Coronavirus Disease 2019
(COVID-19)

Overview and Alaska Response

Commissioner Adam Crum
Chief Medical Officer Dr. Anne Zink
Alaska Department of Health and Social Services
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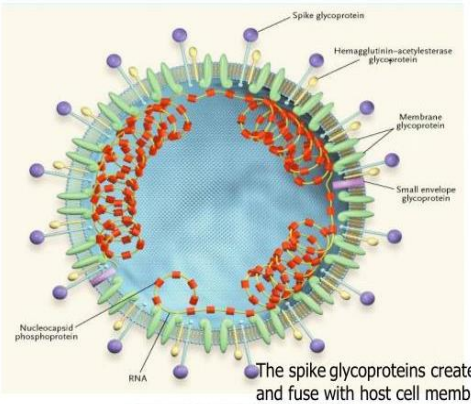
COVID-19

Disease facts and the global outbreak

Coronaviruses (general)

- An enveloped RNA virus that may circulate in animal host or human host
- There are 7 coronaviruses that infect people
- People around the world commonly get infected with these four human coronaviruses:
  - 229E, NL63, OC43, and HKU1.
  - These account for 10-30% of common colds every year
- Spread by contact with infected secretions or by aerosol droplets

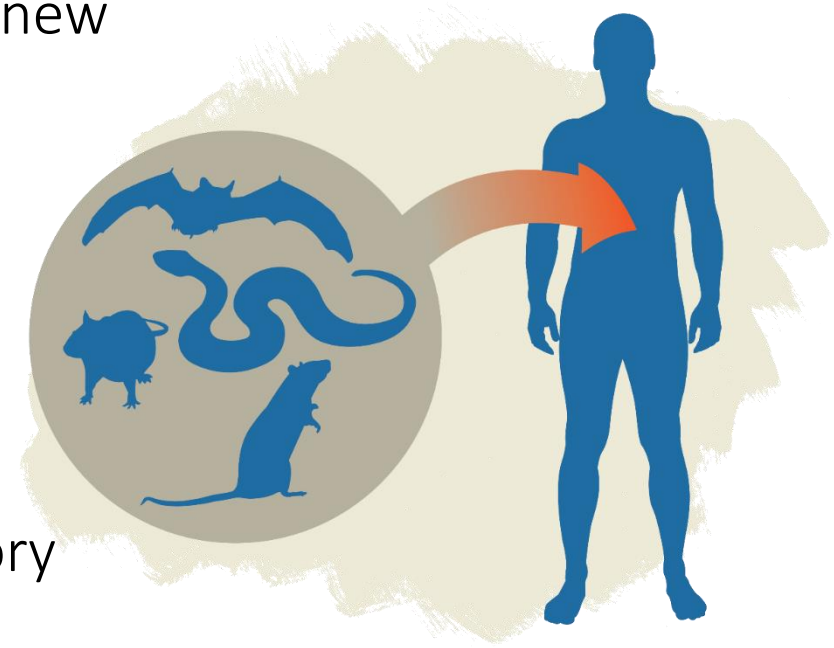


The spike glycoproteins create corona, bind and fuse with host cell membranes

Holmes, NEJM 2003;348: 1948

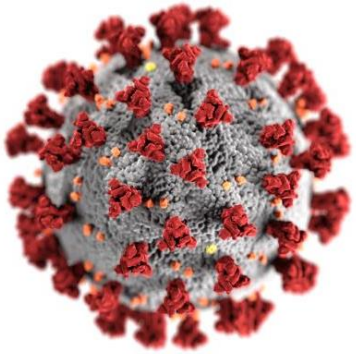
New coronaviruses

- Sometimes coronaviruses that infect animals can evolve and jump from an animal reservoir to humans, causing illness and then are identified as a “new human coronavirus.”
- We know of 3 recent times coronaviruses have moved from an animal to a human host
  - SARS (Severe Acute Respiratory Syndrome)
  - MERS (Middle Eastern Respiratory Syndrome)
  - Novel Coronavirus: Coronavirus Disease 2019 (COVID-19)



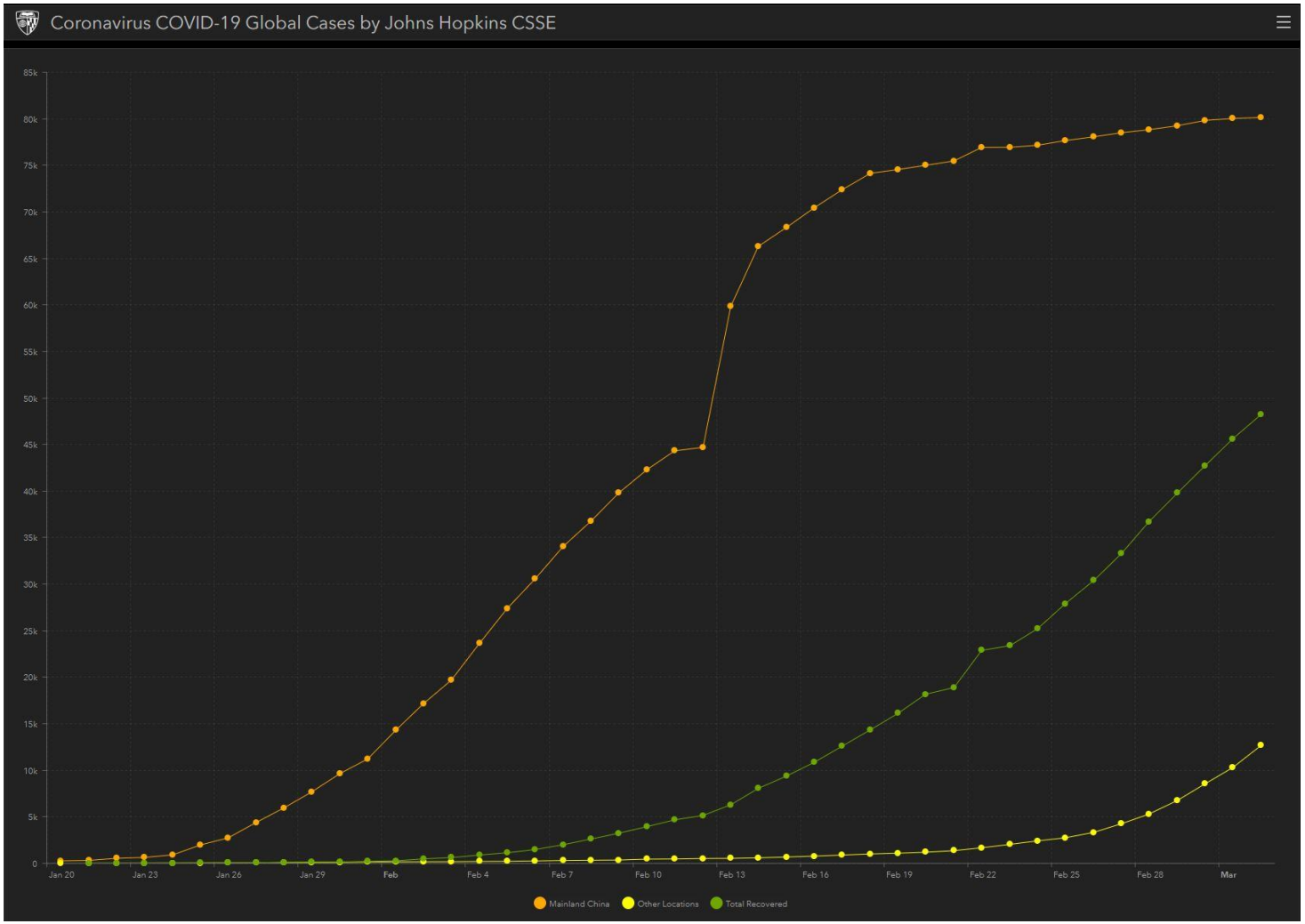
COVID-19: A rapidly evolving outbreak

- First reported by Chinese health officials on Dec. 31, 2019
- Likely very recently moved from an animal reservoir to humans
- Incubation is between 2-14 days (mean is about 5 days). Asymptomatic shedding is still unclear
- As of 3/4/20 there are 94,261 cases worldwide and 3,214 deaths (Johns Hopkins dashboard).
- As of 3/4/20: 80 confirmed cases in the United States in 14 states (CDC) and 9 deaths (Washington State).
- Community transmission is now occurring in several locations in the United States.



Graph of COVID-19 cases to date

Coronavirus COVID-19 Global Cases by Johns Hopkins CSSE

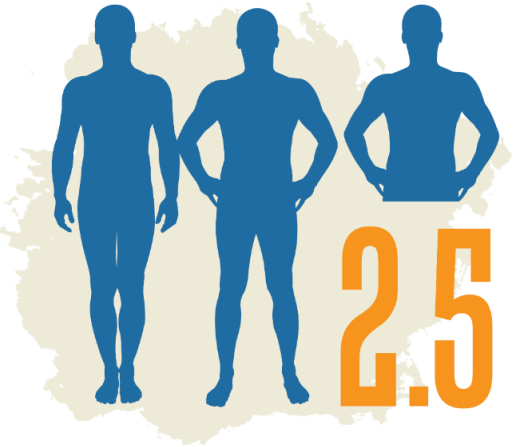


Comparative case fatality rates

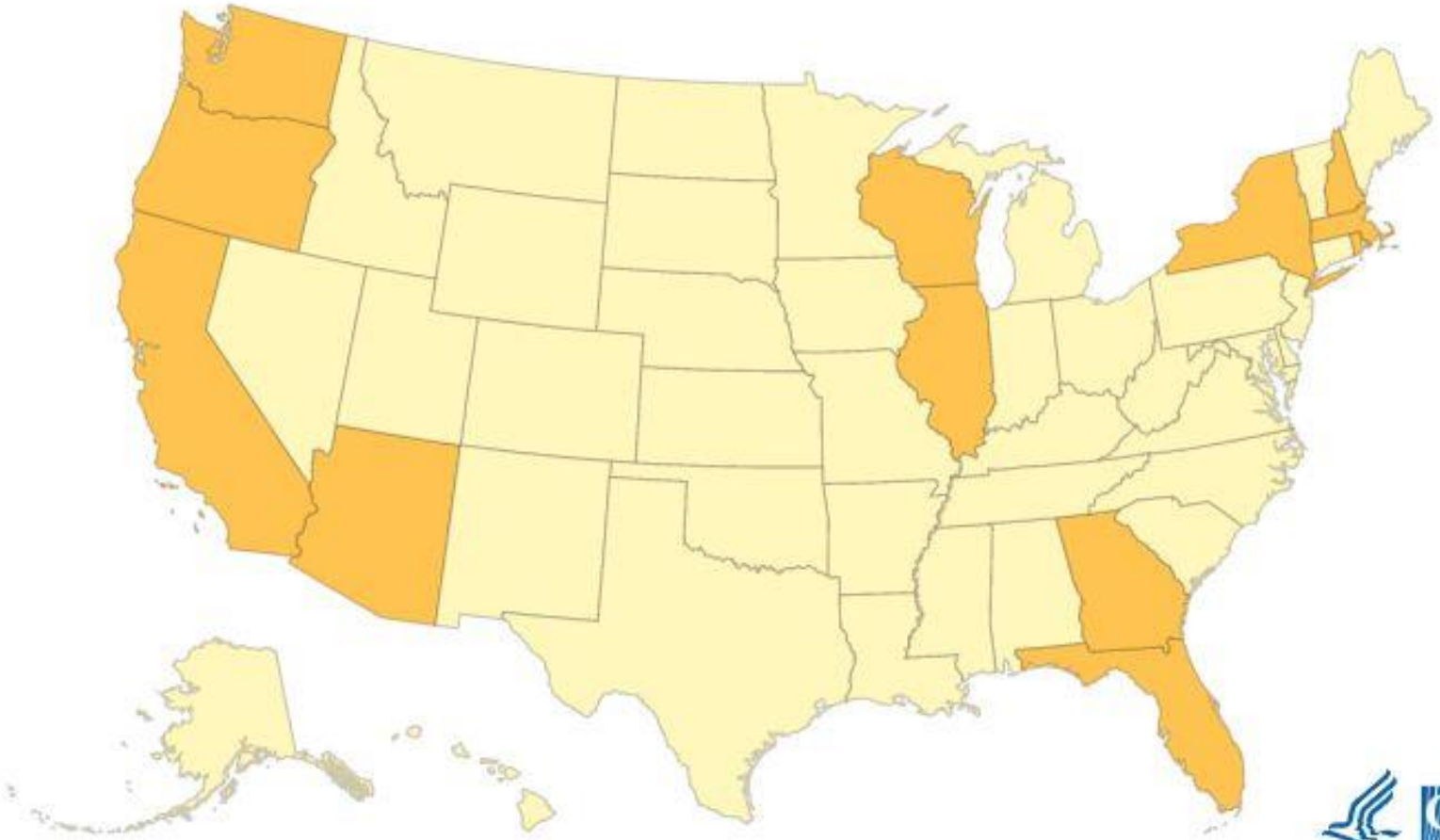
- SARS had a case fatality rate (CFR) of ~10%
- MERS has a ~35% mortality rate and continues to circulate in animal reservoirs with sporadic zoonotic spillover
- Influenza H7N9 (bird flu) had about a 40% fatality
- Influenza averages <0.1% mortality
- H1N1 has a case fatality of ~0.03% fatality
- Ebola has roughly 60% fatality rate
- COVID-19 mortality rate is not known, but may be somewhere between 1% to 2.5%

Comparative transmission rates

- Early on, suspected animal-to-person spread
- Now, known person-to-person spread primarily by:
  - Respiratory droplets when an infected person coughs or sneezes
  - Close contact (about 6 feet)
  - Unclear if transmitted through touching a surface or object
- COVID-19 has an R_0 of about 2.5 (this means each infected person will transmit the virus to about 2.5 other people, on average)
  - Measles: >12
  - SARS: ~3
  - 1918 flu: ~2
  - 2009 H1H1: ~1.5
  - Seasonal Flu: ~1.2



COVID-19 in the U.S.



CDC, March 3, 2020

Signs and Symptoms

- May look similar to the common cold or flu
- For confirmed COVID-19 infections, reported illnesses have ranged from people with little to no symptoms to people being severely ill and dying
- Fever
- Cough
- Shortness of breath
- Myalgia / fatigue

- Appears to disproportionally affect the elderly or those with underlying medical conditions
- Appears to not affect children to the same degree as older populations

Prevention

The best way to prevent infection is to avoid being exposed to this virus. CDC recommends everyday preventive actions to help prevent the spread of respiratory viruses. Individual actions can make a difference!

- 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 the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.
- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing. If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol.

If someone has symptoms

- Stay at home if you are sick to prevent spreading illness to others
- Contact your health care provider.
- Call ahead before you go in to a health care provider or facility
- Our state epidemiologists are providing guidance to health care providers and facilities to decide who may need testing based upon:
  - CDC's risk factors (persons under investigation guidance)
  - Current patient presentation
  - Current outbreak characteristics

Current PUI (Persons Under Investigation)

- PUI criteria was broadened considerably on Feb. 27, 2020 and again on March 4 to a wider group of symptomatic patients
- More testing will take place under this expanded criteria and as testing capacity increases in states
- Clinicians should use their judgment to determine:
  - If a patient has signs and symptoms compatible with COVID-19
  - Whether the patient should be tested
- Decisions on which patients receive testing should be based on:
  - Local epidemiology of COVID-19
  - Clinical course of illness
- Most patients with confirmed COVID-19 have developed fever and/or symptoms of acute respiratory illness (cough, difficulty breathing)
- Clinicians are strongly encouraged to test for other causes of respiratory illness, including infections such as influenza
- International areas of ongoing transmission: China, Iran, Italy, Japan, South Korea

Alaska can now test for COVID-19

- Thanks to test kits provided to states by the Centers for the Disease Control and Prevention (CDC), Alaska now has the ability to test here in Alaska for COVID-19.
- Samples are collected by health care providers and sent to the state's public health laboratories in Anchorage and Fairbanks.
- Initial test results are available within 4-6 hours of specimen arrival at the laboratory (not including specimen shipping time to Anchorage/Fairbanks)
- These are presumptive results; samples are then sent to CDC for final confirmation.
- We will share presumptive positive results promptly with the public.
- Alaska has had four PUI so far; all test results were negative.

COVID-19 Treatment

- There is no known treatment except for good supportive care.
- Patients who are not severely ill can usually be cared for at home, practicing self-isolation. Family members would undergo self-quarantine.
- The vast majority of known cases are mild, not requiring hospitalization.
- A vaccine is likely not going to be available in the near future.

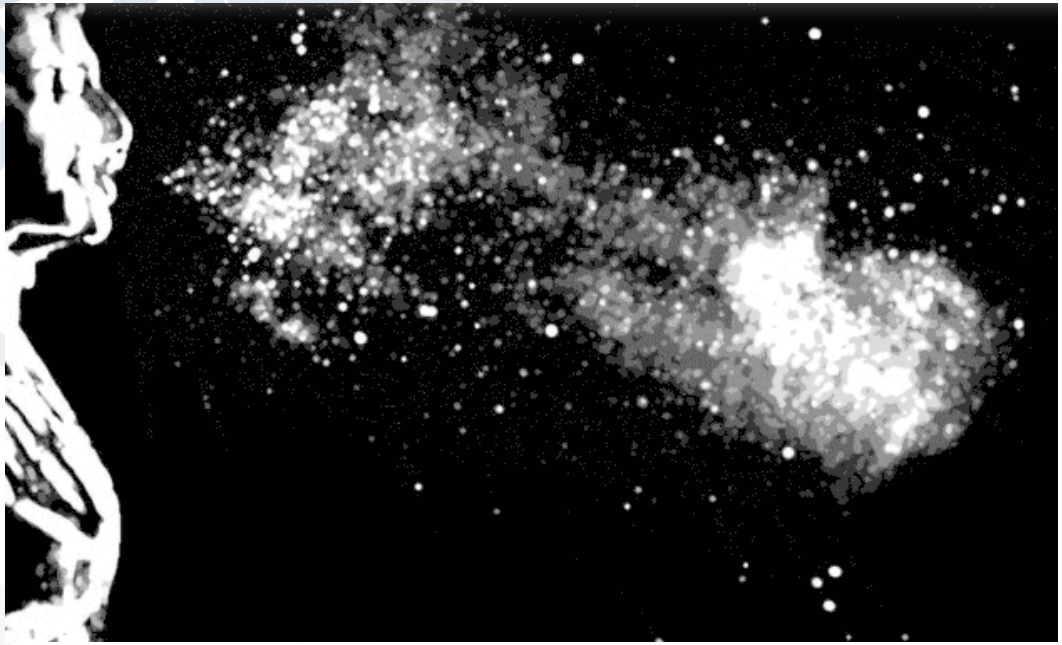


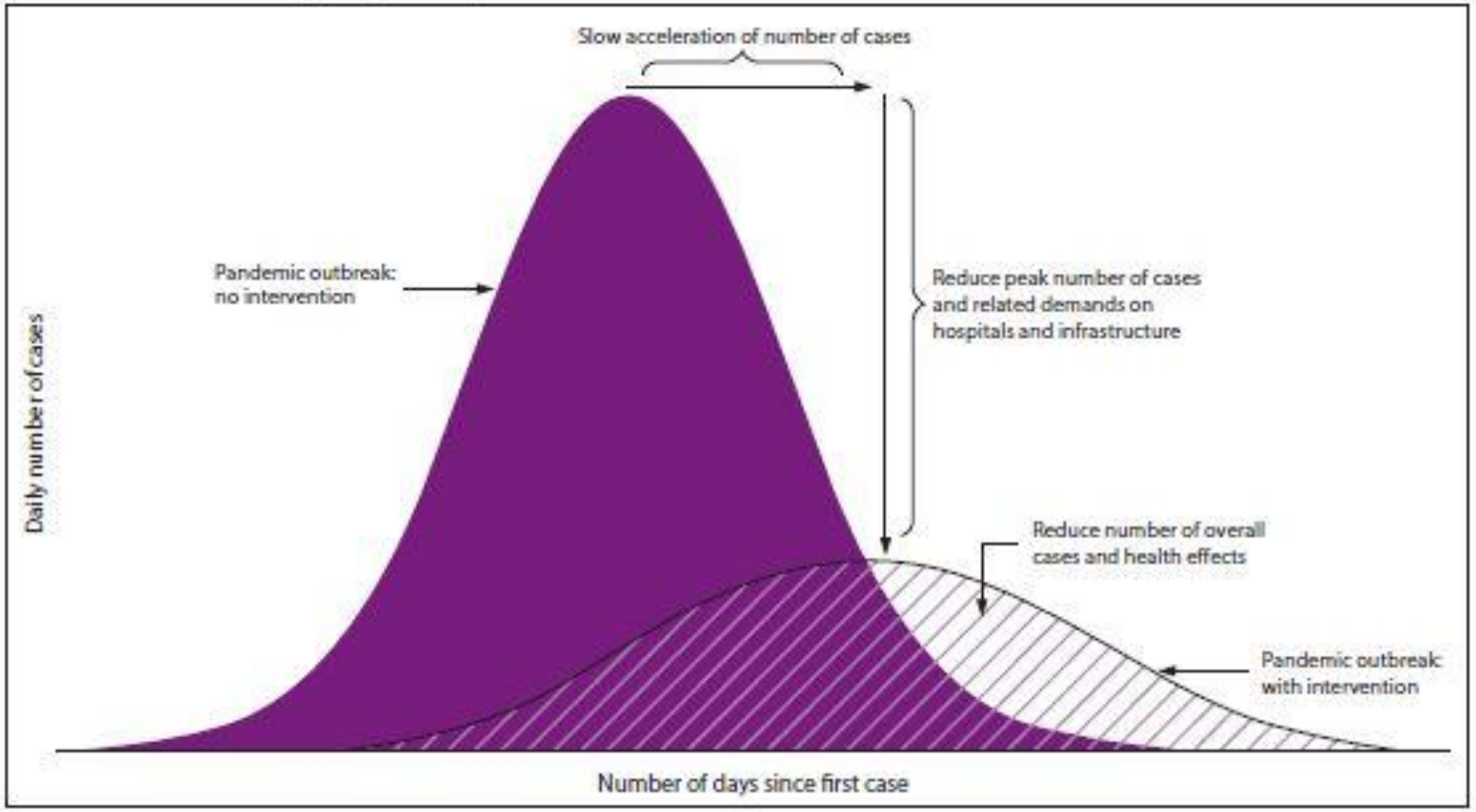
Photo illustrates droplet spread of an uncovered sneeze. Courtesy of Smithsonian Magazine

Alaska's Response

Special Considerations and Preparedness Planning

An outbreak

FIGURE 1. Goals of community mitigation for pandemic influenza



Source: Adapted from: CDC. Interim pre-pandemic planning guidance: community strategy for pandemic influenza mitigation in the United States—early, targeted, layered use of nonpharmaceutical interventions. Atlanta, GA: US Department of Health and Human Services, CDC; 2007. https://stacks.cdc.gov/view/cdc/11425.

What is public health?

Public health is the science and practice of preventing disease, promoting health and prolonging life for the population as a whole.

DHSS, DPH, improves the health of Alaskans by:

- Responding to disasters and epidemics
- Ensuring access to health services
- Evaluating the health status of the population
- Educating on health issues and prevention strategies

Prevention Promotion Protection

ALASKA DIVISION OF Public Health

DHSS Emergency Operations Center

- EOC activated on Jan. 24, 2020 after first U.S. case detected in Washington State on Jan. 21.
- WHO declared a global public health emergency on Jan. 30, and the U.S. declared a national public health emergency the following day on Jan. 31.
- EOC's first mission was coordination of repatriation flight that landed for refueling and screening in Anchorage on Jan. 28
- Focused on COVID-19 global outbreak and preparing for possible cases in Alaska. Includes broad stakeholders:
  - State of Alaska (multiple departments)
  - Federal agencies
  - Tribal entities
  - Health care facilities and providers
  - Municipalities, boroughs, local preparedness

General preparedness

- Preparedness is something that we do, practice and prepare for
- Build on existing structures and lessons learned from the 1918 flu, H1N1, SARS, MERS, and Ebola
- Have recently updated Pandemic Influenza Plan that can be used as guidelines
- Exercised planning for a contagious pandemic in the “Ragin’ Contagion” exercise from April 8-13, 2019
- Have active Emergency Medical Countermeasures Management Plan
- Working closely with other departments, Tribal, federal, municipal, borough, health care facilities and local partnerships to run through all of the “what ifs”

EOC Tactics Groups

- Persons under monitoring/persons under investigation (PUM/PUI)
- Quarantine Housing
- Transportation (PUI/patient transport)
- Airports
- Joint Information Center
- Preparedness and Planning for Health Care Partners
- Cruise Ship/Tourist Season Planning
- Local Emergency Management Engagement
- Laboratories
- Functional and Access Needs Planning
- Rural Health

PUI and PUM and Quarantine Housing

- Notification and contact process
- Test results
- Quarantine housing, if needed. Alternative housing may be needed for
  - Exposed persons who are undergoing monitoring or quarantine
  - Ill persons with suspected or confirmed infection who are not sick enough to warrant hospitalization
- Potential housing options
  - Hotel/motel
  - Rental (e.g., condo/VRBO)
  - Governmental building
  - RV

Transportation and Airports

- Transportation challenges for PUMs or PUIs
- Cargo flights: working with our federal partners on screening and risk mitigation
- Air travel is critical in Alaska and exploring both medical and non medical air travel
- Working with DMVA for support if additional transportations needs arise

Joint Information Center

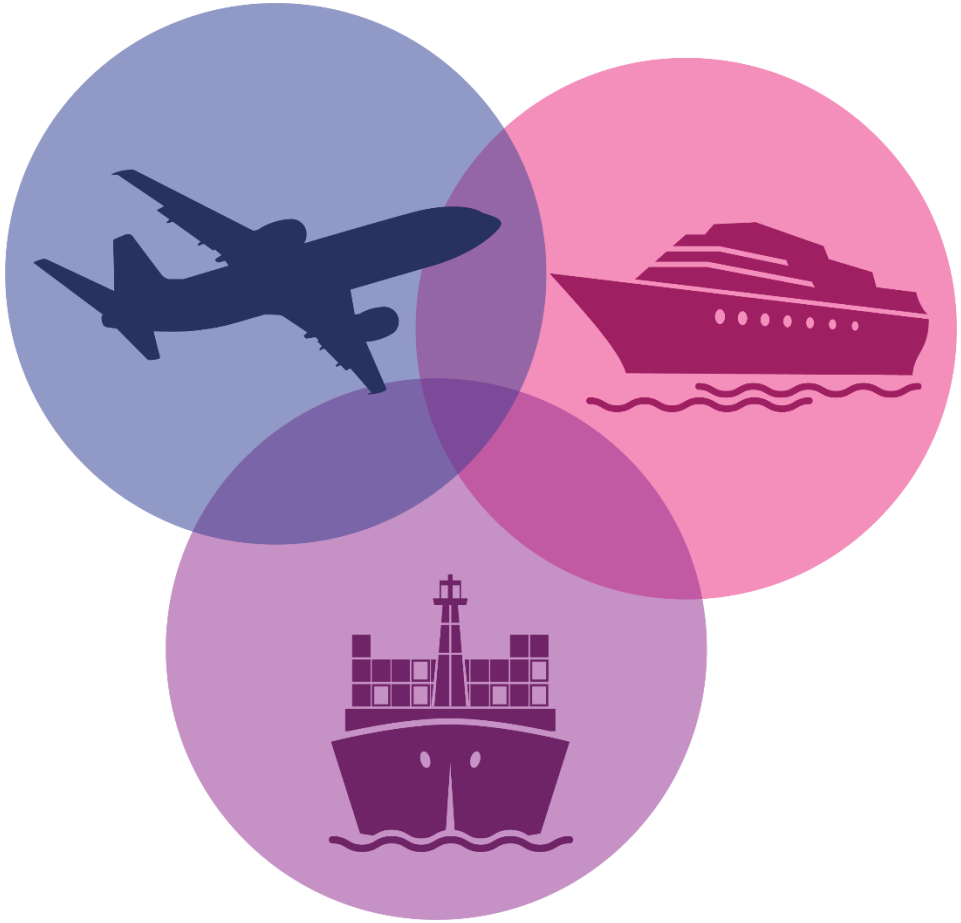
- DHSS EOC (Emergency Operations Center) stood up Jan. 24, 2020. First call among PIOs led by DHSS was that same day after global and national health emergency declarations.
- Since then, JIC has met in alignment with EOC meetings
- Current membership
  - Municipalities, boroughs and local entities
  - School districts and universities
  - State agencies
  - Federal agencies
  - Tribal entities
  - Health care facilities
  - United Way – 2-1-1
- Current Working Groups
  - Schools and child care centers
  - Transportation
  - Local preparedness
  - Health care – providers and patients

Health Care Partner Support

- DHSS Section of Epidemiology (SOE) is hosting regular calls with health care providers, which provide updates on CDC personal protective equipment (PPE), treatment, and testing guidance.
- DHSS SOE is actively sending CDC guidance information out to infection preventionists statewide, HAN and CMO list serves.
- DHSS SOE posts CDC guidance to health care providers and EMS personnel on our website.
- 24/7 call line to support health care providers statewide in caring for patients and considering testing.
- Host calls with all state emergency department directors, hospital CEO's as well as targets audiences such as inpatient care providers.

Cruise Ship and Tourist Season Planning

- DHSS EOC is working with diverse stakeholders across the state to prepare for the upcoming tourist season
- This includes considerations for seasonal workers
- Working with all major cruise companies to coordinate medical concerns
- Cruise line industry has changed its process given recent outbreaks



Local Preparedness and Labs

- Anchorage and Fairbanks state public health laboratories can currently test for the virus that causes COVID-19
- The current test is a reverse-transcription RNA PCR test. The state lab is the only lab that has this capacity
- We do not charge for the test
- The test takes about 4 hours to run once the test is received given no other limitations
- We are reporting on our website total tests completed, current PUIs (test is still pending) and total positive cases
- DHSS will not be sharing the name or the specific location of the patients to protect their health information
- We are working with our federal partners to get additional lab tests and are anticipating increased testing ability

Functional and access needs planning

- Seniors and those with underlying medical conditions are at higher risk of serious illness
- Directed outreach to long term care facilities
- Engaging Alaska Disability Advisory, SDS, Alaska Pioneer Homes, Alaska Commission on Aging and others
- Public messaging regarding medications, supplies and risks
- Sharing CDC preparedness checklists and recommendations for high risk groups
- Developing recommendations for long term care facilities and residential facilities
- Addressing ADA needs for emergency communications

Reinforcing our response

Supplemental budget amendment request

- $4 million in state funds and allow for the receipt of $9 million in federal support
- For COVID-19 mitigation and response efforts

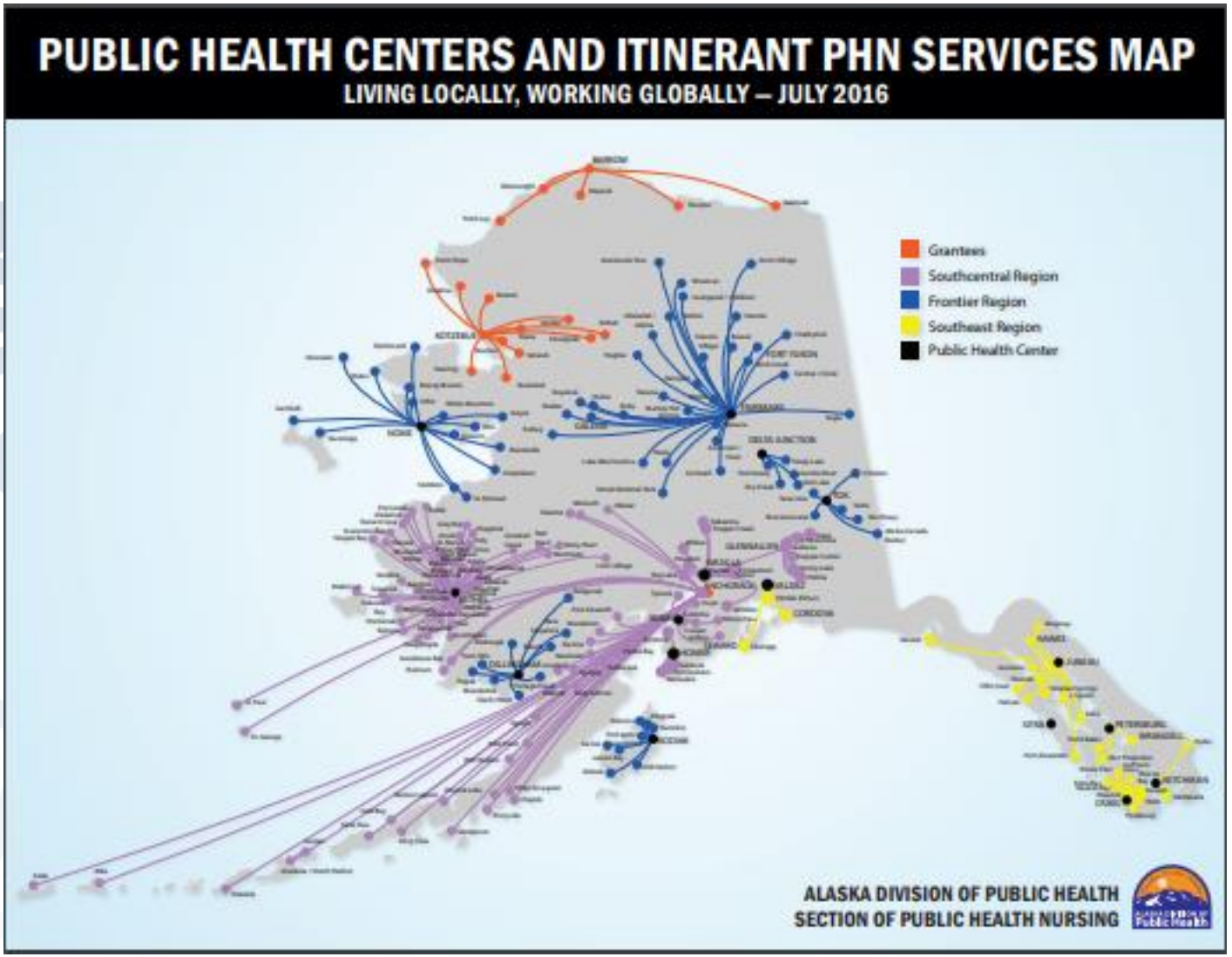
Goals

- Increase statewide coordination with local health care providers, rural communities and statewide partners
- Expedite contact investigations and support to rural communities to detect and respond to cases
- Expedite testing for a faster response

10 additional temporary positions within DHSS

- 5 public health nurses to support hub and spoke: Juneau, Fairbanks, Kenai, Mat-Su and Anchorage to travel to other locations.
- 3 nurse epidemiologists
- 1 microbiologist for testing at Fairbanks public health lab
- 1 emergency manager

Public Health Nursing



Federal Funding

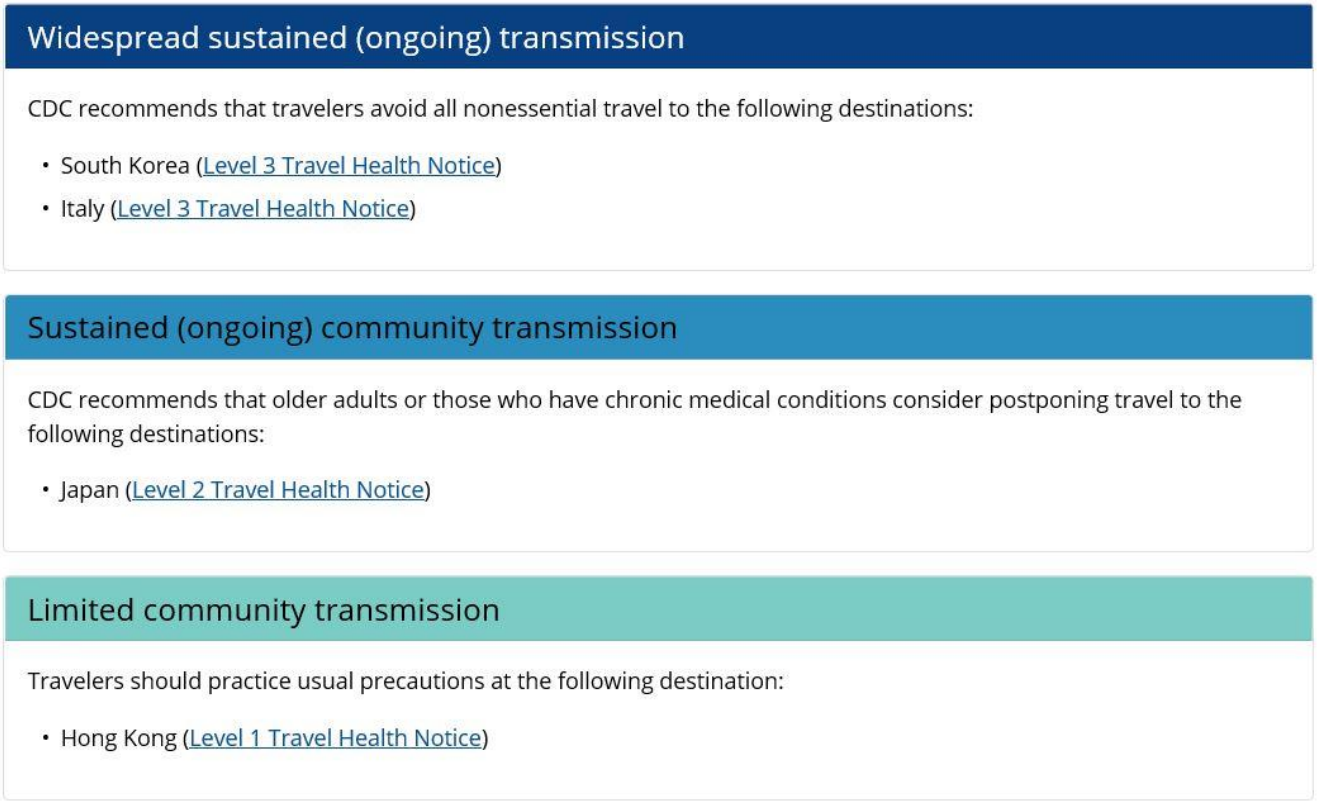
- Working with our federal partners to ensure funding is:
  - New funding
  - Responsive to Alaska's unique needs
  - Allows us to move funds between different categories to be responsive to address needs as they arise

How can Alaskans prepare?

What do your constituents need to know?

Notes on travel

- Visit the CDC webpage: Coronavirus Disease 2019 Information for Travel to search COVID-19 risk by country.



Widespread sustained (ongoing) transmission

CDC recommends that travelers avoid all nonessential travel to the following destinations:

- South Korea (Level 3 Travel Health Notice)
- Italy (Level 3 Travel Health Notice)

Sustained (ongoing) community transmission

CDC recommends that older adults or those who have chronic medical conditions consider postponing travel to the following destinations:

- Japan (Level 2 Travel Health Notice)

Limited community transmission

Travelers should practice usual precautions at the following destination:

- Hong Kong (Level 1 Travel Health Notice)

Individual actions make a difference

- Stay healthy – wash your hands, stay home if sick and get your flu shot.
- Stay calm and informed.
- Develop contingency plans for cases in Alaska, including home, school and work. Become familiar with community mitigation measures that may be needed (social distancing, canceling public events, etc).
- Build a preparedness kit. Visit ready.gov for guidance.

Learn more and stay informed

- DHSS website: coronavirus.Alaska.gov
- CDC website: cdc.gov/coronavirus
- Bookmark COVID-19 webpages from:
  - Local health authorities (i.e. Anchorage Health Department)
  - Local governments
  - School districts
  - Other state departments involved in the response

Note: Minor updates were made to this presentation on March 6, 2020

We're stronger together

Thank you!