# COVID-19: 2019 Coronavirus Disease

## *Harford County Health Department Briefing, 3/18/20*

*Russell Moy, MD, MPH, Health Officer*

FDA Photo

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# COVID-19: 2019 Coronavirus Disease
## *What is it?*

- COVID-19 is a newly discovered strain of Coronavirus, not previously identified in humans.
  - Coronaviruses are a large family of viruses that are very common, ranging from the common cold to serious pandemic outbreaks, like SARS and MERS.
  - Transmitted through airborne droplets when people cough or sneeze.
  - Symptoms are fever, coughing, shortness of breath.
  - High risk patients: Recent travel to China, Iran, Italy, S. Korea, Japan; people age 60+ with chronic, underlying medical conditions; people with compromised immune systems.
  - No specific medication or vaccine currently available.
- UPDATED 3/18/20 (Numbers are changing daily):
  - Maryland: 85 cases.
  - U.S.: >6,500 cases, >100 deaths
  - Worldwide: >200,000 cases, >8,200 deaths
- Seasonal flu comparison
  - Maryland: 49 deaths YTD. U.S.: 22,000 deaths YTD.
- Mortality rates:
  - COVID-19 is 1%, Seasonal Flu is 0.1%, SARS is 10%, MERS is 35%



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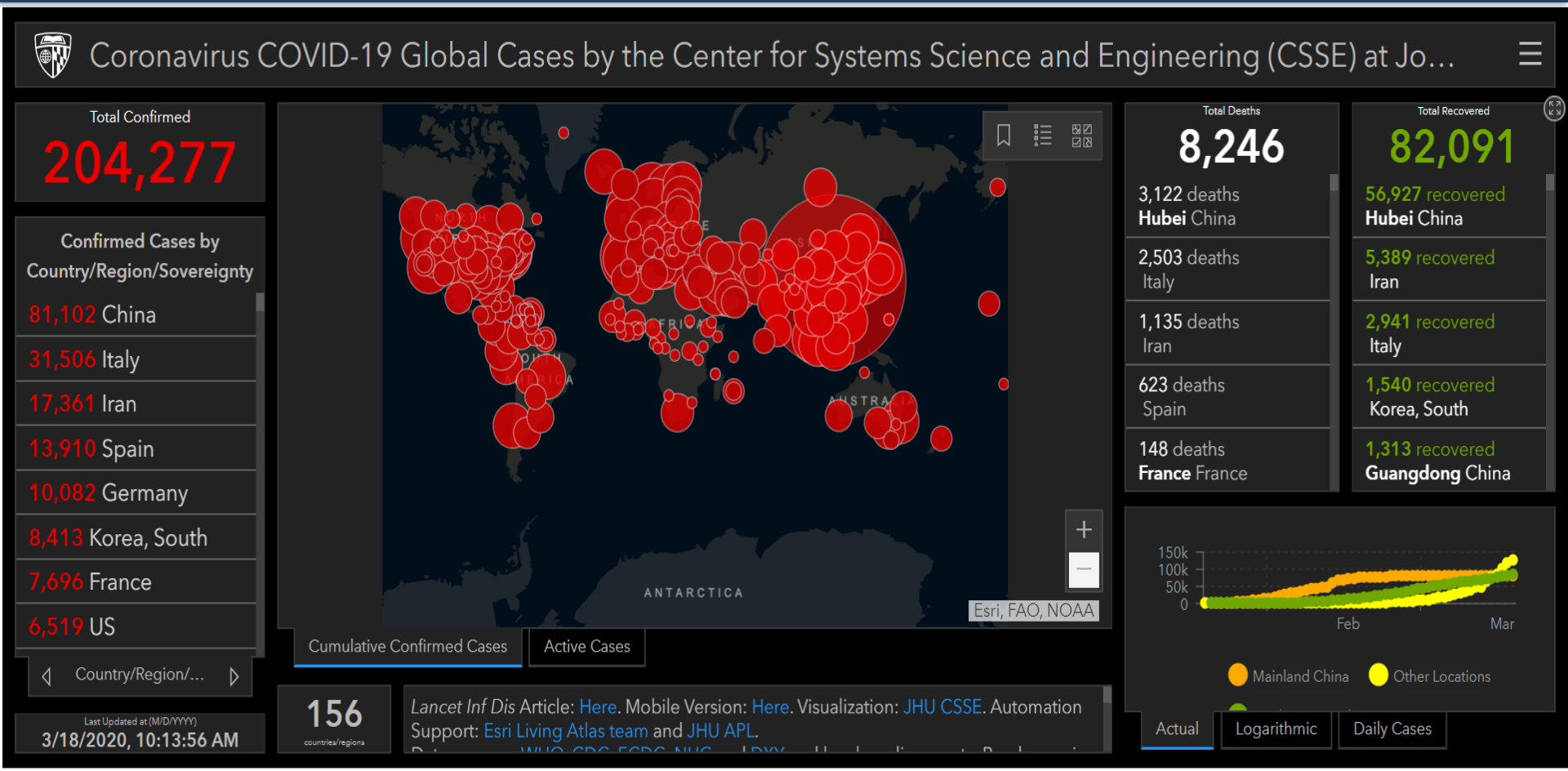
# Johns Hopkins Global COVID-19 Count

## *Most Up-to-Date International & National Counts*




https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6



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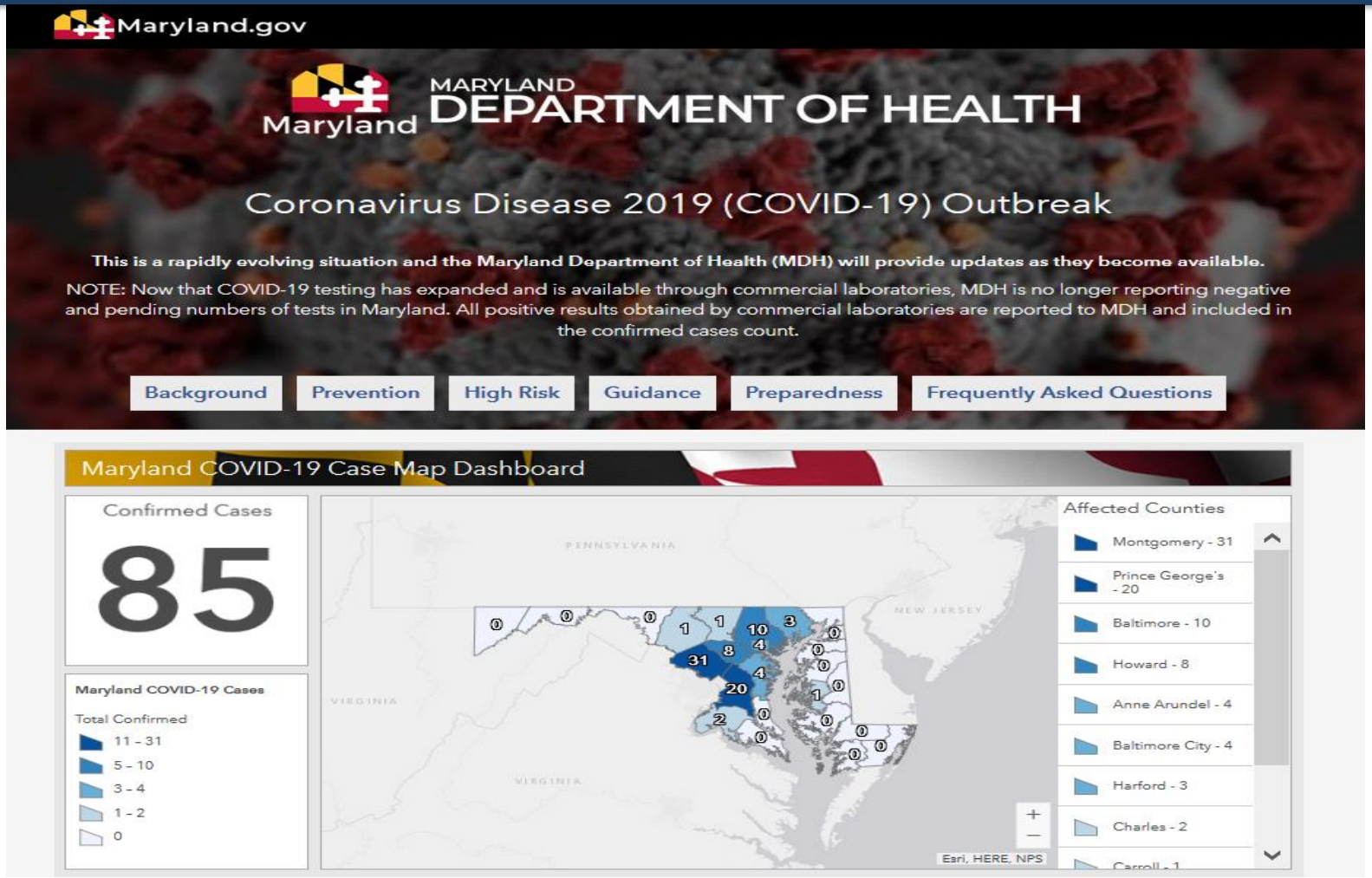
# Maryland Dept of Health (MDH) COVID-19 Count
## *Most Up-to-Date State & County Counts*




https://coronavirus.maryland.gov/



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# COVID-19: 2019 Coronavirus Disease
## *Frequently Asked Questions*

- ***How can I tell the difference between the symptoms of COVID-19 and other conditions, like the flu, common cold, or even seasonal allergies?***
  - Answer: You often cannot tell the difference between any of these conditions early on. They often present very much alike – with cough, fever, and shortness of breath.
- ***Should people with mild respiratory symptoms, who are otherwise healthy, need to be tested for COVID-19?***
  - Answer: No, they should stay home, monitor their temperature and symptoms, and check in with their provider, as needed. They do not need to bested.
- ***Should patients with severe symptoms, such as difficulty breathing, seek care?***
  - Answer: Yes, these patients should call and seek care immediately. Older patients with underlying medical conditions or who are immunocompromised should contact their healthcare provider early. These patients will probably need to be evaluated in the emergency department.



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## *Frequently Asked Questions*

- ***Why don't we just test everyone for COVID-19?***
  - Answer: Widespread testing helps experts understand the epidemiology and prevalence of COVID-19 that could help future patients, but does not affect your course of treatment. The reason widespread testing isn't being done now is because of a shortage of test kits at the national level and the need to preserve test kits for the most seriously ill at the local level.
- ***What happens if I come into close contact (i.e., within 6 feet of someone for at least 5 minutes) or physical contact (e.g., shaking hands) with a person later found to be positive for COVID-19?***
  - Answer: Asymptomatic individuals (those with no symptoms) exposed to a person with confirmed COVID-19 should self-quarantine and self-monitor for 14 days from the day of symptom onset.
- ***What happens if I come into contact with a person who was exposed to another person later found to be positive for COVID-19?***
  - CDC does not recommend testing, symptom monitoring, or special management for people exposed to COVID-19 (such as in a household), i.e., "contacts of contacts;" these people are not considered exposed to COVID-19.

# COVID-19: 2019 Coronavirus Disease
## *Summary of Events for Past 13 Days (March 5-18)*

- **March 5:** First cases of COVID-19 in Maryland announced (3 cases in Montgomery County).
- **March 8:** First case of COVID-19 in Harford County (Maryland's 4th case).
- **March 12:** First case of COVID-19 community transmission case (Maryland's 12th case).
- **March 14**: 2nd Harford County COVID-19 case (Maryland's 27th case).
- **March 16:** Maryland's case count up to 37.
- **March 17**: Maryland's case count up to 57.
- **March 18:** Maryland's case count up to 85 (including Harford County's 3rd case).
  - Age Range: Under Age 18: 0 - Age 18-64: 60 - Age 65+: 25
  - Travel-related cases: 32% - Community transmission cases: 68%
  - MDH no longer announcing individual cases.
  - All MDH updated totals will be found at: https://coronavirus.Maryland.gov

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## *Summary of Actions from Governor, County Executive & CDC*

- **March 5**: Governor declared a State of Emergency.
- **March 12:** Governor announced major actions to protect public health, limit spread of COVID-19 pandemic, including closing senior centers and closing schools through 3/27/20.
- **March 13:** County Executive Glassman issued a statement to close county senior centers until further notice; all parks and recreation programs, activities, and facilities closed; county government event cancelled through March 31; meetings of county advisory board cancelled through March 31; and out-og-state travel for county employees suspended.
- **March 15:** CDC recommends that for the next 8 weeks, that gatherings of 50 people or more be cancelled or postponed. President Trump advises the public to avoid groups of more than 10 people, especially those at highest risk, including older people and those with underlying medical conditions.
- **March 16:** Governor's executive order says that large gatherings and events of more than 50 people are prohibited at all locations and venues, and that restaurants, bars, fitness centers, and theaters are to close.
- **March 18:** Maryland General Assembly closes.

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## *Is this an overreaction? Reviewing the basics.*

- ***What is an epidemic?***
  - Answer: Epidemic is the rapid spread of disease to a large number of people in a given population within a short period of time.
- ***What is a pandemic?***
  - Answer: Pandemic is an epidemic occurring worldwide, or over a very wide area, crossing international boundaries, and affecting a large number of people.
  - The World Health Organization (WHO) declared COVID-19 a pandemic on 3/11/2020.
- ***What are the 2 responses to a pandemic?***
  - First response is containment. As cases appear, you isolate each person, then do contact tracing, and quarantine the contacts. (This worked for SARS and Ebola.)
  - Second response is mitigation. If containment cannot stop the virus, eventually you get "community spread" or "community transmission." People are infected without knowing how they were exposed, so you can't quarantine all contacts. All you can do is slow the epidemic down so it won't peak massively and quickly, overloading our hospitals and healthcare facilities. You close schools, cancel mass gatherings, or as some countries are doing, shut down whole cities when there's community spread.



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# COVID-19: 2019 Coronavirus Disease
## *Containment & Mitigation*

- ***Which of the 2 strategies – containment or mitigation – do you use?***
  - Answer: You use both, trying to balance both, depending on local factors.
  - Up until now, we had been focused on containment – if someone gets the disease, we identify the contacts, quarantine them, then monitor them.
  - But the state and county are now both moving quickly to the mitigation stage – and that is why you are seeing schools closing, mass gatherings being cancelled, and other social distancing interventions.
- ***What exactly is mitigation?***
  - Answer: Mitigation are interventions, like social distancing, that slow the transmission of the disease so you can: (1) protect individuals at risk for severe illness (e.g., older people with underlying medical conditions), and (2) protect the critical healthcare infrastructure and their workers.
- ***What is social distancing?***
  - Answer: Social distancing is a public health practice that keeps sick people from coming in close contact with healthy people in order to reduce the chances for transmitting disease.



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# COVID-19: 2019 Coronavirus Disease
## *Flattening the Curve*

- ***What is social distancing? (continued)***
  - Social distancing includes large-scale measures like cancelling group events or closing schools, as well as individual decisions, such as avoiding crowds.
  - The goal of social distancing is not to stop the virus; instead, the goal is to slow down the rate of virus transmission to reduce the chances of infecting high-risk populations and reduce the burden on the health care system.
  - This is what the experts mean when they say "flattening the curve."
- ***Exactly, what curve is being flattened?***
  - Answer: The curve they're talking about is the "epidemic curve." also known as the epi curve – which is a statistical chart that shows the number of new cases reported over time.
  - For example, the epi curve for Maryland's COVID-19 cases would show 3 cases reported on March 5th (which would be Day 0 of the curve), then 2 more cases, including Harford County's case on March 8th which would be Day 3 of the curve, and so on until today, March 18th, when there were 28 cases, for a total of 85 cases.



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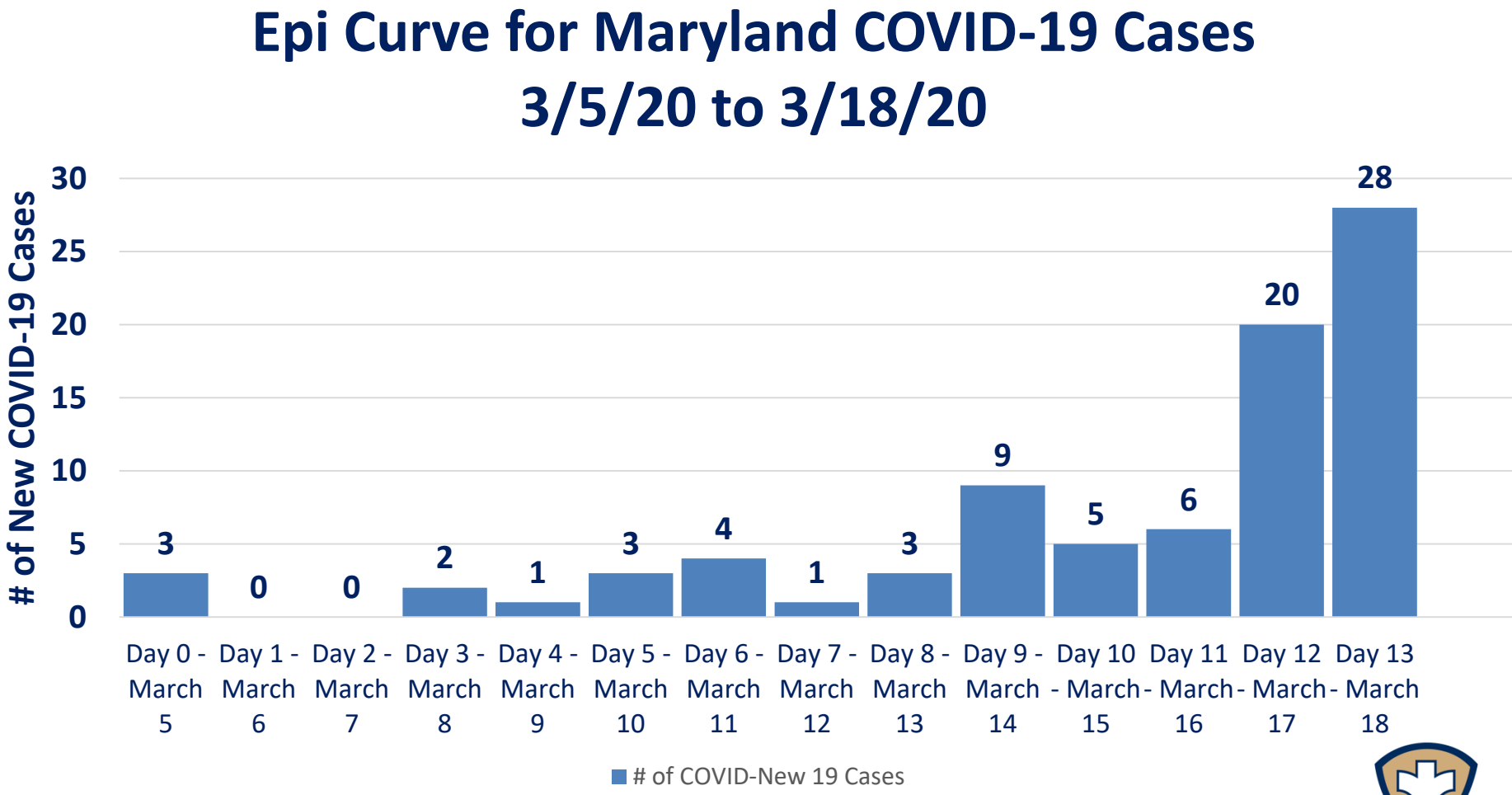
## *The Epi Curve*



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# COVID-19: 2019 Coronavirus Disease
## *How do we know social distancing works?*

- ***How do we know that social distancing even works with pandemics?***
  - Answer: There have only been a few pandemics in the last century, but the one that experts are comparing this one to is the 1918 Pandemic (known as the Spanish Flu, a misnomer).
  - The 1918 Pandemic resulted in 600,000-700,000 deaths in the U.S. and up to 100 million deaths worldwide. Because there was no vaccine and no medications for the 1918 virus (similar to COVID-19 which has no vaccine and no medication), the world had to rely on Non-Pharmaceutical Interventions (NPIs) that included quarantine of infected households, closure of schools, bans on public gatherings, and other social distancing measures.
  - But a closer study showed that the effectiveness of these social distancing interventions, measured as total excess deaths, varied widely among U.S. cities. And they varied based on how aggressive a city was in putting into place these social distancing interventions in the critical first few days of the epidemic.

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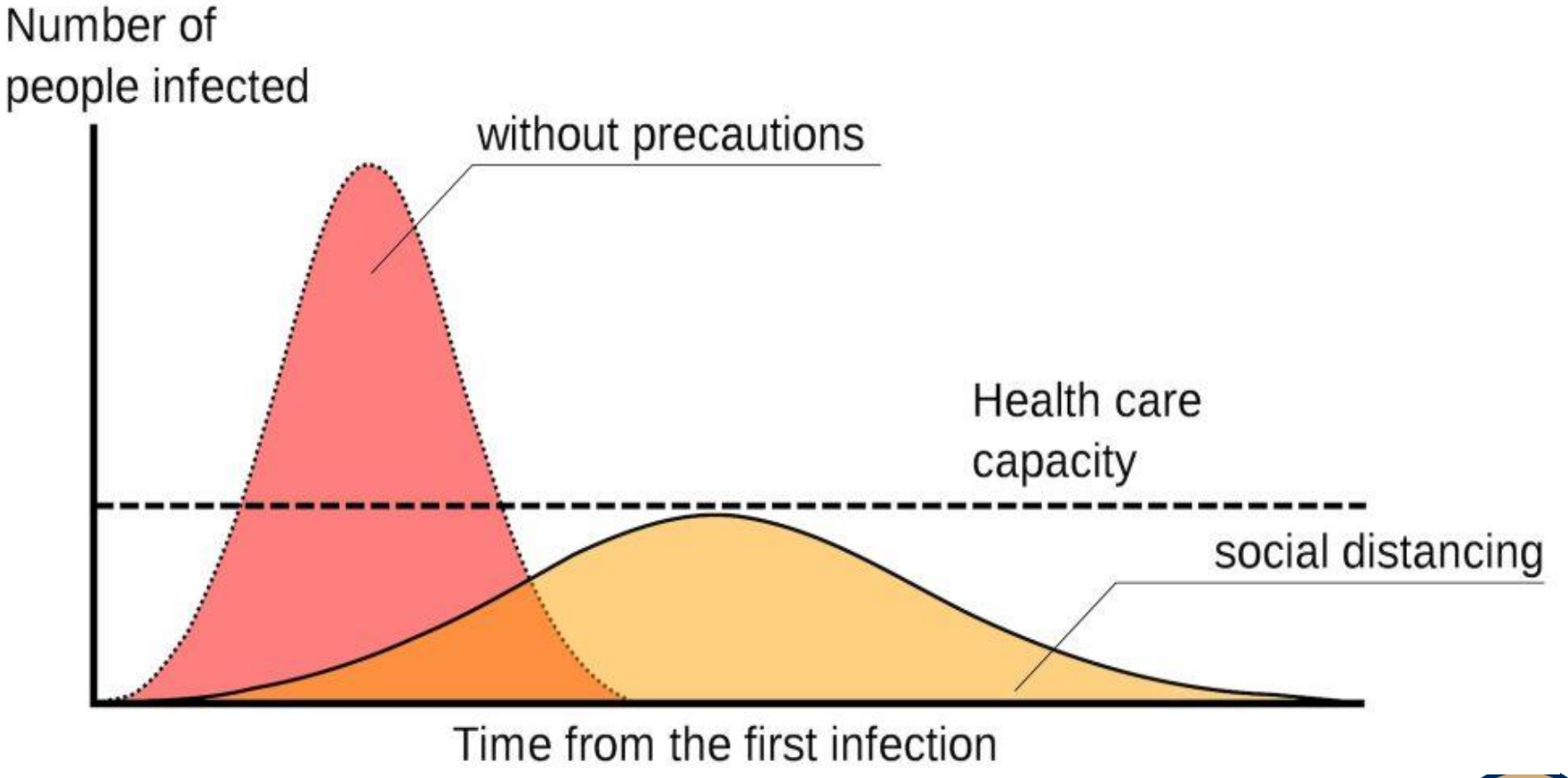
## *Sample Epi Curve With & Without Social Distancing*




A sample epidemic curve, with and without social distancing. (Image credit: Johannes Kalliauer/ CC BY-SA 4.0)



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## *Lessons from the 1918 Pandemic: Philadelphia & St. Louis*

- ***How do we know that social distancing even works with pandemics?***
  - The classic case being cited is the contrast between death outcomes between Philadelphia and St. Louis during the 1918 Pandemic.
  - In Philadelphia, the first case was reported on Sept 17, 1918, but leaders downplayed its significance its significance and allowed public gatherings, including a citywide parade on Sept 28. Social distancing measures, like school closures and bans on public gatherings were not implemented until Oct 3 – a full 16 days later – when the virus had spread and had begun to overwhelm hospitals and the healthcare system.
  - In contrast, in St. Louis, the first case was reported on Oct 5 and the decision was made to rapidly institute social distancing measures by Oct 7, just 2 days later. St. Louis instituted social distancing 14 days earlier in its course than Philadelphia – that resulted in Philadelphia cases doubling 3 to 5 times more than in St. Louis.
  - When it was all over, the result was that Philadelphia's death rate was 257/100,000 and St. Louis's death rate was 31/100,000 – making Philadelphia's death rate 8 times worse than St. Louis's death rate.
  - This was not an isolated case. Studies showed that during the 1918 Pandemic, on average, the death rates were 50% lower in cities that implemented early social distancing versus ones that waited.

Source: Hatchett, et al., "Public health interventions and epidemic intensity during the 1918 influenza pandemic, PNAS, 5/1/2007.

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## *Summary*

- It's these kinds of analyses that have convinced policymakers in the state and throughout the country and the world that social distancing interventions have to be implemented well before the number of cases begins to sharply rise.
- Everyone should expect the number of COVID-19 cases to increase, perhaps dramatically, especially as testing increases and community transmission sets in. More COVID-19 cases will not be a surprise.
- Instead, we need to focus on how will Harford County and Maryland respond to the increase in COVID-19 cases.
  - We can be aggressive with the one proven intervention that remains – social distancing – by doing everything possible to keep people home – and especially by keeping vulnerable populations, like those age 60+ with underlying medical conditions away from large gatherings and crowds.
  - We should preserve the use of COVID-19 testing kits and personal protective equipment for those who really need it, including high-risk patients, as well as healthcare providers and first responders who take care of high-risk patients.
  - We must remember that even though this virus does not seem to target children that children can still catch this virus and act as carriers.
  - Finally, we must be aware that COVID-19 is probably one of the most rapidly contagious diseases that the world has seen in a long time – and that we must not allow this pandemic to overwhelm our health care system.