



COVID-19 and Veterinary Medicine in Minnesota

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PROTECTING, MAINTAINING AND IMPROVING THE HEALTH OF ALL MINNESOTANS

COVID-19 Information Rapidly Changes

- Visit the MDH website for up-to-date Minnesota data:
<https://www.health.state.mn.us/diseases/coronavirus/index.html>
- Visit the CDC's website for national and global up-to-date data:
<https://www.cdc.gov/>

COVID-19 Situation to Date

As of March 26, 8:45am:

Worldwide

- More than 487,648 cases and 22,030 deaths globally

In the US

- 69,197 cases and 737* deaths

Locations with Confirmed COVID-19 Cases

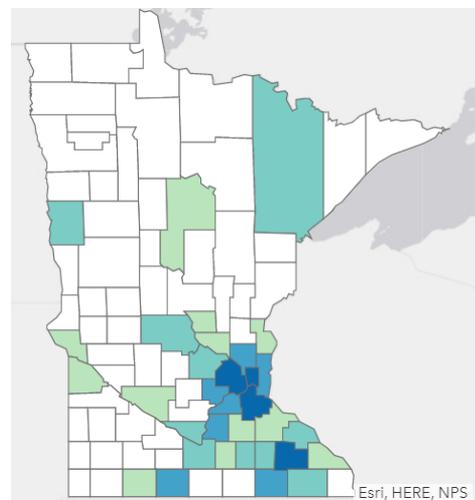


<https://www.cdc.gov/coronavirus/2019-ncov/locations-confirmed-cases.html#map>

*Data from JHU CSSE COVID-19 page, except deaths from CDC

COVID-19 in Minnesota

- First case on March 6, 2020
- As of March 26, 2020:
 - Positive: ~~287~~ **346**
 - Approximate number of completed tests from MDH Public Health Lab: 6365
 - Approximate number of completed tests from external laboratories: 5110
 - Deaths: ~~1~~ **2**
 - Total cases requiring hospitalization: 35 **41**
 - Hospitalized as of today: 26 **31**
 - Patients who no longer need to be isolated: 122



Esri, HERE, NPS

Family *Coronaviridae*

Selected* Viral Families, Viruses and Species Affected

R N A	E: Enveloped NE: Nonenveloped	Virus Family (relative size) SS = single stranded DS = double stranded	Foreign Animal Disease (for US)	Zoonotic (Z)	Virus (Disease)	Humans Affected	Animal Species Affected
R N A	E	Coronaviridae  80 – 160 nm SS linear			Avian infectious bronchitis virus		A
					Bovine coronavirus		B
					Canine coronavirus		C
					Feline enteric coronaviruses		F
					Feline infectious peritonitis virus		F
					Human coronaviruses (colds)		H
			Φ		Porcine epidemic diarrhea virus		P
					Porcine hemagglutinating encephalomyelitis virus		P
			Φ	Z	Severe acute respiratory syndrome (SARS) virus		H F
					Transmissible gastroenteritis (TGE) virus		P
		Turkey coronavirus (bluecomb disease)		A			

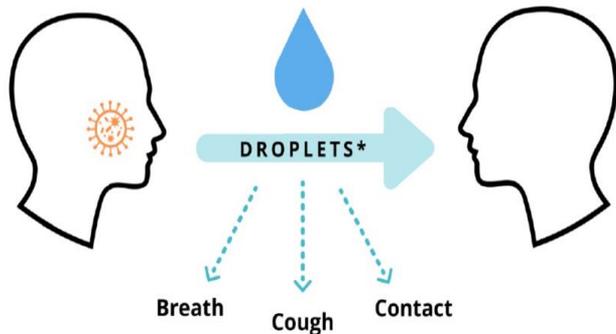
<http://www.cfsph.iastate.edu/>

Family *Flaviviridae*

R N A	E: Enveloped NE: Nonenveloped	Virus Family (relative size) SS = single stranded DS = double stranded	Foreign Animal Disease (for US)	Zoonotic (Z)	Virus (Disease)	Humans Affected	Animal Species Affected
R N A	E	Flaviviridae  45 – 60 nm SS linear			Border disease virus		O
					Bovine viral diarrhea (BVD) viruses 1, 2		B
			Φ		Classical swine fever virus (hog cholera)		P
			Φ	Z	Dengue virus		H NHP
					Hepatitis C virus		H
			Φ	Z	Japanese encephalitis virus		H A, P
			Φ	Z	Louping ill virus		H A, B, C, Cp, Cv, Eq, O, P, R
			Φ	Z	Murray valley encephalitis virus		H A, B, C, Eq
			Φ	Z	Omsk hemorrhagic fever virus		H R
				Z	St. Louis encephalitis virus		H A, Eq
			Φ	Z	Tick-borne encephalitis viruses (various subtypes)		H B, C, Cp, O, R
			Φ	Z	Yellow fever virus		H NHP
			Φ	Z	Wesselsbron virus		H B, Cp, O
				Z	West Nile Virus (WNV) (West Nile fever)		H A, Eq

Transmission of COVID-19 is person to person

- Close contact (within about 6 feet)
- Respiratory droplets produced when an infected person coughs or sneezes
- Fomite transmission possible, but less common



** Droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.*

Incubation Period and Duration of Illness

- Incubation period is 2 to 14 days after exposure, based on SARS/MERS
 - Data from China indicates a median of 4 days with interquartile range of 2-7
- Duration of illness varies; those with more severe illness take quite a long time to recover

COVID 19 Characteristics from China CDC Summary

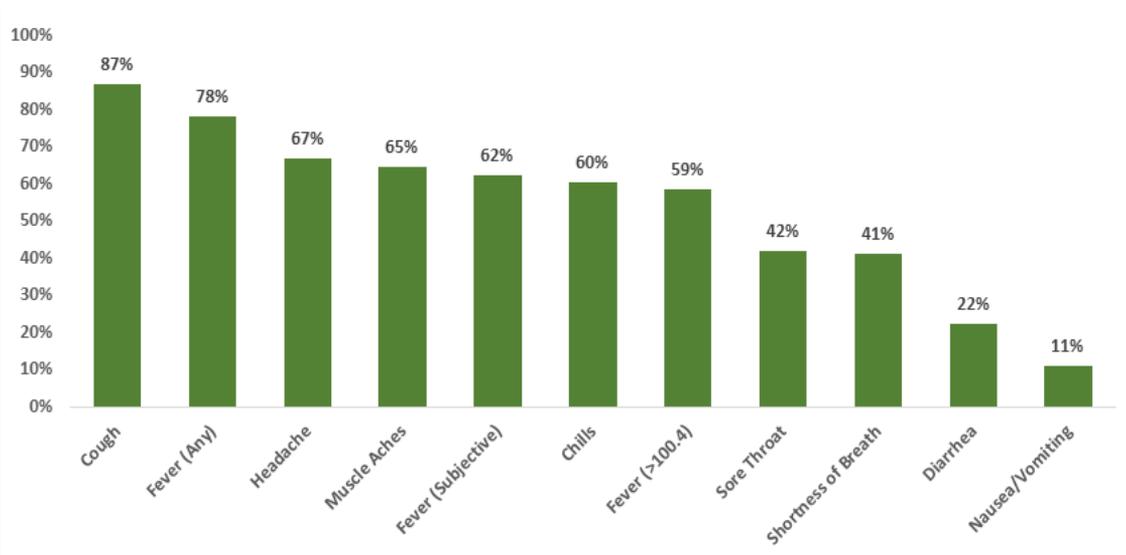
- Spectrum of illness:
 - 81% of cases Mild (non-pneumonia and mild pneumonia)
 - 19% of cases Severe (difficulty breathing, rapid respirations, lower oxygenation saturation levels, and rapidly developing lung infiltrates)
 - 5% of patients admitted to ICU
 - Overall 2.3% mortality rate*
 - Higher mortality in elderly and those with underlying health conditions



中国疾病预防控制中心
CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION

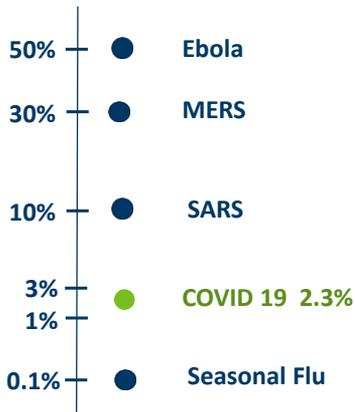


Symptoms Reported by Lab Confirmed COVID-19 Cases, Minnesota (Preliminary Data – updated 3-23-2020)

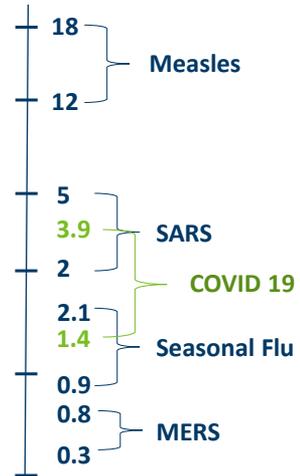


How does COVID-19 compare to other diseases?

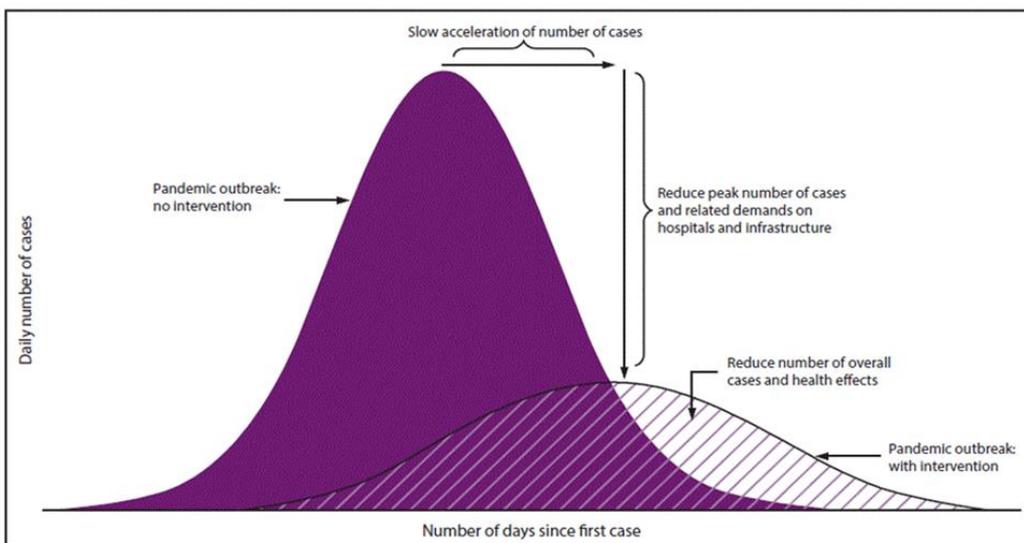
Case Fatality Rate



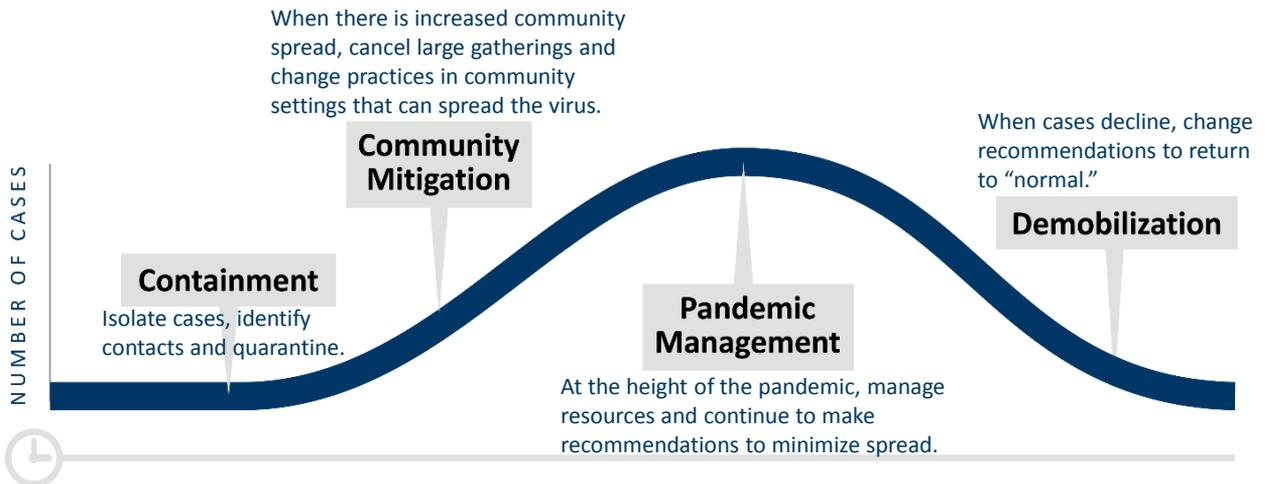
R₀ – Basic Reproductive Number



Purpose of Pandemic Intervention (or Flattening the Curve)



Steps in Managing a Pandemic



How veterinarians can help

- Maintain social distancing whenever possible
- Maintain excellent cleaning and disinfection in veterinary facilities
- Do not allow your employees to work while ill
- Keep public health and state recommendations in mind when planning how your business will respond
- Conserve resources that may be needed or requested for human health care

Social distancing

- Consider what appointments are required right now.
- For appointments you are seeing, get creative with the workflow at your facility:
 - Curbside medicine: the building is closed to clients who remain in their cars while pets are taken in and out by staff, and discussions about care are conducted over the phone
 - Consider telemedicine appointments for established clients with valid veterinarian-client-patient-relationships, when medically appropriate
 - Using temporary measures to mark out 6 foot distances to follow [CDC guidelines](#) in the lobby or exam rooms

Planning for absences

- Consider splitting your staff into two groups who NEVER work together during this pandemic
- Then if a person from one team becomes ill, only half the co-workers may require quarantine at home*

*more on this later

Cleaning and Disinfection

- The standard disinfection products you use are effective against the virus that causes COVID-19.
- However, be very aware of contact time and dilution instructions!
- Focus extra attention on high touch areas – doorknobs, phones, computers, etc. Again, we are concerned with person to person transmission, not zoonotic.

How should we handle animals right now?

- There is currently no evidence that animals are a transmission risk for this virus
- To be cautious about the low risk of animals as fomites, MDH is recommending
 - Wearing gloves (latex) when working with animals
 - Reduce contact as much as possible
 - Practice excellent hand hygiene before and after using gloves

COVID-19 vs other respiratory illnesses

- Limited resources for testing currently.
- Priority for testing is going to human healthcare workers, hospitalized patients and those in congregate living settings
- We have to treat people who develop respiratory illness that is consistent with COVID, as if they have COVID, regardless of whether or not they are tested.
- This is likely to be the case if you, your families or your staff develop illness

Talk like an epidemiologist

- Quarantine – stay away from people because you are WELL, but may have been exposed to a sick person while they were infectious
- Isolation – stay away from people because you are SICK and infectious
 - Self-isolate at home – stay in rooms away from others in your house with your own room & bathroom, if possible, and minimize interactions with other family members
- Social distancing – reducing contact with others, regardless of illness status

What if a client has respiratory illness?

- If client informs you they have tested positive for COVID-19 or have respiratory illness, recommend that a healthy person bring in the animal for them.
- If that is not possible, have the client stay in their car/house. A staff member with appropriate personal protective equipment (eye and respiratory protection, gloves, and gown or labcoat) can interact with the person to bring the animal in, or to a place where an exam can be done.

What if a staff member has respiratory illness?

- Send them home for isolation!
- They should self-isolate at home until ALL of the following are met:
 1. Symptoms have improved, which may take up to 14 days
 2. 7 days after illness onset
 3. 3 days fever-free without fever-reducing meds

What about the co-workers of someone who is ill?

- Co-workers of an ill person should continue following the recommendations for all people*
 - Social distancing
 - Wash your hands often, for 20 seconds
 - Cover your cough/sneeze
 - Don't touch your face with unwashed hands
 - Monitor yourself closely for symptoms

* This would be different if someone tests positive for COVID-19.

What if I am ill with respiratory illness?

- Go home for isolation!
- This will be incredibly hard for you to do
- Self- isolate yourself at home until ALL of the following are met:
 1. Symptoms have improved, which may take up to 14 days
 2. 7 days after illness onset
 3. 3 days fever-free without fever-reducing meds

What if my family is ill with respiratory illness?

- MDH is recommending that household contacts of people with respiratory illness (confirmed COVID or suspect COVID) self-quarantine for 14 days.
- This quarantine should ideally be away from the person who is ill, who should be isolating themselves away from others at home if possible.

What if my facility has exhausted staff supply?

- Since your staff likely won't be tested, there won't be formal requests for quarantining exposed co-workers
- Human healthcare facilities may be allowed to have exposed staff working if they are asymptomatic and follow certain recommendations
 - Modified for vet facilities: wear a mask at all times, avoid close contact with co-workers & clients, monitor closely for symptoms,
- Please give MDH Zoonotic Diseases Unit a call if you have questions about this

What if someone tests positive for COVID-19?

- Person with positive test: Self-isolate at home until '7/3/better' rule is met
- The case and their contacts will be assessed by MDH. The contacts are assigned a risk level, which determines if they need to quarantine or not, and what activities they can do

Contacts of a positive COVID-19 case

- Household and intimate contacts: Quarantine for 14 days after last contact with positive person
- Co-workers* and acquaintances: social distancing, monitor for symptoms
- *Veterinary and other healthcare workers often have closer contact than typical office workers. They may end up with recommendations to quarantine after contact with a positive person. Permission to work may be granted for short staff supply if needed.

What should EVERYONE be doing right now?

- Social distancing
- Wash hands often, for 20 seconds
- Cover your cough/sneeze
- Don't touch your face with unwashed hands
- Monitor closely for symptoms
- Stay home if you are sick!

Take the same precautions you would to avoid colds and flu.



Wash your hands.



Stay home when sick.



Cover your cough.

What should EVERYONE do if they get sick?

- Stay home!
- Avoid public areas, public transportation and people
- Cover your cough/sneeze, wash your hands well
- Seek medical care if needed
 - When possible, call your clinic or the ER before going in
- Clean surfaces that are touched often, and don't share personal items with other people
- Drink plenty of fluids, rest, take pain and fever medications

Minnesota Responds Medical Reserve Corps

- <https://www.mnresponds.org/>



Minnesota Responds medical reserve corps **Minnesota Responds Medical Reserve Corps** **VOLUNTEER!**

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What is Minnesota Responds?

Minnesota Responds is a partnership that integrates and engages local, regional, and statewide volunteer programs to strengthen public health and health care, reduce vulnerability, build resilience, and improve preparedness, response and recovery capabilities.



Next week's webinar and information about gloves and PPE

- Dr. Julia Wilson from Board of Veterinary Medicine
- Preview message
 - Inventory of PPE **DOES NOT** include latex gloves
 - Since latex gloves are not used in human healthcare, your inventory of latex gloves does not need to be reported
 - **Do** report any inventory of nitrile gloves
 - Report inventory here:
<https://survey.mn.gov/s.asp?k=158492078944>



Where to Find Information

Keeping informed using credible sources

- CDC website (www.cdc.gov)
- Minnesota Department of Health website (www.health.state.mn.us)



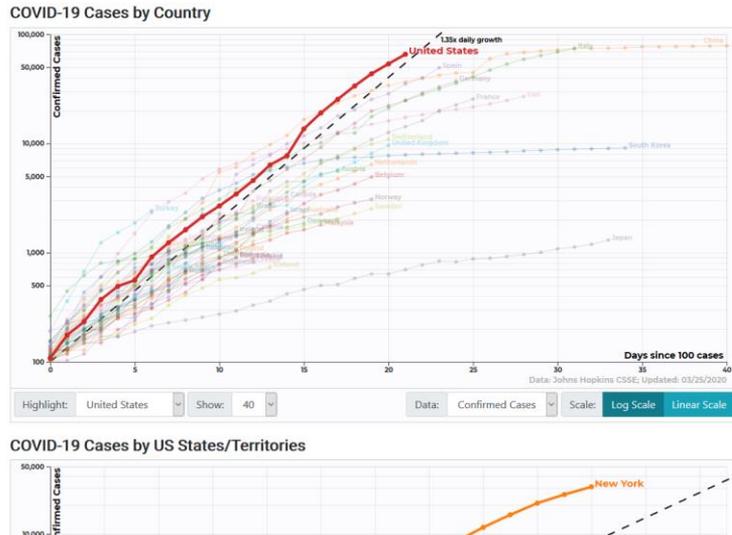
If you are interested in the data

- Johns Hopkins University Coronavirus Resource Center: <https://coronavirus.jhu.edu/map.html>



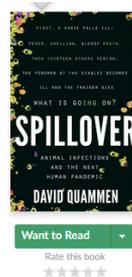
If you are interested in the data

- Same data, but different visuals: <http://www.91-divoc.com/pages/covid-visualization/>



Other excellent sources

- Nice visual of how social distancing works: <https://www.washingtonpost.com/graphics/2020/world/corona-simulator/>
- Spillover by David Quammen <https://www.goodreads.com/book/show/18361385-spillover>



Spillover: Emerging Diseases, Animal Hosts, and the Future of Human Health

by David Quammen (Goodreads Author)

★★★★★ 4.31 | Rating details · 8,917 ratings · 957 reviews

“Science writing as detective story at its best.” —Jennifer Ouellette, *Scientific American*

A *New York Times* Notable Book of the Year, a *Scientific American* Best Book of the Year, and a Finalist for the National Book Critics Circle Award.

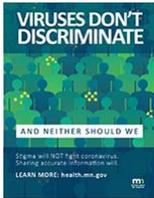
Ebola, SARS, Hendra, AIDS, and countless other deadly viruses all have one thing in common: the bugs that transmit these diseases all originate in wild animals and pass to humans by a process called spillover. In this gripping account, David Quammen takes the reader along on this astonishing quest to learn how, where from, and why these diseases emerge and asks the terrifying question: What might the next big one be? (less)

MDH Resources in Other Languages



- All COVID-19 materials and resources: www.health.state.mn.us/diseases/coronavirus/materials/index.html

- Links on this page to Hmong, Spanish and Somali pages



- Translations into multiple languages

Video PSA



Thank You!

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Testing animals for COVID-19

- Testing may be done in coordination at IDEXX, or at NVSL with state animal health and public health officials. More here: https://www.aphis.usda.gov/animal_health/one_health/downloads/faq-public-on-companion-animal-testing.pdf



Call MDH with Questions

- Public Hotline:**
651-201-3920
- Community mitigation (Schools, child care, business) questions:**
651-297-1304 or 1-800-657-3504
- Health Care Provider Hotline:**
651-201-3900

