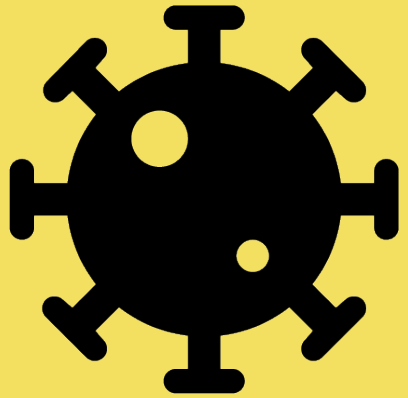


COVID-19 Virtual Training Academy



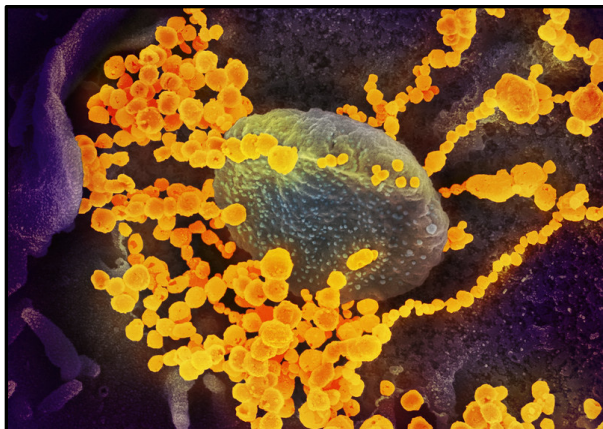
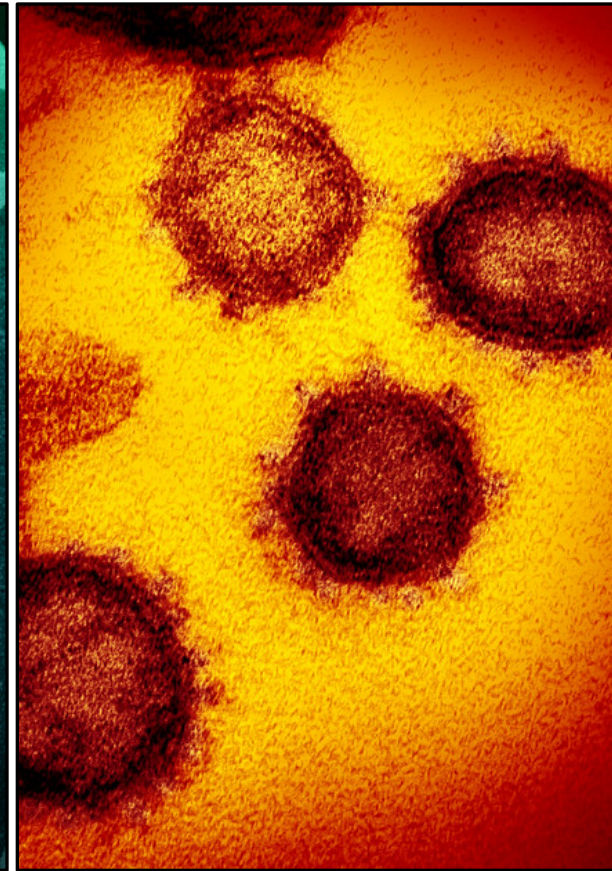
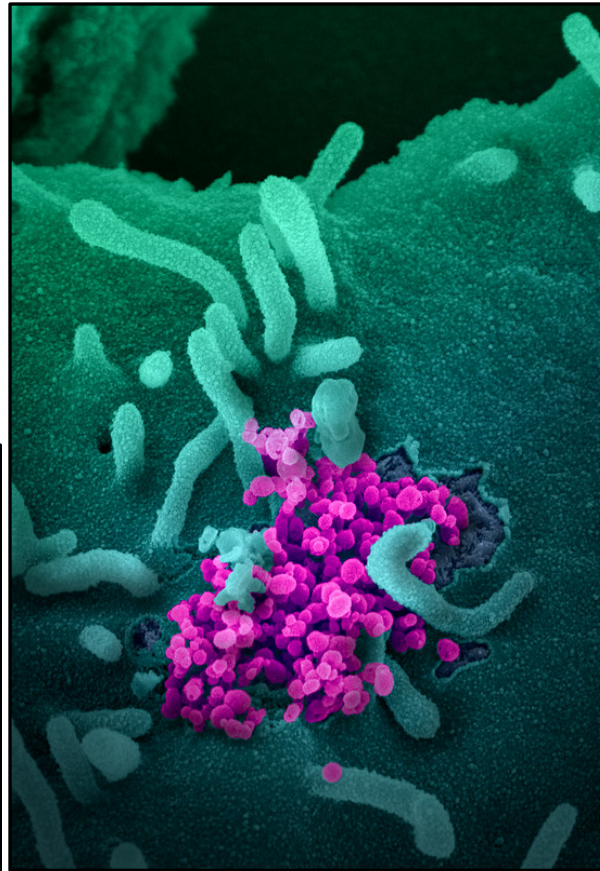
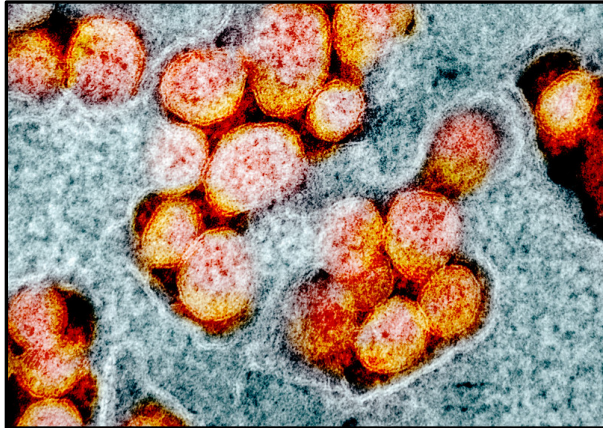
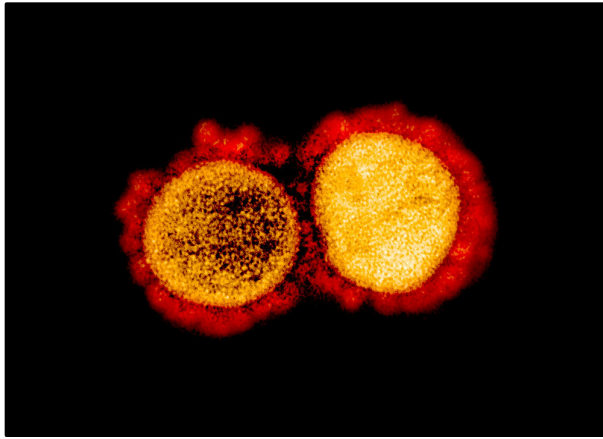
Basic Epidemiology of COVID-19

Learning Objectives

- Define SARS CoV-2, “novel coronavirus” and COVID-19.
- List the most common symptoms of COVID-19.
- Describe the incubation and infectious periods of COVID-19.
- Describe how to prevent COVID-19 transmission.
- Describe the current geographic and demographic distribution of COVID-19.

What is COVID-19?

- The disease caused the novel coronavirus that emerged in Wuhan, China in December 2019.
- Some coronaviruses cause colds or other mild respiratory illnesses.
- Others cause more serious diseases, including Severe Acute Respiratory Syndrome (**SARS**) and Middle East Respiratory Syndrome (**MERS**).



SARS CoV-2

The "novel coronavirus", under an electron microscope. Can you see the *corona*?

Quiz question:

Why do we call it SARS CoV-2 (emphasis on two)?

- a) Because it is twice as infectious as any other coronavirus
- b) Because it is the second coronavirus known to cause severe acute respiratory syndrome (the first being the SARS CoV1 in 2003)

Symptoms of COVID-19 include:



Cough

Difficulty breathing

Fever

Muscle pain

Chills

Repeated shaking

Headache

Sore throat

Loss of taste or smell

Quiz question:

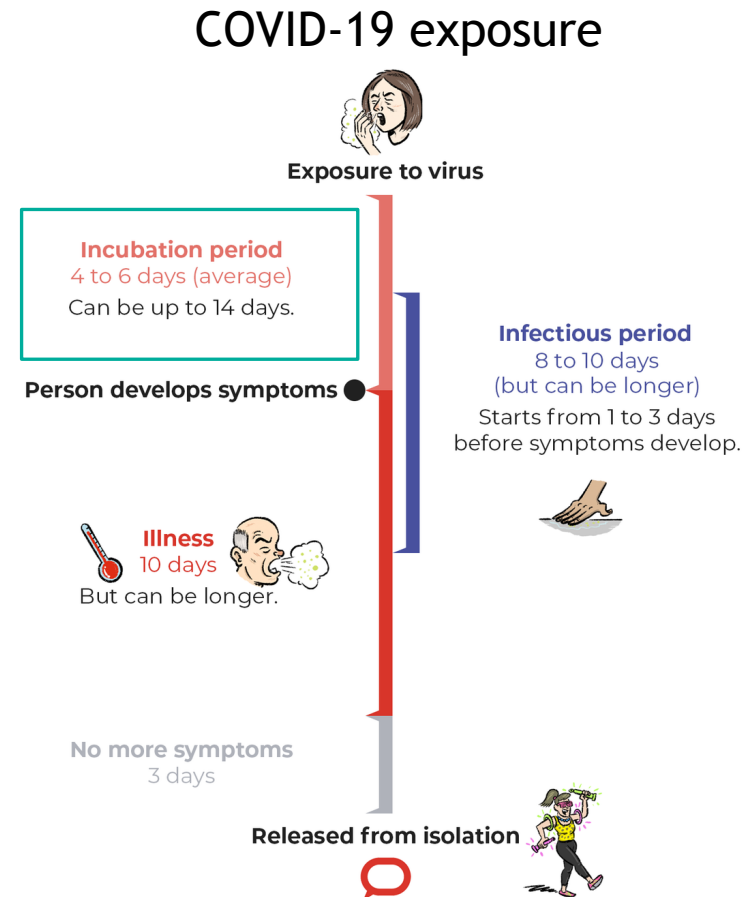
“**Asymptomatic**” means that someone shows no signs or symptoms of infection. Which of the following best describes our current understanding of COVID-19:

- a) No one who has COVID-19 is totally asymptomatic
- b) 1 in 10 people with COVID-19 are thought to be asymptomatic
- c) 1 in 4 people with COVID-19 are thought to be asymptomatic

COVID-19 Incubation Period

Incubation period: the time from exposure to an infectious agent until signs and symptoms of the disease appear.

The incubation period for COVID-19 is usually between **4 to 6 days** (but can be up to 14 days).



How does COVID-19 spread?

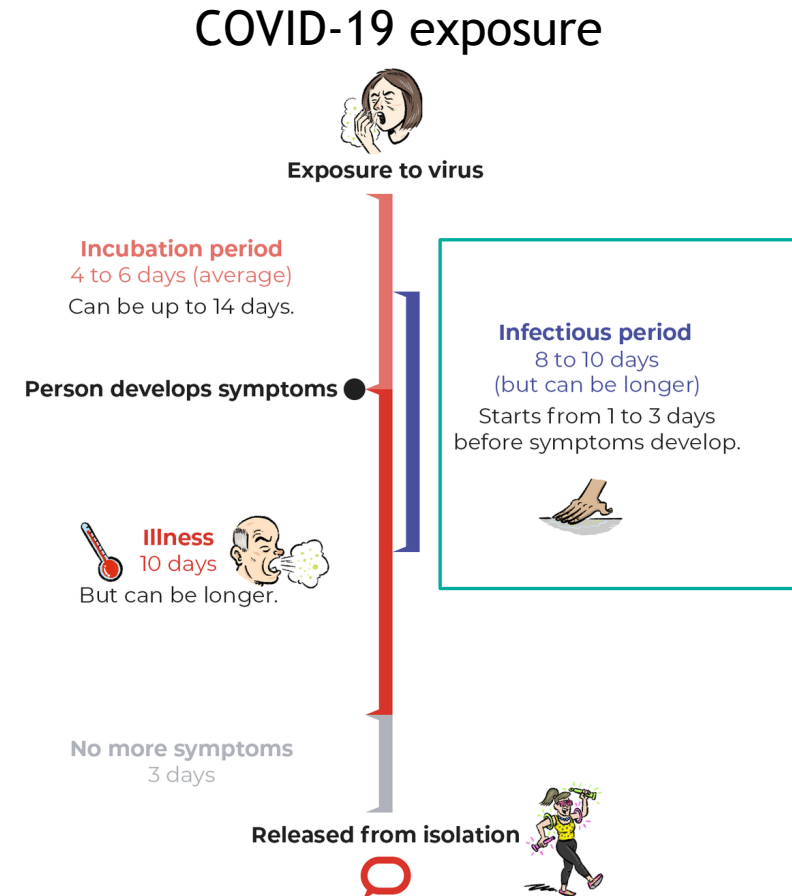
- Between people who are in close contact, within about 6 feet
- Mostly by respiratory droplets produced when an infected person coughs, sneezes or talks
- Possible transmission through surfaces and aerosolization



COVID-19 Infectious Period

Infectious period: The time when someone who is infected can spread the infection to others, typically **8 to 10** days

People with COVID-19 may be contagious before they have symptoms, when they have symptoms *and* up to 3 days after symptoms resolve.



How can the public prevent the spread of COVID-19 ?

Stay at home

Isolate yourself if you are sick

Wear a mask in public

Wash your hands and disinfect surfaces

Quiz question:

You may have heard that people who have been in close contact with someone should quarantine for 14 days, even when they have no symptoms. Why 14 days?

- a) Two weeks is the amount of vacation time most employers give
- b) The maximum time of the incubation period is thought to be about 14 days
- c) Symptomatic cases always recover after 14 days

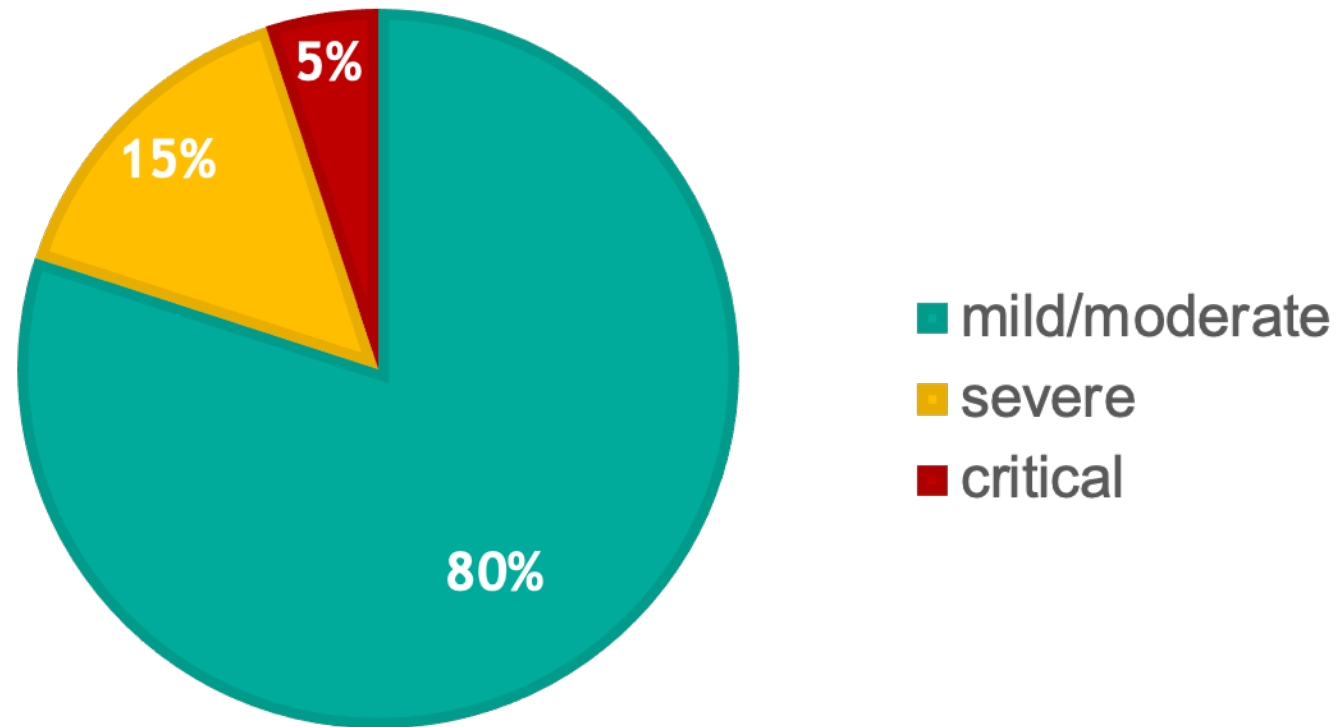
Quiz question:

Which of the following best describes our current understanding of COVID transmission?

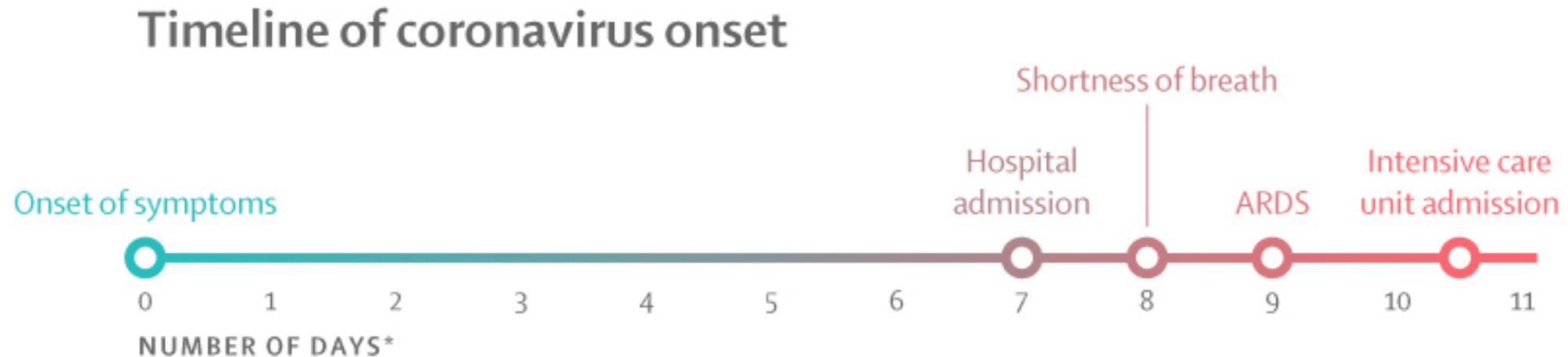
- a) An infected person can only transmit to others while they have symptoms
- b) An infected person can only transmit to others during the incubation period
- c) It is possible for people who have no symptoms and people who have symptoms to transmit to other people

Most people with COVID-19 have only mild to moderate illness.

Severity of illness among person with COVID-19



If symptoms become severe, it can happen quickly - usually around 7-10 days after onset.



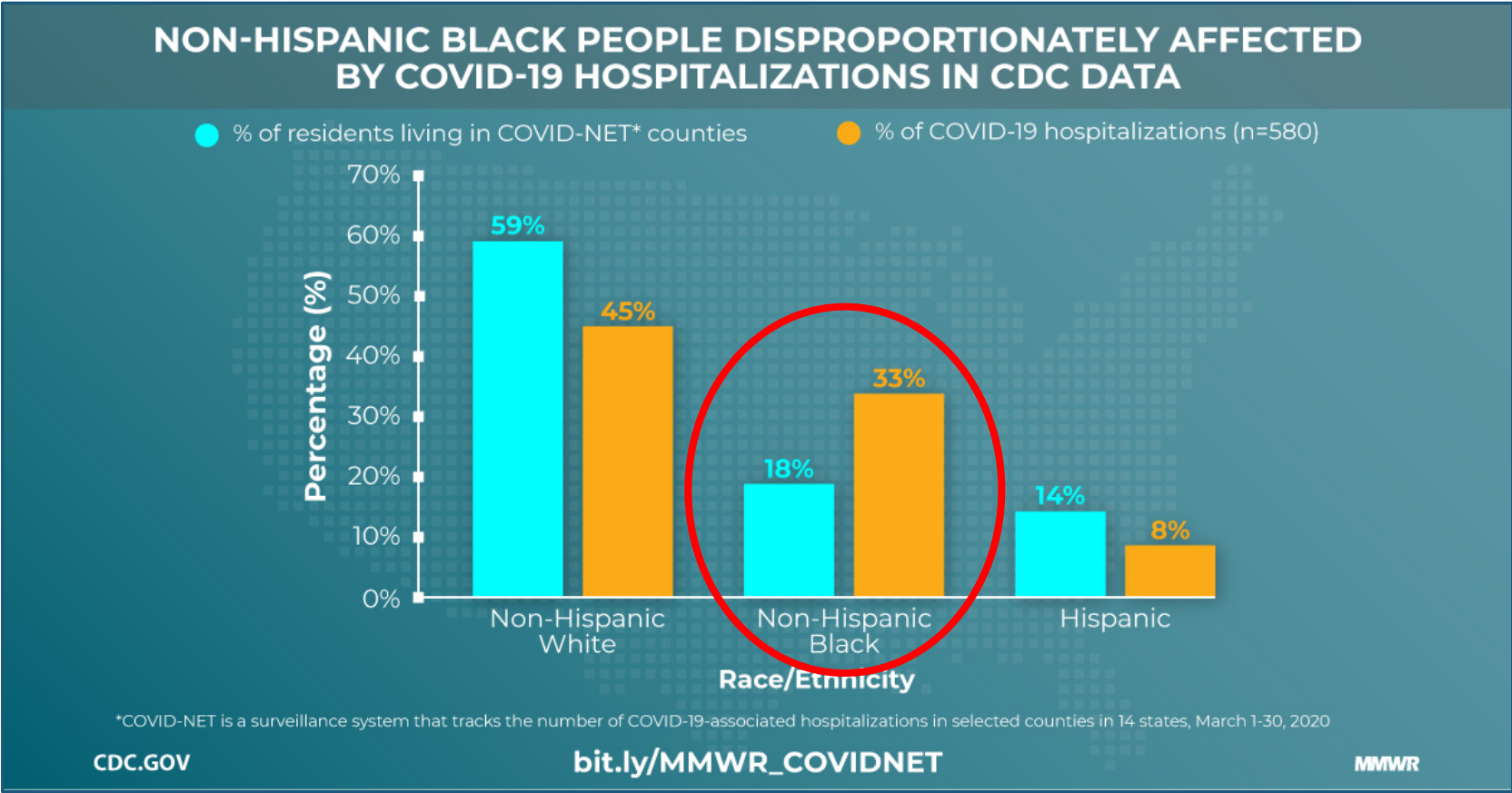
Persons with high risk for developing severe COVID illness

**Based on what we know now,
people who:**

- Are aged 65 years and older
- Live in a nursing home or long-term care facility
- Have underlying medical conditions, particularly if not well controlled



As common with other illnesses, racial and ethnic minorities bear a disproportionate burden of disease.

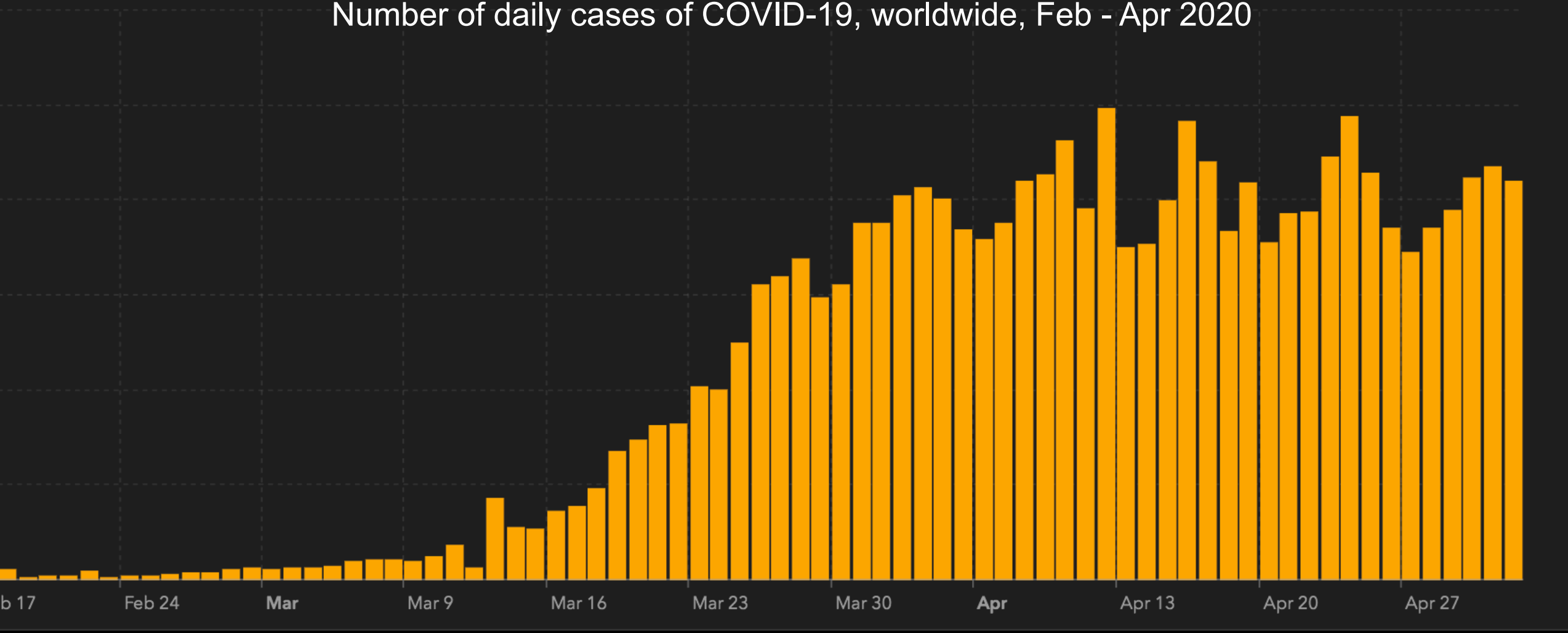




Globally, more than 3.5 million cases of COVID-19 in the past 5 months. 247,000 people have died.

Total number of cases of COVID-19, worldwide, Dec 2019– May 2020

Number of daily cases of COVID-19, worldwide, Feb - Apr 2020



New cases increased rapidly around the world in early March reaching a peak by late April.

Still . . . 83,700 new cases were reported on May 2.

The US has more cases than any other country.

China – where the pandemic began – now has the 11th highest total case count.

1,138,690 US

216,582 Spain

210,717 Italy

183,501 United Kingdom

168,518 France

165,183 Germany

134,687 Russia

126,045 Turkey

97,424 Iran

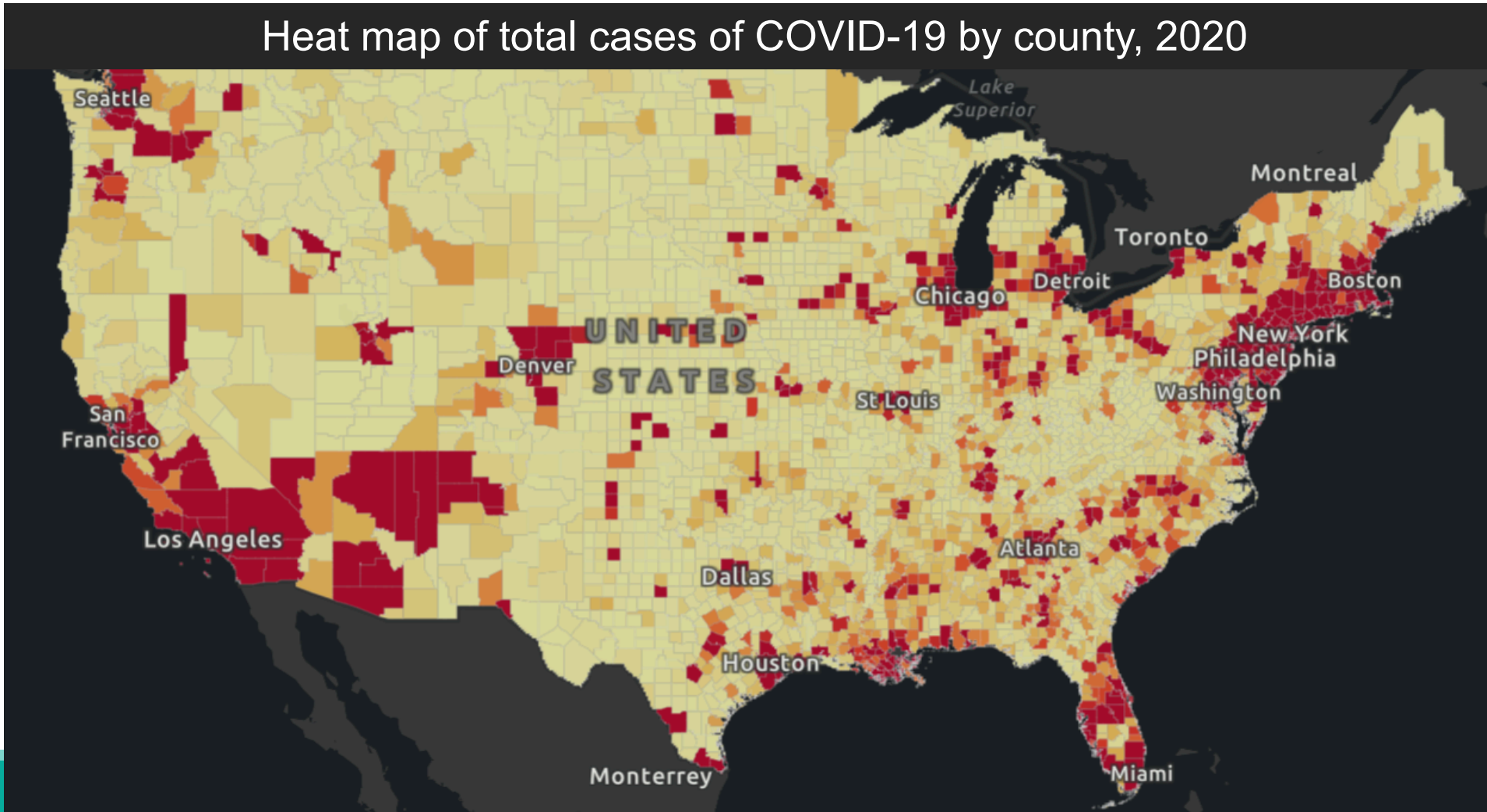
97,100 Brazil

83,959 China

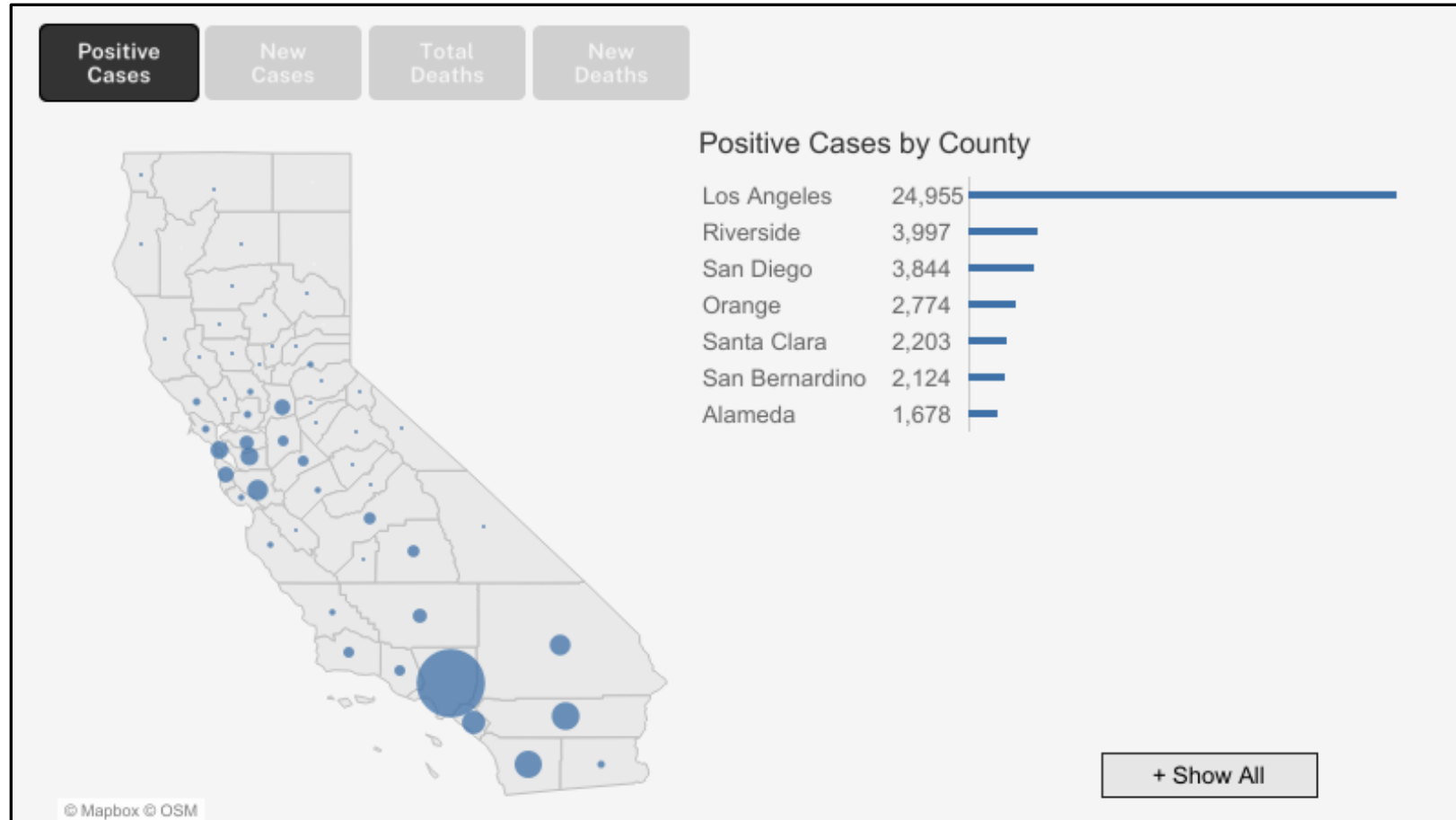
58,014 Canada

Countries
with the
most total
cases of
COVID-19

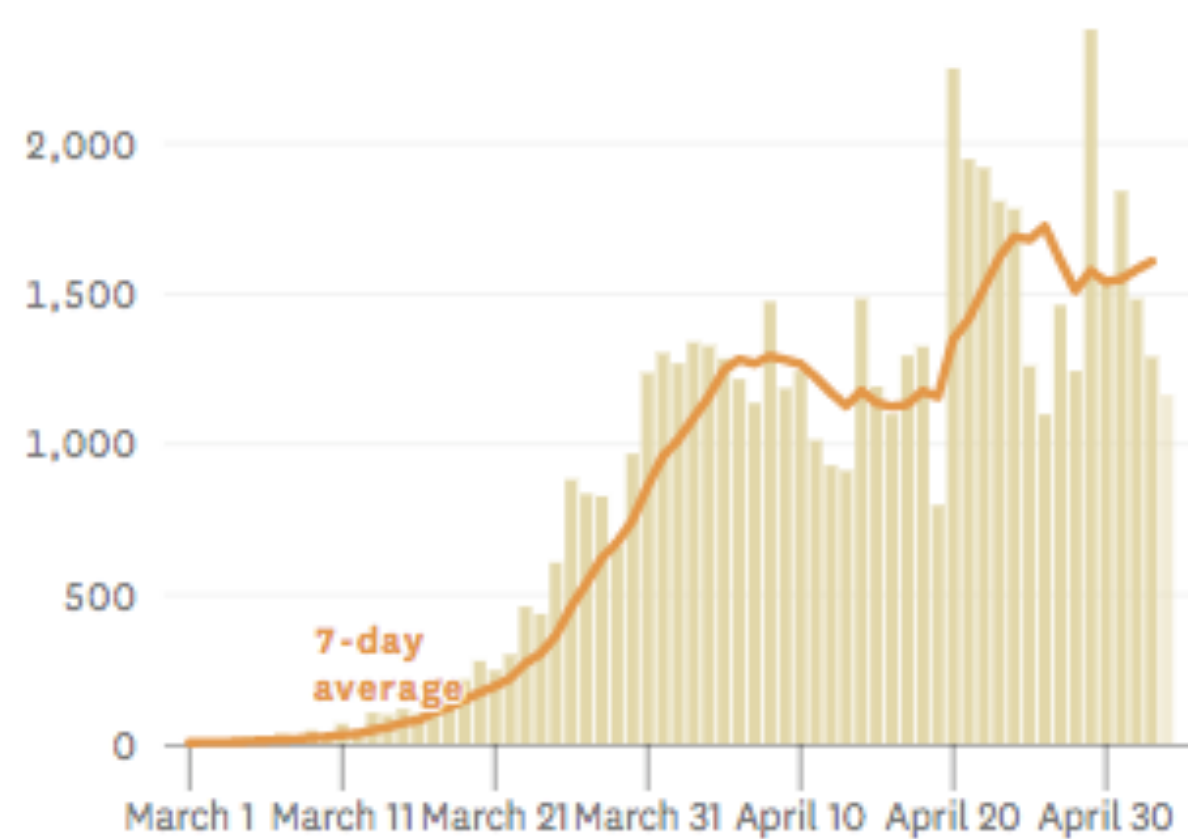
COVID-19 has reached all 50 states. Counties in NY, MI, and IL, CA have reported the most cases and deaths.



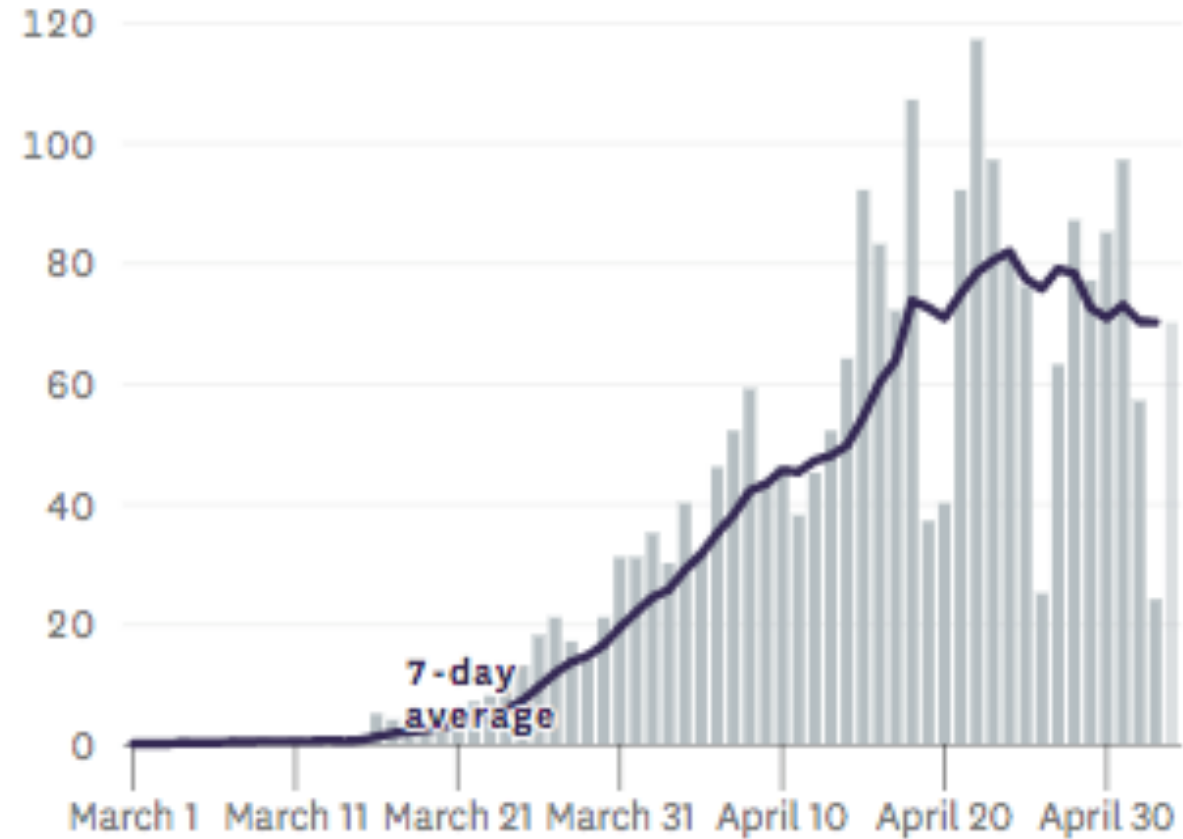
COVID-19 cases have been reported across CA, the majority in L.A.



New cases



Deaths



New reported cases and deaths in CA appear to have peaked.

Racial demographics of COVID-19 in CA provide a more complete picture

Percentage of Cases and Deaths
by Race and Ethnicity, Ages
18-49, CA.

Race/Ethnicity	Percent Cases	Percent Deaths	Percent CA population
Latinx	55%	68%	43%
White	20%	8%	31%
Asian	10%	7%	16%
African American/Black	5%	13%	6%
Native American	0.2%	1.5%	0.6%
Pacific Islanders	1.8%	0.8%	0.8%

Percentage of Cases and Deaths by Race and Ethnicity, Ages 18-49, CA.

Questions?

Learning Objectives Review

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