressed, we've realized that there are many people that have milder illness. Recently, data on the first 72,000 people that were infected in China shows that about

80% have mild illness and about 15% have severe enough illness that they need to be hospitalized. Case fatality is somewhere around 2% -- which doesn't sound like a lot but when you compare to the seasonal influenza rate of about one in a thousand, the impact can be devastating.”

At this point, most cases have been linked to transmission after someone has developed symptoms, although in many cases the symptoms can be quite mild. While there have been some rare reports of asymptomatic transmission it is clear that people with symptoms are much more likely to pass on the virus to others. Close contact (like what you would expect to occur within a household) after developing symptoms seems to be required for transmission of the virus. New research is emerging globally as the situation evolves.

Thirteen cases of COVID-19 have been reported in Canada, as of February 27, 2020. On January 25, Ontario announced the first case in Canada and on January 27, they confirmed that the wife of this case had also tested positive. On January 28, B.C. announced the first presumed case, which was confirmed the following day. On Feb. 4 the second presumed case was announced, again confirmed the following day.

The WHO has declared a public health emergency of international concern due to the evolving nature of the situation. Their decision results in increased resources to support lower-income countries in managing imported cases and increased global attention to managing the outbreak.

The Provincial and National Response

Nationally, the Special Advisory Committee was quickly put in place. This committee focuses its attention on coordination of federal, provincial and territorial preparedness and response across Canada's health sector.



One of the key areas of response has been at airports, screening travellers as they arrive in Canada from China and other affected areas. Border management falls to federal jurisdiction and here in B.C. we are coordinating our response with Canadian Border Services Agency and the Public Health Agency of Canada.



COVID-19, more commonly referred to as the novel coronavirus

“We put in place measures at the airport quite early on in January to identify people who returned,” said Dr. Henry. “There has been the cancellation of lots of flights back and forth from mainland China – mostly from lack of demand and restrictions that have been put in place in China – so that is one thing that is helping us.”

Only three airports in Canada – Vancouver, Toronto and Montreal – have direct flights from China, so those airports quickly saw increased screening activity. New messaging on arrivals screens was put in place at those airports, advising travelers to inform a Border Services Officer if they are experiencing flu-like symptoms.

An additional screening question has also been added to electronic kiosks for passengers to indicate if they have traveled to affected areas. If they have, they will be referred for health screening questions. Those

who are ill are referred to hospital for testing with protocols applied to prevent transmission of illness.

“Anybody who comes here from high risk areas is being screened,” added Dr. Henry. “If they have been to Hubei they are automatically assessed by Border Services Officers for symptoms. If they have symptoms the quarantine officer is there to assess them. If anyone needs further assessment, they are transported to Richmond Hospital and they have all the precautions in place there.

“It has happened a handful of times – not too many but a few. The local Medical Health Officer is notified and Richmond is notified ahead of time. Everyone else who returns but are not ill gets information about contacting public health within 24 hours and self-isolating.”

In addition to airport security measures, the B.C. Ministry of Health and the BC Centre for Disease Control (BCCDC), in partnership with a broad array of stakeholders, have pre-existing plans in place to prepare for and respond to new illnesses of public health concern.

As part of maintaining a state of readiness, these and other agencies have been actively monitoring the situation with COVID-19 over the past weeks. Before any cases were detected in B.C., the decision was made to increase capacity to detect and respond to local cases.

“The other thing that we have been involved with provincially, is the first three repatriation flights,” outlined Dr. Henry. “Two Canadian and one American repatriation flights have taken place so far, and all had to stop at YVR for refuelling. We had put in place contingency plans in case anybody needed to be medivac’d – either for coronavirus or anything else – and needed to come off the plane. We had a plan in place for that.



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“We had another plan in place in case the plane broke down and everyone had to be taken off and housed for a period of time – the worst-case scenarios. Thankfully all three flights arrived and everyone was fine. It all worked out really well, but that is because we had all the planning in place.”

In addition, a Special Provincial Coordination Committee has been put in place to respond to COVID-19 in BC. This committee is focusing its attention on co-ordination of provincial preparedness and response from across the health sector.

Specific actions that have been taken to mitigate the risk include:

- Developing local capacity to test suspected cases;
- Engaging with schools from K-12 to post-secondary to help protect students and staff;
- Providing guidance and support to health care facilities on screening for suspected cases and using appropriate precautions to reduce the risk of transmission;
- Conducting contact tracing to identify individuals who may have been exposed to COVID-19 and provision of care to avoid further transmission should these individuals become symptomatic;
- Public messaging, including advice for symptomatic individuals and risk-reducing strategies for the general public;
- Working with other provinces and territories and the federal government to ensure a coordinated response;
- Planning for a variety of potential future scenarios to ensure readiness should the situation change.

“Here in BC, knowing the travel patterns of a lot of our community, and that a lot of people go home for the Lunar New Year, we started to look at what we needed to do in order to detect the coronavirus in

people and to look at how we screen for it,” explained Dr. Henry.

“We put in place an emergency response structure, which has an incident commander, who is the Deputy Minister of Health, Stephen Brown, and myself, and we have a provincial coordinating committee which has the Chief Operating Officer and Chief Medical Health Officer of each of the health authorities and the First Nations Health Authority, plus we have folks from the BCCDC leadership as well as BC Emergency Health Services, HealthLink and all those important partners.

“Under our coordinating committee, we have created a number of operational groups to help us put together common guidance for people around infection control, workplace health, epidemiology and surveillance, public health management, how to manage close contacts, and a laboratory group.”

Diagnosing COVID-19

“One of the biggest accomplishments is that within a matter of weeks of the virus being identified we had a lab test,” said Dr. Henry. “The Chinese scientists working on this shared the genome sequence online and within a week our National Microbiology Laboratory and the BCCDC had developed tests to be able to test for this new virus, which is amazing. When we think about SARS in 2003, it was months before we even knew it was a coronavirus and the outbreak was essentially over before we had a test for it.”

If someone is suspected of potentially having COVID-19, there are testing protocols in place. First, an initial swab is taken, either at hospital, public health, or in a primary care provider’s office, and sent off for testing to the BCCDC lab.

Previously, if a person tested positive for COVID-19 at the BCCDC lab, they were initially referred to as a



presumptive case, and additional testing at the National Microbiology Laboratory in Winnipeg (NML) was needed to confirm. However, as of February 24, the BCCDC lab is fully validated to test for COVID-19, so confirmatory testing from the NML is no longer required. All identified cases are managed from a public health and infection prevention perspective.

If you feel unwell with fever, coughing or other respiratory symptoms, call your family physician, primary care provider or public health unit. If you do not know where to call, you can call 8-1-1, who can help you navigate your next steps

“The BCCDC has been testing about 40 to 50 people a day across the province, and the MHOs have been kept hopping,” said Dr. Henry. “Usually, cases turn out to be influenza A or B, or another illness.”

What can we do?

“We are in what we call containment,” explains Dr. Henry. “We only have one opportunity when a virus crosses the species barrier to try and push it back into nature – that is why China is doing everything it can to try to prevent the widespread transmission of this disease outside Hubei. Part of it is that there 1.4 billion people in China. Even if only 15% of people need hospitalization, when you look at that many people, it is a real strain on your health care system. And that is why we are pulling out all the stops here to try and contain it.”

From the public to health care providers, there are important, simple steps that we can do to help ensure that we maximize that one opportunity to contain the virus.

If you have been travelling internationally (particularly in areas of China or others affected regions), or have had close contact with someone

who has been, there are specific things you should do and be aware of.

If you feel unwell with fever, coughing or other respiratory symptoms, call your family physician, primary care provider or public health unit. If you do not know where to call, you can call 8-1-1, who can help you navigate your next steps. 8-1-1 is available in the language with which people are most comfortable, including Mandarin and Cantonese.

“We are asking people to call 8-1-1 with questions,” said Dr. Henry. “We have been working on algorithms with them so they know what questions to ask, and if someone has symptoms and has traveled, they will help facilitate them getting safely assessed.”

It is crucial to make sure you call ahead and provide them with your information, so they can take the appropriate precautions. “We are asking people to call ahead and wear a mask if they have one. Make sure they let the clinic or office know that they have been travelling.”

From the provider side, “we are asking physicians if they get those calls to try to schedule patients to come in at less busy times of the day – so at the end of the day for example or when the clinic is closed to others. Have things like masks so when people do come in they can cover up.

“For the average physician’s office, they need to be able to hopefully triage people ahead of time and then have people come in one at a time when they can safely assess them. Put them in a single room by themselves as soon as you can. And then if you assess them and you believe that you need to test them for coronavirus, call the MHO and they can help you figure out how to do it best, whether you do it in your office with a nasal-pharyngeal swab or whether they are sick enough that they need to be assessed in hospital, and then the MHO can help you.



“I know there is a lot of concern out in the community from primary care physicians about how do I do this in my clinic, and will people call ahead or not and there’s stories about people who have NOT called. And there is also a bit of confusion out there that if you don’t have symptoms and you have travelled, and you are there for something else, then there is no reason NOT to see someone. And importantly, not refusing to see patients who are Chinese, which we have also heard a little bit of, and that is just not where the risk is right now.”

In the hospital setting, public health is working with the acute system and emergency departments to ensure that they are able to care for someone safely. “Right now that means being able to assess them, and making sure there is a room where they aren’t sitting next to someone in the emergency,” continues Dr. Henry. “We know that in some parts of the province – particularly in the lower mainland where we have a large concentration of our Chinese Canadian community – there have been a lot of people going to the emergency department, even just with questions. That is where we send them to 8-1-1 to get their questions answered. If they aren’t sick, they don’t need to go to emergency.”

When to use masks

B.C. is following the national and international guidelines around the use of personal protective equipment, such as N95 respirators and face masks for health care workers. This standard is based on current evidence of this disease and recognizes the need to ensure adequate supply of PPE in the weeks and months to come.

Because the virus is spread through droplets, use of surgical masks by people who are showing symptoms can contain the droplets and reduce the risk to others. However, it may be less effective to wear a mask in the community when a person is not sick themselves. Masks may give people a false sense of

security and are likely to increase the number of times a person will touch their own face.

Health care workers should wear surgical masks, eye protection and gowns to protect themselves and other patients. During health care procedures in which aerosol sprays may be generated (for example, when giving certain inhaled medications), health care workers should wear fitted N95 respirators, but this specialized type of mask is not otherwise necessary. Masks should be used by sick people to prevent transmission to others.

“One of the things that I’m concerned about is people misusing respirators in situations where we don’t need them,” cautions Dr. Henry. “There is a global shortage of respirators for two reasons – one because they are using so many in China for very sick people, where you DO need them, but in addition many respirators are actually manufactured in China and the factories have been shut down. We want to make sure we are good stewards of these important resources, so that if or when we start to get more people who are more sick, we have the right kind of protection for our health care workers.”

Of the cases we have had so far, none have been serious enough to need to be hospitalized, and the first case is fully recovered and is free from isolation. “The people here who have tested positive have all been doing the right things,” says Dr. Henry. “They have been self isolating, staying away from others – things like getting their groceries just dropped off at the door – I have been so heartened.

“We are really getting the message out that the things that we always do this time of year to protect ourselves work against this virus as well. What I’ve been telling people – health care workers and schools and others – if you are feeling sick you should be wearing a mask, but more importantly than that, if you need to wear a mask, you should not be going to work or school. Because not only do we have influenza circulating but we also have this new virus



that we don't know a lot about yet. It is probably not as bad as SARS, but it is definitely worse than influenza, and we don't want to be circulating it." The other important things we do everyday to protect ourselves and our families from respiratory virus work against COVID-19 too: cleaning your hands regularly, not touching your face and eyes, covering your mouth when you cough or coughing into your sleeve and staying home, away from others if you are sick yourself.

If the spread can be contained now, we may be able to stop all human-to-human transmission. It will be a global challenge to do this and that is what the WHO and all countries are now focusing on. If that goal is not achieved, it is possible that it will cause widespread illness on a periodic basis, in the same way as influenza circulates seasonally now.

For more information

You can find the most up-to-date information at www.bccdc.ca. In addition, a toll-free number has been established to answer questions from Canadians (1-833-784-4397). Service is available from 7 a.m. to midnight EST.

For more information on from the World Health Organization, visit www.who.int/news-room/q-a-detail/q-a-coronaviruses

Joint statement - Feb 24, 2020

BC Health Minister Adrian Dix
BC Provincial Health Officer Dr. Bonnie Henry

"Given the changing dynamics of the outbreak in China and globally, and recognizing we are in the midst of influenza season, we ask all travellers who are returning to B.C. - no matter where they were in the world - to monitor themselves and their children closely for symptoms. If any symptoms arise, limit their contact with others and contact their primary care provider, local public health office or call 811. This is an important way to reduce the possibility of transmission of illness to others.

"People who have recently travelled through the Hubei province of China or are returning from quarantined cruise ships are being contacted by public health officials and are self-isolating for 14 days upon arriving in B.C. after leaving the area of potential exposure.

"If people have travelled to mainland China in the past 14 days, they are advised to monitor themselves and their children closely for symptoms (fever, shortness of breath, cough and breathing difficulties), and to contact their public health office if they have any concerns.

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