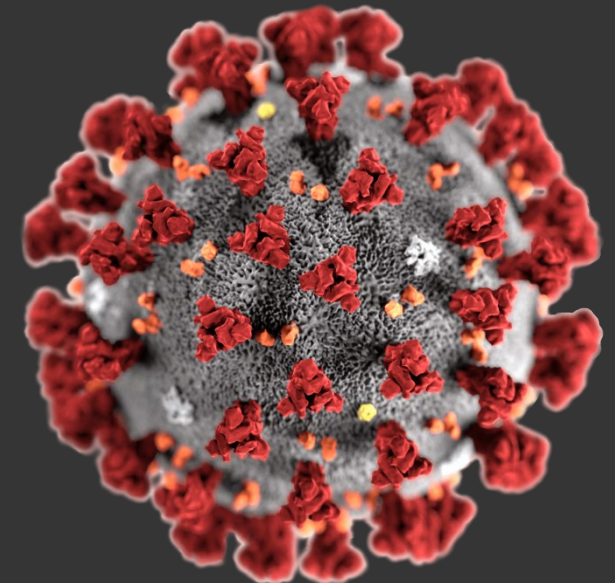
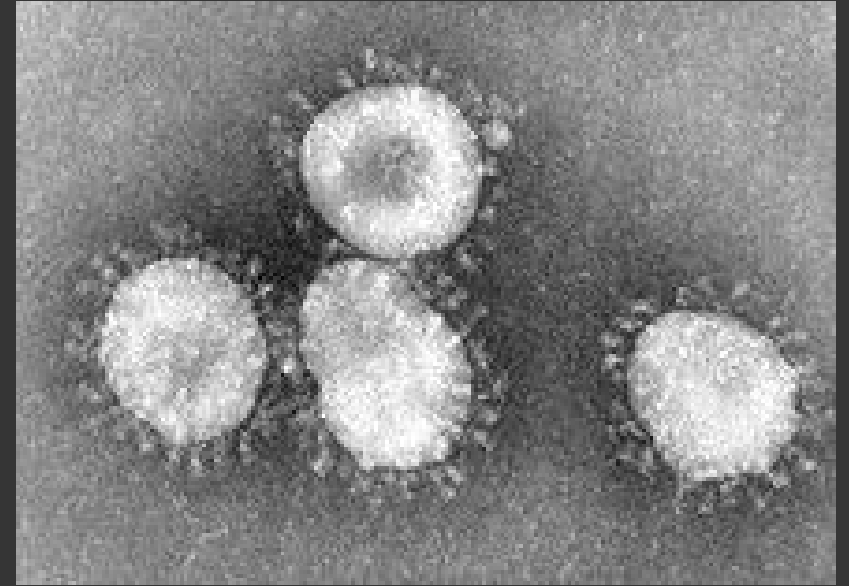


# Coronaviruses

- Coronaviruses are species of virus belonging to the subfamily *Coronavirinae* in the family *Coronaviridae*, in the order *Nidovirales*.
- Coronaviruses are enveloped viruses with a positive-sense single-stranded RNA genome and with a nucleocapsid of helical symmetry. The genomic size of coronaviruses ranges from approximately 26 to 32 kilobases, the largest for an RNA virus.

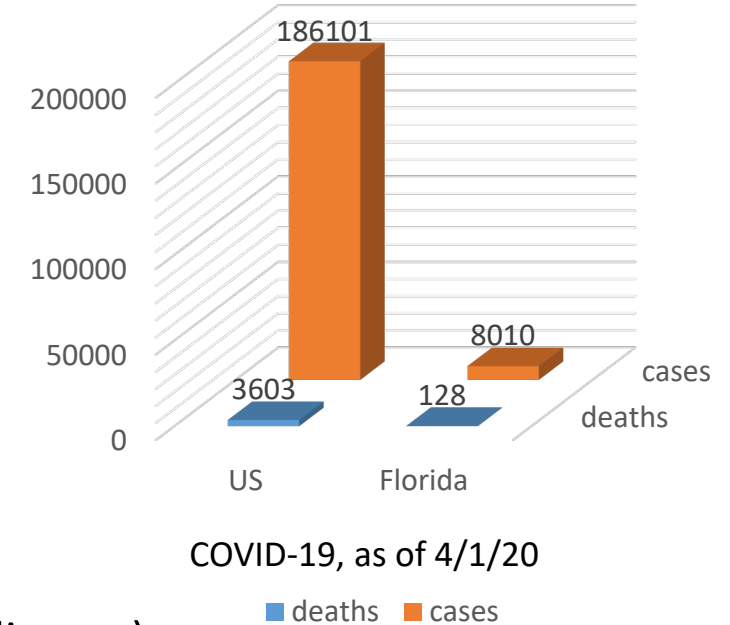


# Coronavirus and Illness

- In domestic and wild animals – common cause of illness, which may range from mild to severe
  - Economically significant coronaviruses of farm animals include porcine coronavirus (transmissible gastroenteritis coronavirus, TGE) and bovine coronavirus, which both result in diarrhea in young animals.
- In humans – one of the most common causes of upper respiratory infections
  - Alphacoronaviruses of humans: *Human coronavirus 229E*, *Human Coronavirus NL63*.
  - Betacoronaviruses of humans: *Human coronavirus HKU1*, *Human coronavirus OC43*, and SARS, MERS, and COVID-19.

# COVID-19

- Data from first 1,099 cases - China
  - Median age: 47 years
  - Wildlife contact: 1.2%
  - Median incubation period: 3 days (range 0-24 days [CDC: 2-14 days])
  - Symptoms/Signs:
    - Fever - 88%
    - Cough - 68%
    - Sputum production – 33%
    - Lymphopenia – 82%
    - CXR/CT – bilateral patchy shadowing – 9%; ground glass opacity – 5%
  - Possible risk factors: diabetes – 7.4% (16% among those with severe disease)
  - ICU admission: 5%
  - Mortality: 1.36% among patients with symptomatic infection
- Japan
  - 565 citizens repatriated from Wuhan: 8 positive for virus, 4 of whom were asymptomatic
- CDC
  - Increased risk of infection in older persons, underlying health conditions (including diabetes), compromised immune system



# COVID-19 in Florida

Age group	Cases		Hospitalizations		Deaths	
0-4 years	27	0%	1	0%	0	0%
5-14 years	46	1%	2	0%	0	0%
15-24 years	579	8%	13	1%	0	0%
25-34 years	1,137	15%	41	4%	1	1%
35-44 years	1,180	16%	93	9%	3	3%
45-54 years	1,352	18%	140	14%	3	3%
55-64 years	1,308	17%	192	19%	9	9%
65-74 years	1,031	14%	233	24%	26	26%
75-84 years	616	8%	193	19%	35	35%
85+ years	215	3%	82	8%	24	24%
Unknown	4	0%	0	0%	0	0%
<b>Total</b>	<b>7,495</b>		<b>990</b>		<b>101</b>	

# Routes of Transmission

- Sources
  - Respiratory secretions (most common)
    - Present in secretions for several days before onset of symptoms; can persist in secretions for week or more after resolution of symptoms
    - Can be present in persons who never have symptoms (up to 50% of infected persons may be asymptomatic, but can excrete the virus)
  - Stool
  - Urine
- Routes of transmission
  - Close contact
    - Droplets, from cough or sneeze, present briefly in the air, and then on surfaces
  - Airborne
    - Can “drift” in air for several hours
      - Infection of choir in Washington State: 60 people together at choir rehearsal, none symptomatic
        - 45 ill, 2 died

# Detection

- Detection of virus itself
  - Genetic approach – detection of virus itself
    - Currently requires RT-PCR, which remains standard assay for the virus
      - Technically difficult, requires special instrumentation, appropriate operator safety precautions
      - National problem with shortage of supplies
        - Lack of swabs for nose and throat
        - Lack of reagents to run machines
        - Lack of Personal Protective Equipment for people collecting samples
    - Rapid tests approved, but generally not available
  - Antibody approach – looking for presence of antibodies to see if people have been infected
    - Generally requires blood sample
    - Assays still under development; rapid test approved, but generally not available





# SCCAHS Response to COVID-19

- NIOSH Center addresses worker health and safety topics in the **agriculture, fishing, and forestry** industries throughout Southeastern coastal states
- Key networks to share information through during pandemic:
  - SCCAHS stakeholders, including but not limited to:
    - Florida Department of Agriculture and Consumer Services
    - Florida Farm Bureau
    - Florida Fruit and Vegetable Association
    - Farmworker Association of Florida
  - UF Institute of Food and Agricultural Sciences (IFAS) Extension
  - Extension Disaster Education Network (EDEN)
    - <https://extensiondisaster.net/>
    - Florida specific information: <https://piecenter.com/resources/natural-disaster-resources/>



# SCCAHS Response to COVID-19

- Hosted annual Community Stakeholder Advisory Board Meeting virtually on March 12
  - Panel discussion topic: stress and resilience among ag workers
  - Shared concerns of COVID-19 in context of resiliency
- **March 16:** started consistently sharing COVID-19 information on Facebook from credible sources such as CDC, WHO, UF and FL Department of Health
- Created webpage on SCCAHS website with COVID-19 resources in English and Spanish. Includes:
  - General COVID-19 information from CDC
  - Information on stress and resiliency during a pandemic
  - Disaster preparedness resources
  - <http://www.sccaahs.org/index.php/ag-health-safety-topics/disaster-preparedness-resiliency/>

# SCCAHS Response to COVID-19

- Providing information on development of portable handwashing stations available to those in agriculture, fishing, and forestry (AFF)
- Hosting virtual webinars and meetings with stakeholders regarding COVID-19
- Conducted interviews with key stakeholders about COVID-19 impacts
- Developing survey to identify health/economic impacts of COVID-19 on AFF

