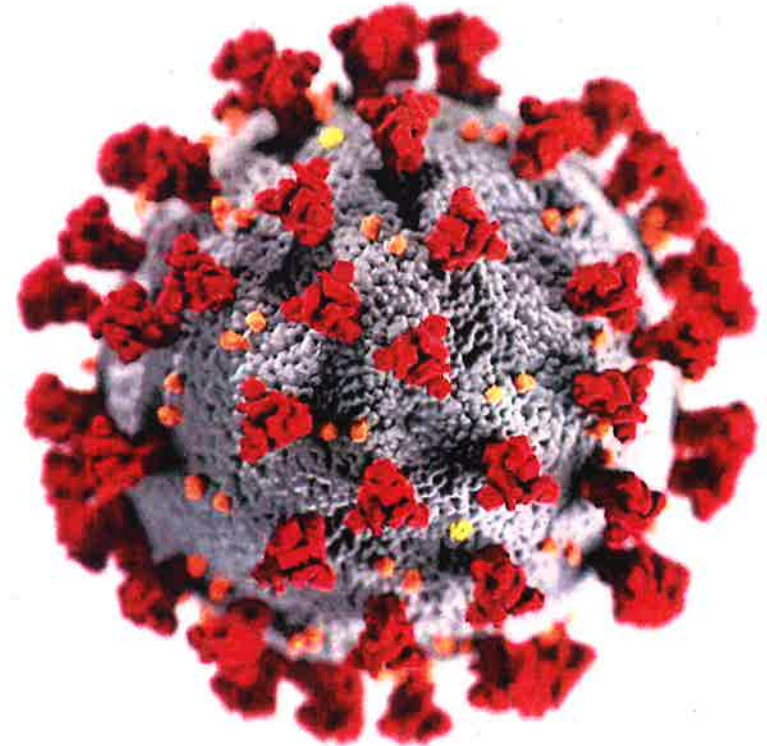


**COVID**  
CORONAVIRUS  
DISEASE  
**19**

# Coronavirus update

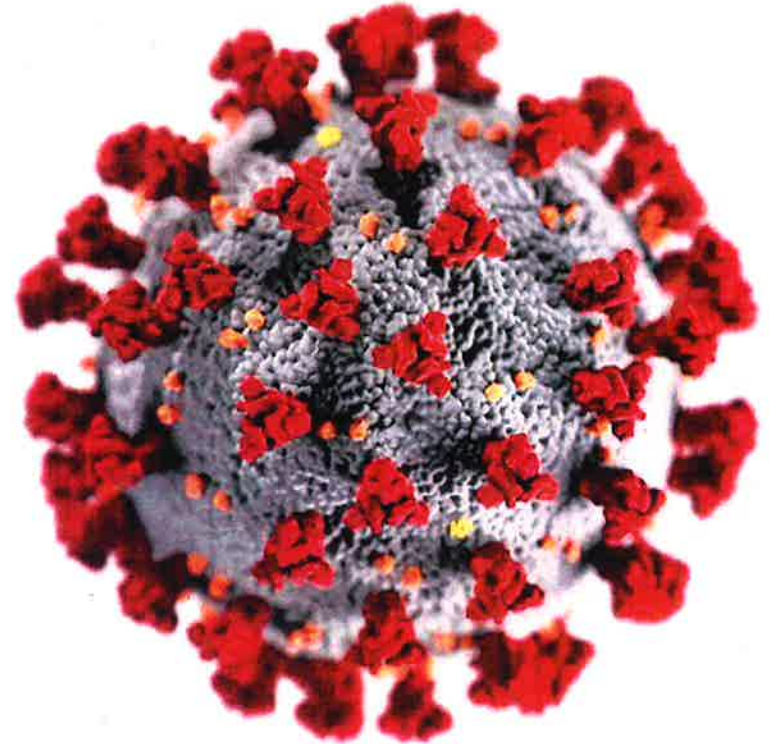
**Mitchell Wolfe, MD, MPH**  
**Chief Medical Officer, CDC**

**1 March, 2020**



For more information: [www.cdc.gov/COVID19](http://www.cdc.gov/COVID19)

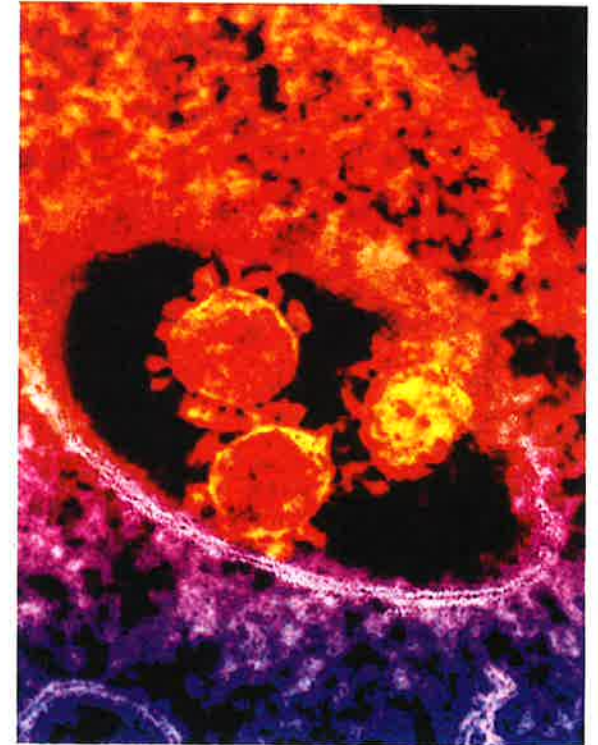
# Coronavirus 101



For more information: [www.cdc.gov/COVID19](http://www.cdc.gov/COVID19)

# Coronavirus (CoV) Background

- Large family of viruses that cause respiratory illness
  - Belongs to *Coronaviridae* family
- First isolated in the 1960s
- Named for the crown-like spikes on surface
  - 4 subgroupings (alpha, beta, gamma, delta)
- Some can spread between among animals and people (zoonotic)





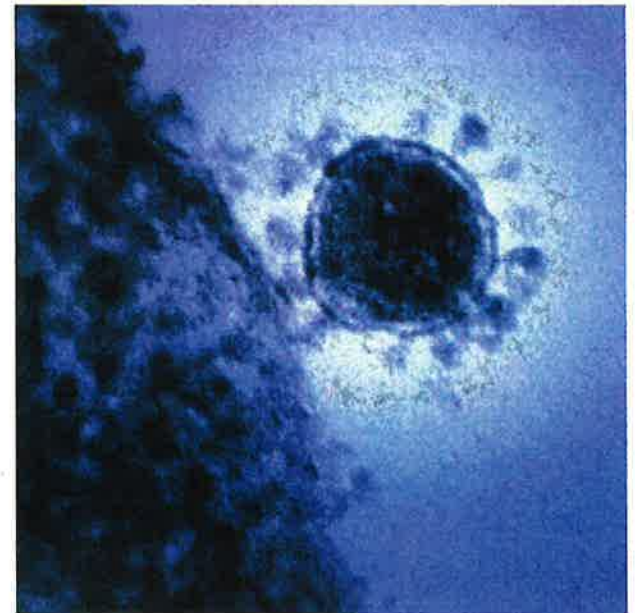
# Seven Human Coronaviruses (HCoVs)

## ■ Common HCoVs:

- HCoV-229E (alpha)
- HCoV-OC43 (alpha)
- HCoV-NL63 (beta)
- HCoV-HKU1 (beta)

## ■ Other HCoVs:

- SARS-CoV (beta)
- MERS-CoV (beta)
- SARS-CoV-2\* (beta)



Produced by the National Institute of Allergy and Infectious Diseases (NIAID), this highly magnified, digitally colorized transmission electron microscopic (TEM) image, reveals ultrastructural details exhibited by a single, spherical shaped, **Middle East respiratory syndrome coronavirus (MERS-CoV)** virion.



\*Causes Coronavirus Disease (COVID-19)

# Common HCoVs: Clinical Presentation & Diagnosis

- Usually cause mild to moderate upper-respiratory tract illnesses, like the common cold
  - May cause more severe disease like pneumonia or bronchitis
    - More common in infants, older adults, and people with underlying conditions that weaken the immune system
  - Symptoms may include:
    - Runny nose
    - Headache
    - Cough
    - Sore throat
    - Fever
    - General unwell feeling
- Diagnosis
  - Lab tests can be used to test respiratory specimens and serum (blood) for coronavirus infection in patients with more severe disease



## Common HCoVs: How They Spread

- Most commonly spread from an infected person to others through:
  - Respiratory droplets by coughing or sneezing
  - Close personal contact, such as touching or shaking hands
  - Touching an object or surface that has the virus on it
- Commonly occurs in fall and winter, but can occur year-round
- Young children are most likely to get infected
- Most people will get infected at least once in their lifetime



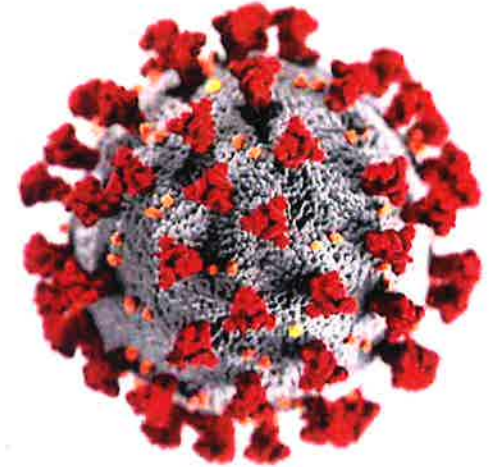
## COVID-19: Emergence

- Identified in Wuhan, China in December 2019
- Caused by the virus SARS-CoV-2
- Early on, many patients were reported to have a link to a large seafood and live animal market
- Later patients did not have exposure to animal markets
  - Indicates person-to-person spread
- Travel-related exportation of cases reported
  - First US case: January 21, 2020
- CDC is reporting confirmed COVID-19 cases in the US online at [www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html](https://www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html)



## How It Spreads

- Investigations are ongoing to better understand spread
- Largely based on what is known from other coronaviruses
  - Presumed to occur primarily through close person-to-person contact
    - May occur when respiratory droplets are produced when an infected person coughs or sneezes
  - Possibly by touching a surface or object that has the virus on it and then touching the mouth, nose, or eyes





# COVID-19: Symptoms & Complications

## Symptoms may include

- Fever
- Cough
- Shortness of breath

## Wide range of illness severity has been reported

- Mild to severe illness
- Can result in death

## Estimated incubation period

- 2 to 14 days

## Complications may include

- Pneumonia
- Respiratory failure
- Multisystem organ failure



# COVID-19: Prevention & Treatment

## Everyday preventive actions for respiratory illnesses

- Wash your hands often with soap and water for at least 20 seconds
  - Use an alcohol-based hand sanitizer with at least 60% alcohol if soap and water are not readily available
- Avoid touching your eyes, nose, and mouth with unwashed hands
- Avoid close contact with people who are sick
- Stay home when you are sick
- Cover your cough or sneeze with a tissue, then throw it away
- Clean and disinfect frequently touched objects and surfaces

## Treatment

- No specific antiviral treatment licensed for COVID-19
- Supportive care to
  - Relieve symptoms
  - Manage pneumonia and respiratory failure



**COVID**  
CORONAVIRUS  
DISEASE **19**

**CORONAVIRUS DISEASE**  
**2019** (COVID-19)

**You can help prevent the spread of  
respiratory illnesses with these actions:**

- Avoid close contact with people who are sick.
- Avoid touching your eyes, nose & mouth.
- Wash hands often with soap & water for at least 20 seconds.



[www.cdc.gov/COVID19](http://www.cdc.gov/COVID19)

11408-A February 11, 2020 12:00 PM

# COVID-19: What You Should Do

## Stay informed

- Latest COVID-19 information for the public ([www.cdc.gov/COVID19](http://www.cdc.gov/COVID19))
- CDC's travel health notices ([wwwnc.cdc.gov/travel/notices](http://wwwnc.cdc.gov/travel/notices))

## Take everyday preventive actions

- These are always recommended to prevent the spread of respiratory viruses

## Seek medical care if you

- Feel sick with fever, cough, or difficulty breathing

### AND

- Have traveled to an affected area with widespread or sustained community transmission\* OR had close contact with a person known to have COVID-19



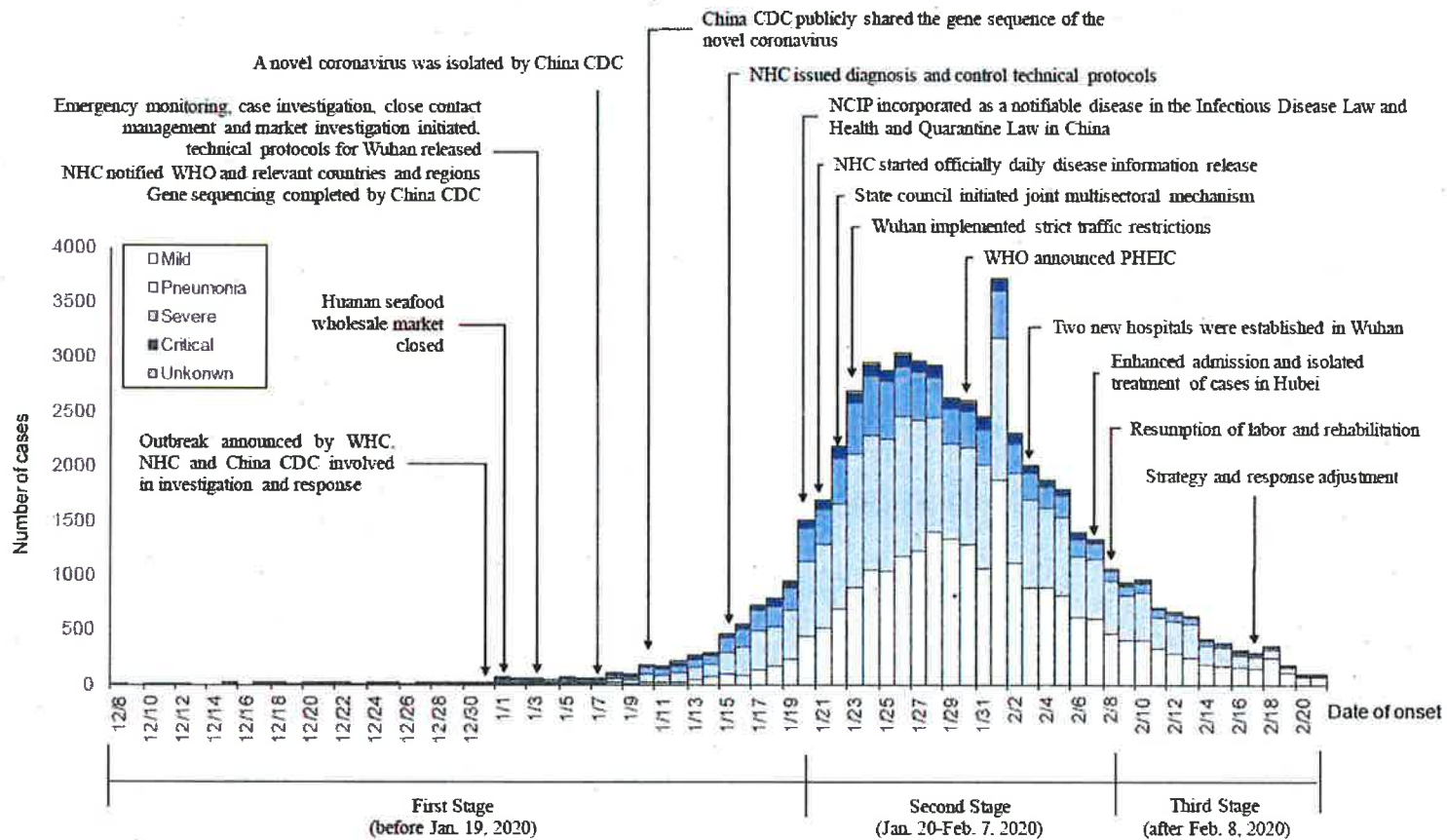


## Situation Update (as of February 28)

- 83,642 confirmed cases, 2,858 deaths
  - >94% of confirmed cases in mainland China
- Rate of new cases in mainland China decreasing and rate of new cases outside mainland China increasing
- 4,691 confirmed cases and 67 deaths in 55 locations outside of mainland China
- Documented human-to-human transmission amongst close contacts and health care workers

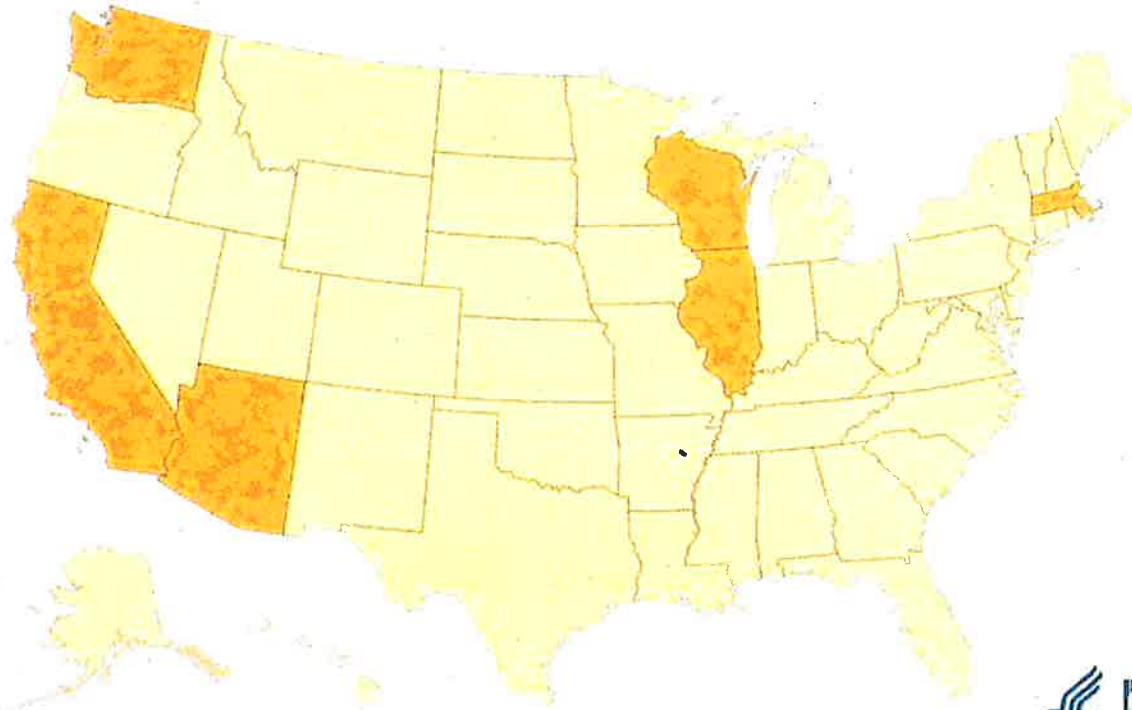


# COVID-19 epidemic curve and major intervention measures in China implemented at the national level



Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19)

## States with COVID-19 cases (as of 1600 February 28)



## COVID-19 cases in the United States (as of 1600 February 28)

<b>Cases detected and tested in the United States</b>	
Travel-related	12
Person-to-person spread	3
Total confirmed cases	15
Total tested	459

<b>Cases among Persons Repatriated to the United States</b>	
Wuhan, China	3
<i>Diamond Princess</i> cruise ship	44





## U.S. Domestic Response – CDC

- Travel: conduct outreach to travelers, issue travel notices
- Laboratory and diagnostics: develop diagnostic tests, confirm all positive test results submitted by states
- Health departments: assess state and local readiness to implement community mitigation measures, link public health agencies and healthcare systems
- Healthcare professionals: develop guidance for healthcare professionals, conduct clinical outreach and education
- Healthcare systems: provide guidance for PPE supply planning, healthcare system screening, and infection control



## U.S. Domestic Response – Testing

- An updated person under investigation (PUI) definition was posted online February 27.
- The updated (PUI) definition takes into account the new geographic spread of the virus and includes a list of affected areas with widespread or sustained community spread.
  - As of February 28, these areas include China, Iran, Italy, Japan, and South Korea



## U.S. Domestic Response – Testing

- Labs can start testing with existing CDC test kits. States that were able to validate their kits should continue to test in this manner.
- States that were able to validate only the two components specific to novel coronavirus can test using only these two using revised instructions developed at CDC.
  - The third component, which was the cause of the inconclusive results, can be excluded from testing without affecting accuracy.
- CDC has manufactured brand new test kits that will only include the two components that are specific to novel coronavirus. Those test kits are at the International Reagent Resource, where orders can be placed.



# U.S Domestic Response – Engagement with State and Local Partners

- State and Local Partner Calls
  - SHO and state epidemiologists touchbase
    - Beginning March 3, calls will be held every Tuesday
  - State and Local Tactical Operations
    - Every Wednesday and Friday from 3-4pm, to discuss public health actions and tactical operations within jurisdictions
      - Invited participants include SHOs, state epidemiologists, state lab directors, Big City Health Coalition, NGO leadership, and ASPR regional administrators
  - Touchbase with Partner NGOs
    - Every Friday from 1-2pm, weekly touchbase with leadership from APHL, ASTHO, CSTE, and NACCHO





## U.S. Domestic Response – Available Guidance

- CDC has produced more than **23 guidance documents** on infection control, hospital preparedness assessments, personal protective equipment (PPE) supply planning, and clinical evaluation and management (as of February 22, 2020).
- CDC has developed guidance for public health departments and laboratories.
- In addition to travel notices, CDC has developed guidance for ships, airlines, and airline crew.
- CDC has additionally developed guidance for communities and businesses.



# Confirmed COVID-19 Cases Globally (as of Feb 28)

## Locations with Confirmed COVID-19 Cases

China  
Hong Kong  
Macau  
Taiwan  
Afghanistan  
Algeria  
Australia  
Austria  
Bahrain  
Belarus  
Belgium  
Brazil  
Cambodia  
Canada  
Croatia  
Denmark  
Estonia  
Egypt  
Finland  
France  
Georgia  
Germany  
Greece  
India  
Iran  
Iraq

Israel  
Italy  
Japan  
Kuwait  
Lebanon  
Lithuania  
Malaysia  
Mexico  
Nepal  
Netherlands  
New Zealand  
Nigeria  
North Macedonia  
Norway  
Oman  
Pakistan  
Philippines  
Romania  
Russia

San Marino  
Singapore  
Spain  
Sri Lanka  
Sweden  
Switzerland  
Thailand  
The Republic of Korea  
United Arab Emirates  
United Kingdom  
United States  
Vietnam



## Travel health notices (as of 1800 February 28)

### Level 3

- China
- Iran
- Italy
- South Korea

### Level 2

- Japan

### Level 1

- Hong Kong

### Information Box

- Singapore
- Taiwan
- Thailand



## U.S. International Response – CDC

- CDC has staff in over 50 countries around the world as part of its ongoing global health mission.
- CDC country teams are supporting response efforts in conjunction with country counterparts in countries with COVID-19 cases and are supporting preparedness efforts elsewhere.
- CDC has deployed experts to Indonesia, Laos, Myanmar, China, Japan, and Republic of Korea.
- CDC is collaborating with WHO to support Ministries of Health to prepare and respond to COVID-19.
- CDC is helping countries implement WHO recommendations related to identifying people who might have COVID-19, the diagnosis and care of patients, and tracking the epidemic.
- CDC staff are also starting to work together with country colleagues to conduct investigations that will help inform response efforts going forward.





# CDC-INFO

You have questions? We have answers.

CDC's national contact center and publications fulfillment system

Call CDC-INFO  
Monday - Friday  
8:00 a.m. - 8:00 p.m. ET  
In English or Spanish

Extended hours for novel Coronavirus questions  
Monday - Friday  
8:00 p.m. - 11:00 p.m. ET  
Saturday - Sunday  
9:00 a.m. - 5:00 p.m. ET  
In English only

**800-CDC-INFO**  
**(800-232-4636)**  
**TTY 888-232-6348**



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