MERCER

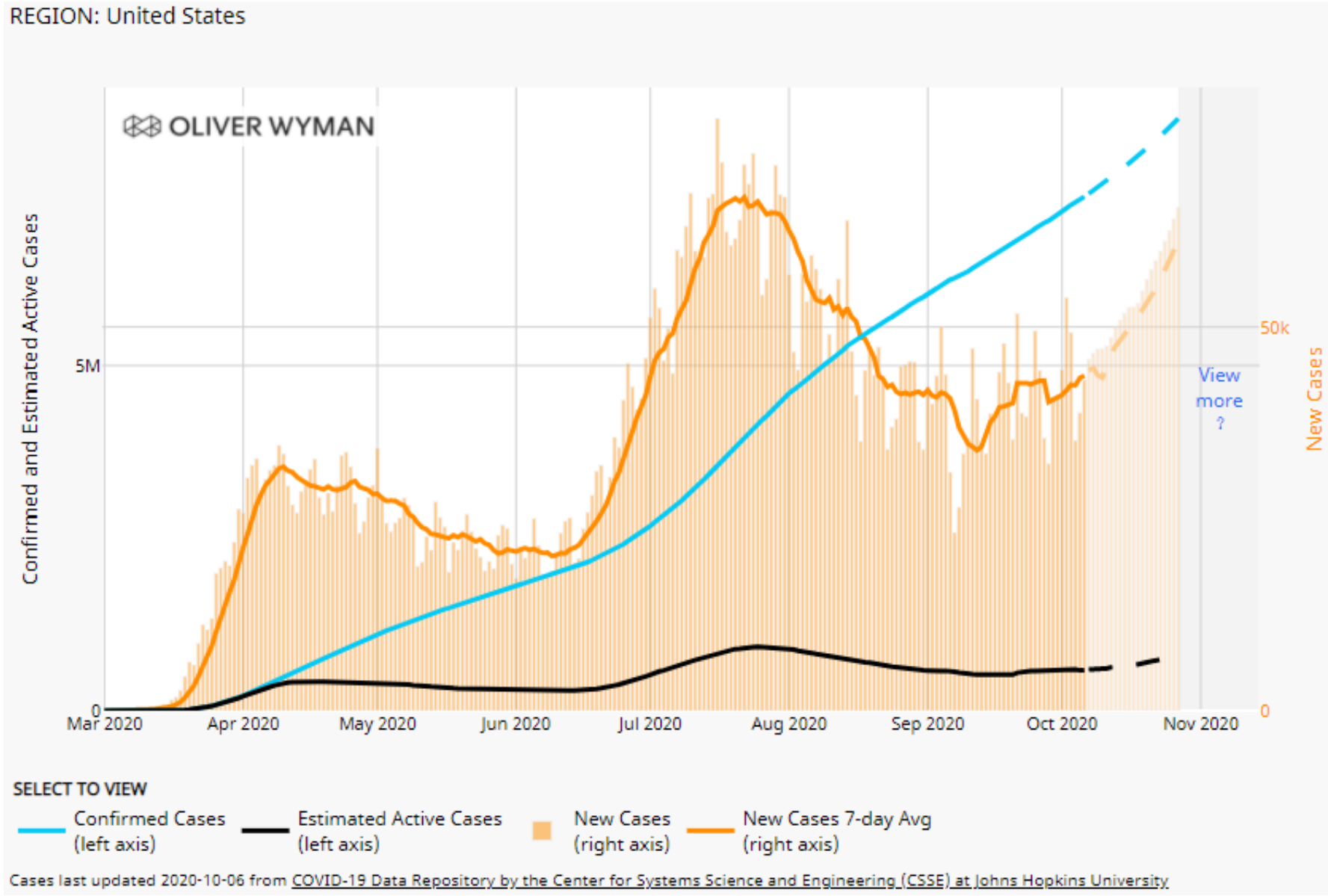
Mercury Systems

COVID-19 Updates and Insights

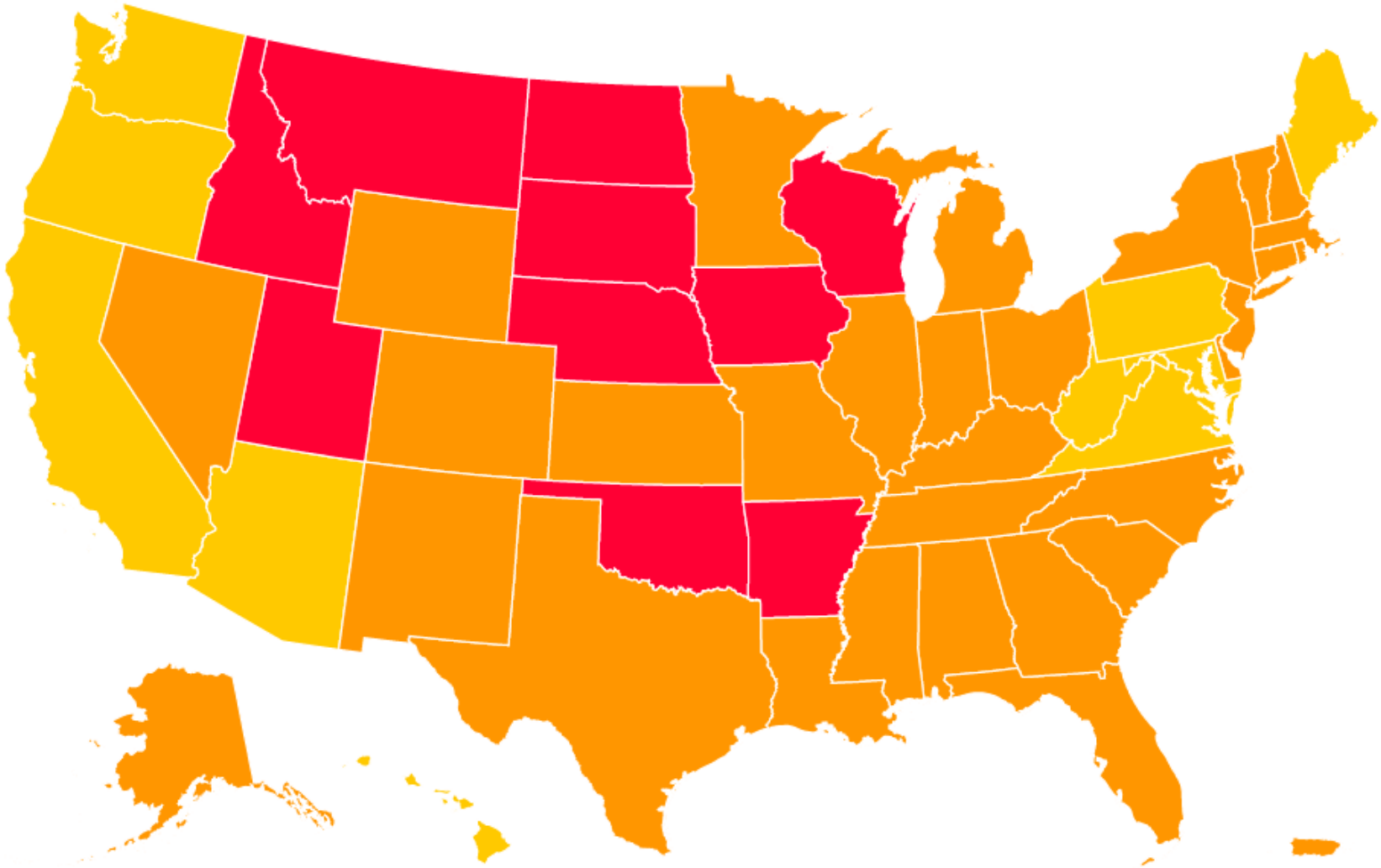
October 8th, 2020

David Zieg, MD
Partner, Clinical Services Leader

COVID-19 will influence our world for many months to come



COVID-19 will influence our world for many months to come



Source: covidactnow.org

COVID-19 vaccine
The basics

What is a vaccine?

- A biological preparation that teaches the body to recognize one or more unique characteristics of a virus (or other infectious agent)
- Causes the body to create a “memory” of these characteristics that triggers the immune system when the actual virus is recognized BY the body

How will a COVID-19 vaccine work?

- The vaccines are designed to teach the body’s immune system to recognize the SARS-CoV-2 surface proteins
- If the virus gets into body, the immune system quickly recognizes the virus, interferes with it’s ability to multiply and calls in other parts of the immune system to help

How long will a vaccine protect a person?

- At this point, we still don’t know how long immunity to SARS-CoV-2 lasts
- Immunity from a COVID vaccine might be full or partial
- It is POSSIBLE we will need regular boosters

MERCER

The phases of a clinical trial

Phase One

Includes a small number of volunteers, usually less than 100, and focuses on safety and dosage

Phase Two

Involves several hundred volunteers and focuses on safety, side effects and immune response

Phase Three

Involves thousands of volunteers and focuses on safety and efficacy; Assesses whether the vaccine is effective in a community setting

Approval

Ongoing data reviewed by the NIH Data and Safety Monitoring Board; Data reviewed by multiple FDA entities; ≥ 50% efficacy required as well as a satisfactory safety profile

MERCER

How will the COVID-19 vaccine be distributed?

Priority groups will get theirs first: healthcare workers, first responders, and vulnerable populations

2
doses spread 21-28 days apart for most of the vaccine candidates

51%
of US adults would definitely or probably get the vaccine[1]

Logistical challenges will likely push the timeline out further

-80°C
Temperature at which some of the vaccines must be stored

9-12
Months it will likely take for the general population to have access to vaccine

1. https://www.pewresearch.org/science/2020/09/17/u-s-public-now-divided-over-whether-to-get-covid-19-vaccine/

MERCER

Headlines to dissect

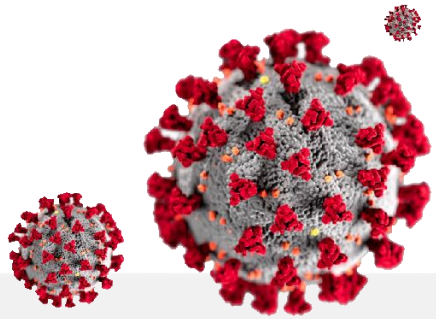
- The White House has a COVID-19 outbreak…including the President
- The CDC states “COVID-19 can sometimes be spread by airborne transmission”
- CDC posts guidance regarding the upcoming Halloween, Dia de los Muertos and Thanksgiving holidays (https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/holidays.html)

FACTORS THAT INFLUENCE RISK

1) Cumulative Time	**T**
2) Distance	**D**
3) Number of People	**N**
4) Airflow/Ventilation	**A**

MERCER

Other things to consider



Preventive Care

- The U.S. has seen significant declines in preventive care, including cancer screenings/diagnoses and immunizations
- Primary care offices are safe…seek your preventive care, get your screenings and immunizations…this includes your children too.

COVID-19 Fatigue

- It's a natural response to get tired of the current situation…the "are we there yet" phenomenon
- Do NOT let your guard down – complacency in the current situation is a real threat
- Continue to follow the guidance, find ways to maintain your resilience and adjust to this new normal

A Tricky Virus

- The medical community is still learning about this novel virus, and it isn't pretty
- The number of Long-Haulers is growing and it's concerning
- Anecdotal reports show effect on diverse organ systems leading to chronic medical issues – kidney, vascular system, lung, heart, brain etc

MERCER

Questions?

Disclaimer: The information in this slide deck is not medical or legal advice. Mercer is not a medical or legal advisor. Rather, this guidance is largely assimilated from the information available from the CDC and other public resources as noted below as of September 3, 2020.

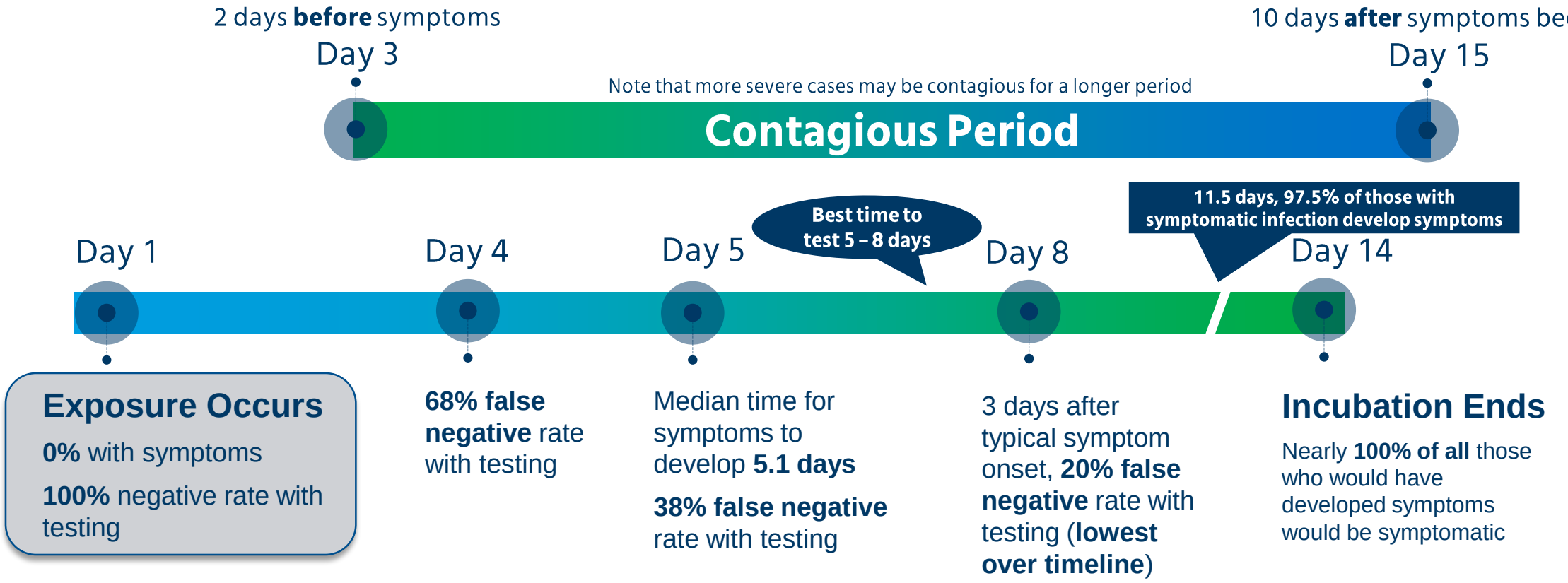
https://www.cdc.gov/coronavirus/2019-nCoV/index.html

https://www.who.int/emergencies/diseases/novel-coronavirus-2019

MERCER

COVID-19 Estimated Incubation Timeline, Testing Accuracy and Contagiousness

Note that this is for informational purposes only, is not considered medical advice (Mercer is not a medical advisor), and is based on small, published studies as referenced below as well as assumptions. It should be considered only as a general guidance.



Notes:

- Testing = diagnostic PCR for virus
- Proportion of "false negatives" is relative to all of those who will become infected
- CDC recommends remaining in quarantine for 14 days for all exposed people regardless of testing negative and some state and local public health guidance may provide varying recommendations
- Information is considered up to date as of 09/16/2020 and is expected to change over time

MERCER

Sources:

1. Kucirka LM, Lauer SA, Laeyendecker O, Boon D, Lessler J. Variation in False-Negative Rate of Reverse Transcriptase Polymerase Chain Reaction-Based SARS-CoV-2 Tests by Time Since Exposure. Ann Intern Med. 2020
2. Lauer SA, Grantz KH, Bi Q, Jones FK, Zheng Q, Meredith HR, et al. The incubation period of coronavirus disease 2019 (COVID-19) from publicly reported confirmed cases: estimation and application. Ann Intern Med. 2020