

Projections of Hospital-based Healthcare Demand due to COVID-19 in Los Angeles County

August 19, 2020 Update

County DHS COVID-19 Predictive Modeling Team:

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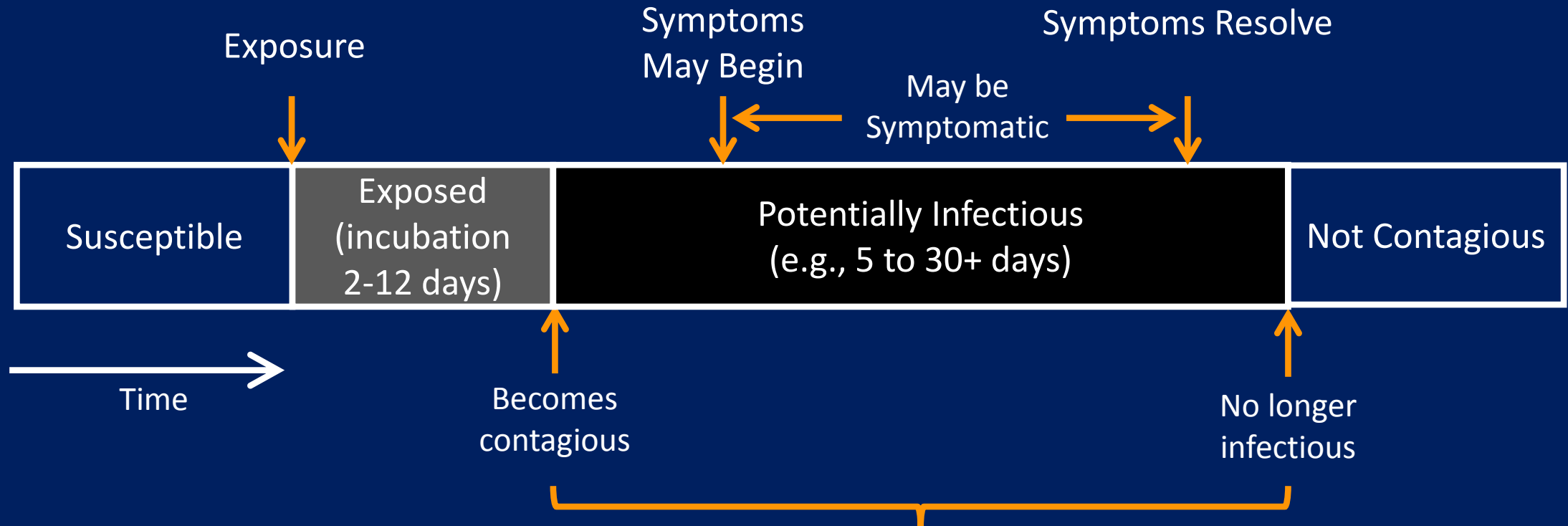
Key Findings of the August 19th Update

- This update includes data on hospital visits and volume through August 17, 2020.
- The demand model reflects recent patterns in care, including shorter lengths of stay, less need for intensive care, and a less frequent use of mechanical ventilation.
- Key findings:
 - The number of new patients with COVID-19 requiring hospitalization each day across Los Angeles County appears to be decreasing, although not as quickly as last week.
 - The transmission number (“R”) is now estimated to be 0.92 with an uncertainty of 0.83 to 1.01. Last week the estimate was 0.86 with an uncertainty of 0.79 to 0.93.
 - Based on the current estimate for R, the current number of available hospital beds, currently staffed ICU beds, and available ventilators in Los Angeles County are likely adequate over the next 4 weeks.
 - The model suggests that about 1 in 650 Los Angeles County residents are currently infected and infectious to others and that about 1 in 8 have had COVID-19.

How Many in Los Angeles are Infectious to Others?

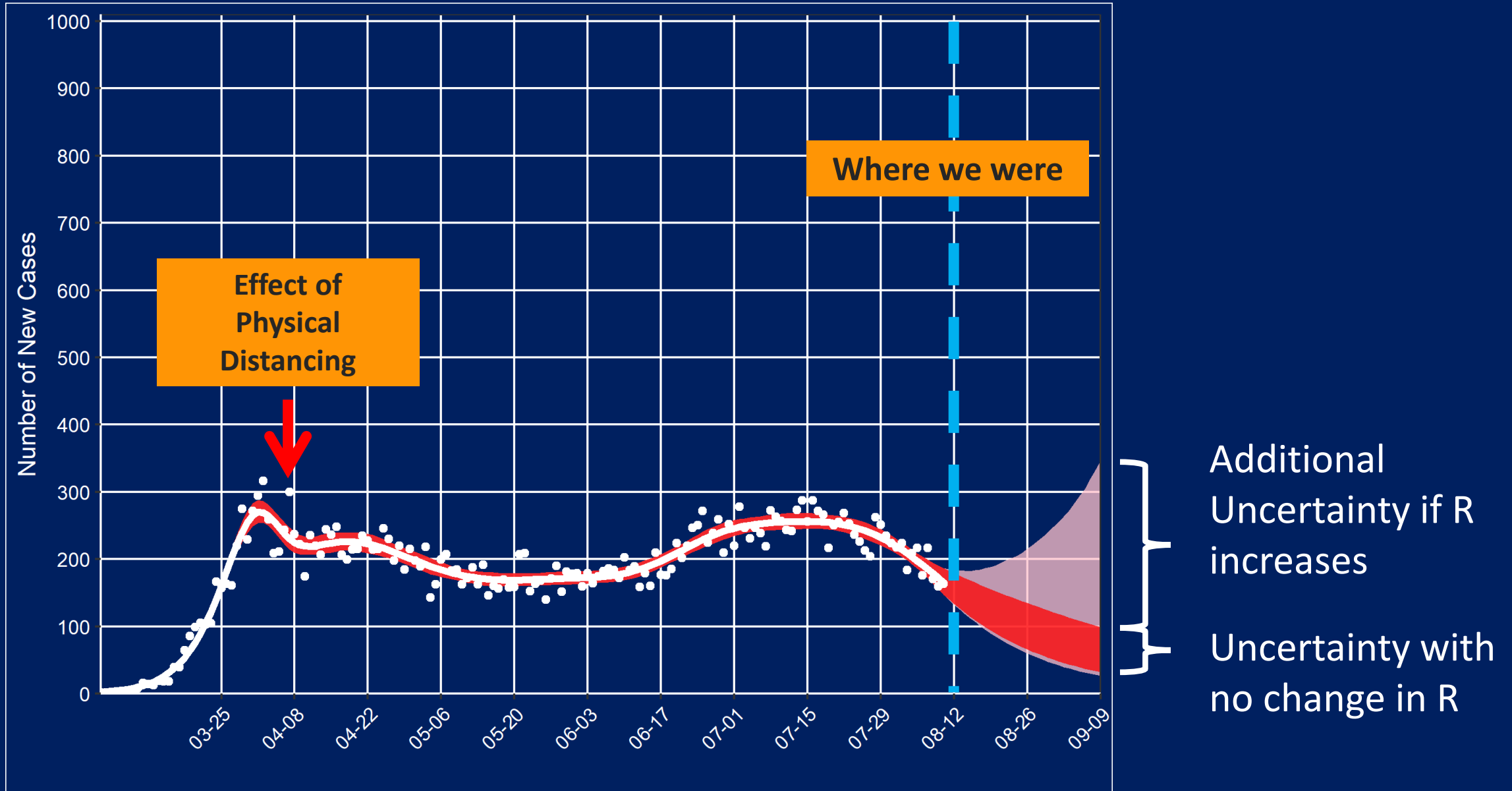
- The DHS team's epidemic model estimates the number of people in Los Angeles County who:
 - Are still **susceptible** to infection if exposed;
 - Have been **exposed** and are incubating, but not infectious;
 - Have COVID-19 and are **infectious** to others, though they may have no symptoms; and
 - Have had COVID-19 and either **recovered** or died, so they are no longer infectious
- The model suggest that about 0.15% (uncertainty of 0.09% to 0.24%) of everyone in Los Angeles County is currently infected and infectious to others.
- This suggests about 1 in 650 (between 1 in 1130 and 1 in 410) Los Angeles County residents are currently infectious to others. Last week this estimate was 1 in 725.

A Patient's Journey | COVID-19

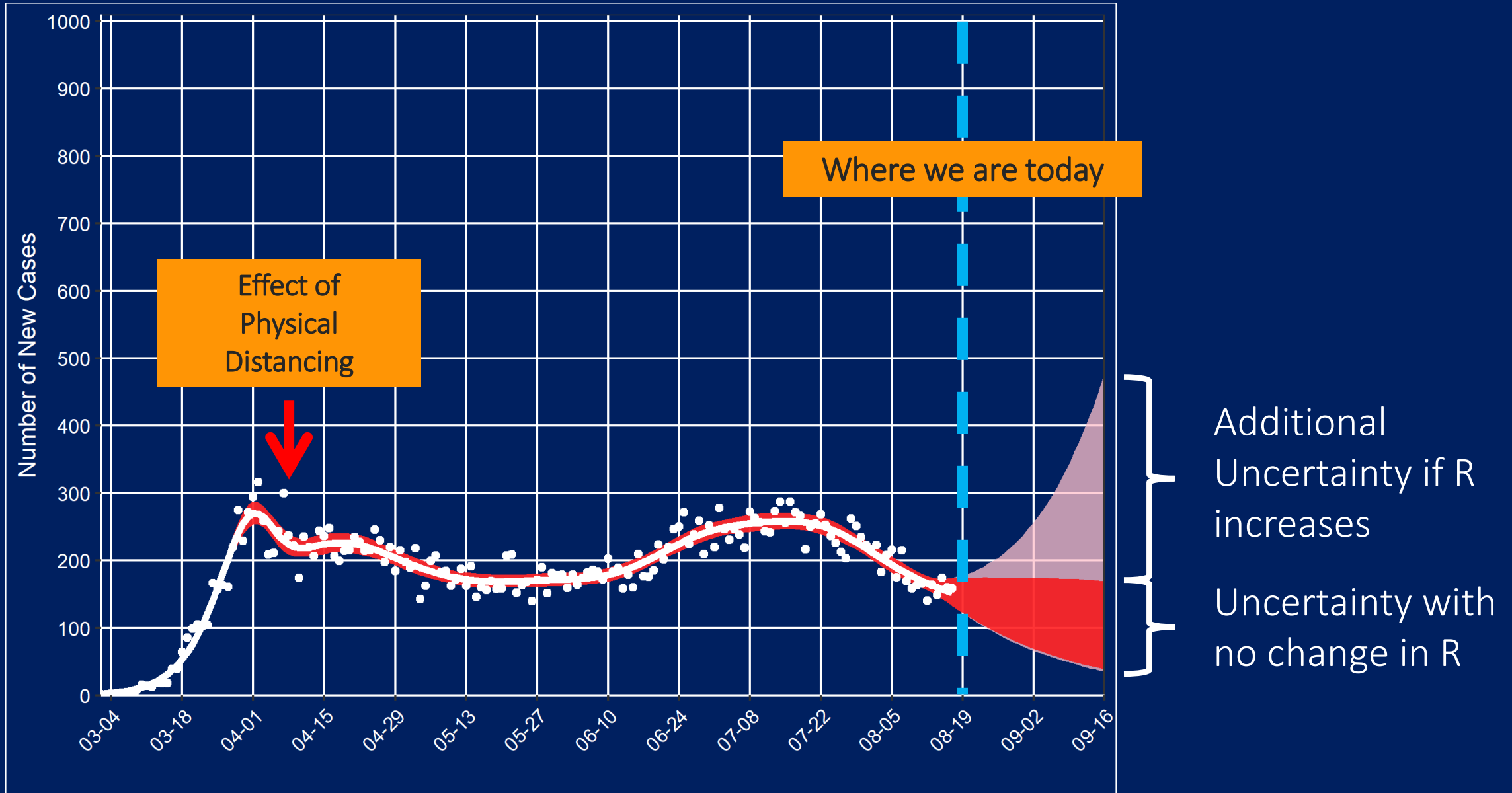


Goal of physical distancing, public use of cloth face coverings, quarantine, isolation and similar actions is to reduce the number of new susceptible people exposed during this time

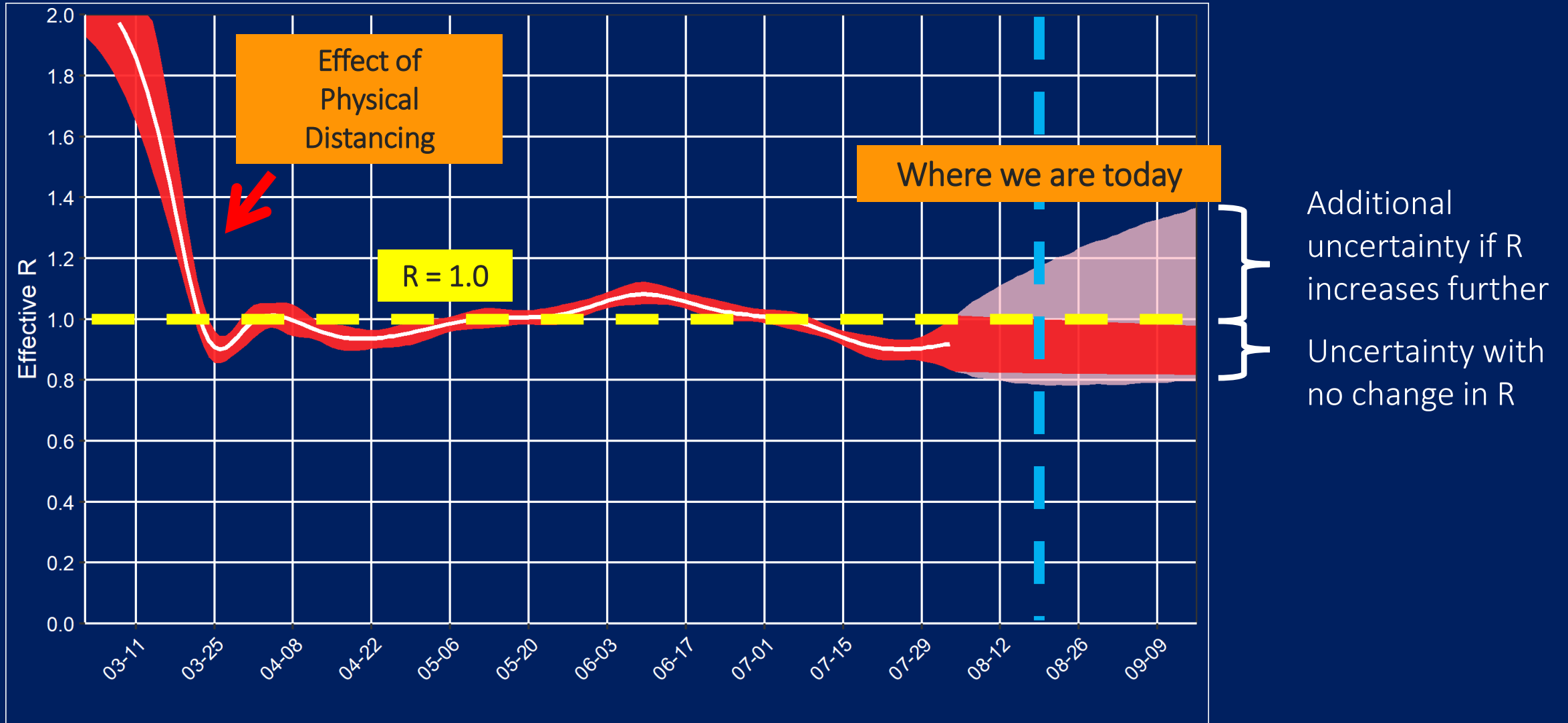
Hospital New Patient Projections: From Last Week



Hospital New Patient Projections

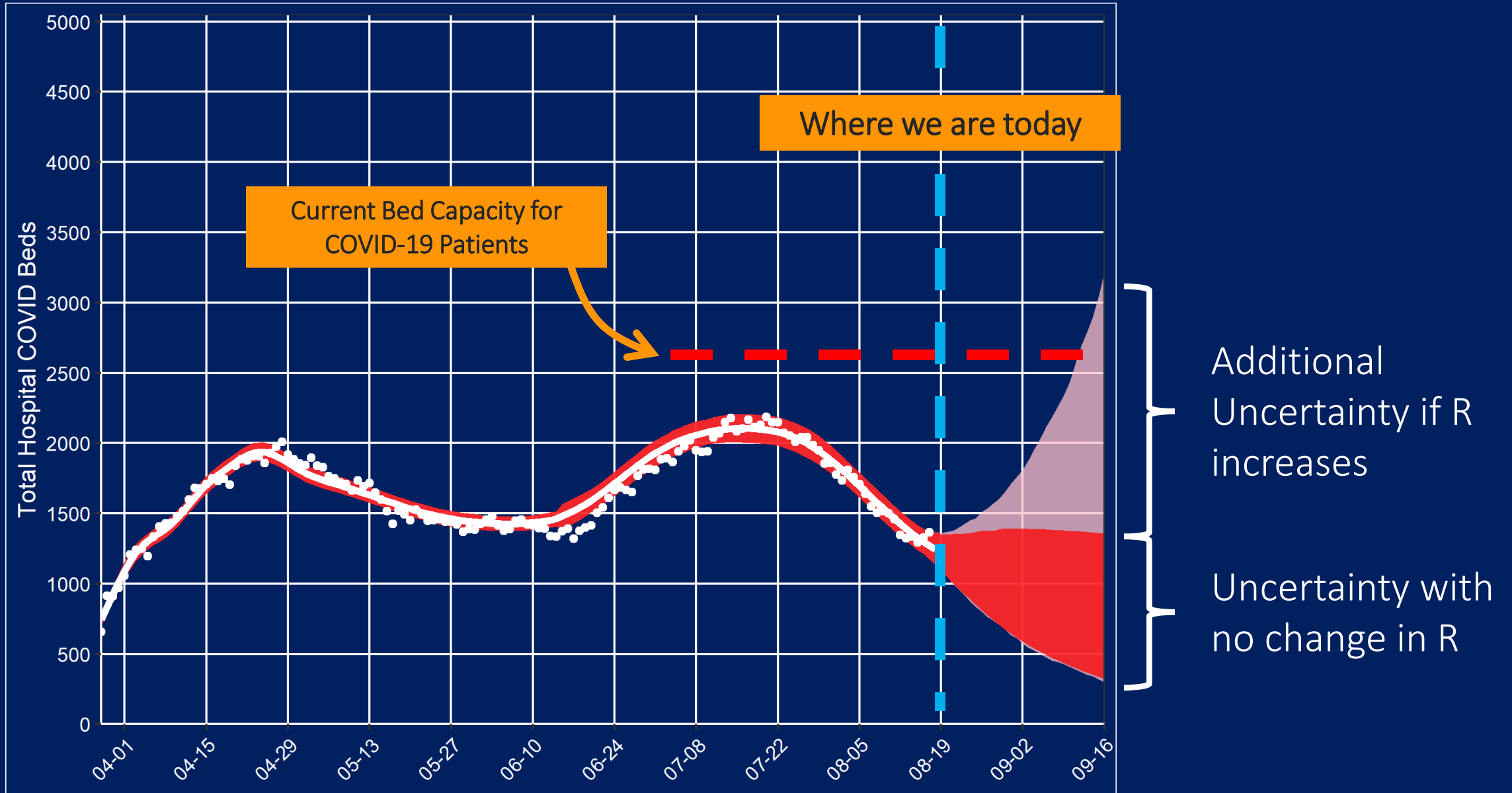


Effective Transmission Number “R”

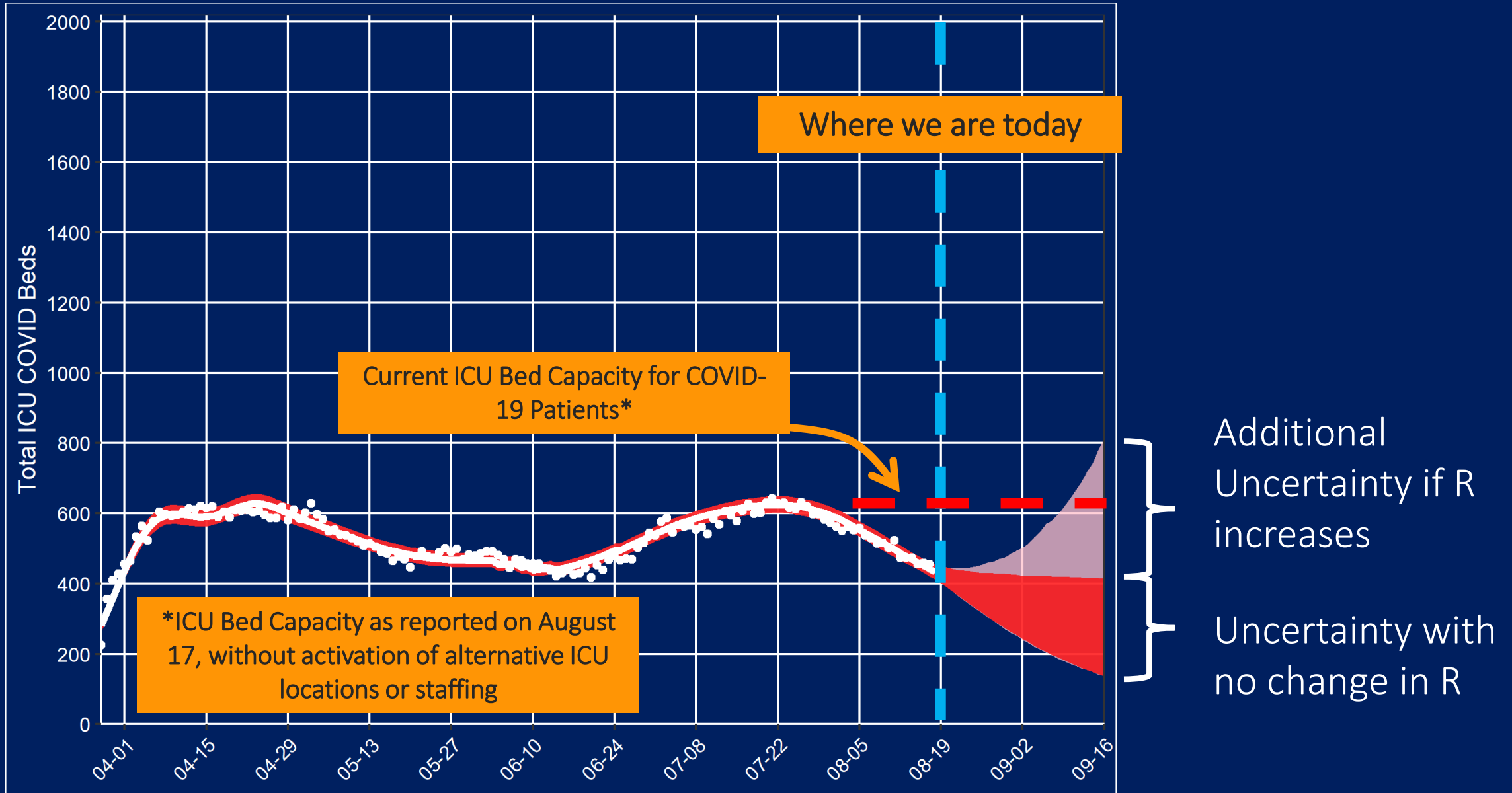


Note: We have adjusted the R that we present to account for the fraction of the population that is presumed to be immune to reinfection. At the beginning of the pandemic, this fraction was essential zero so this would not have made any difference. But as more people have been infected, and are presumed to have immunity, we are presenting an R that includes this factor.

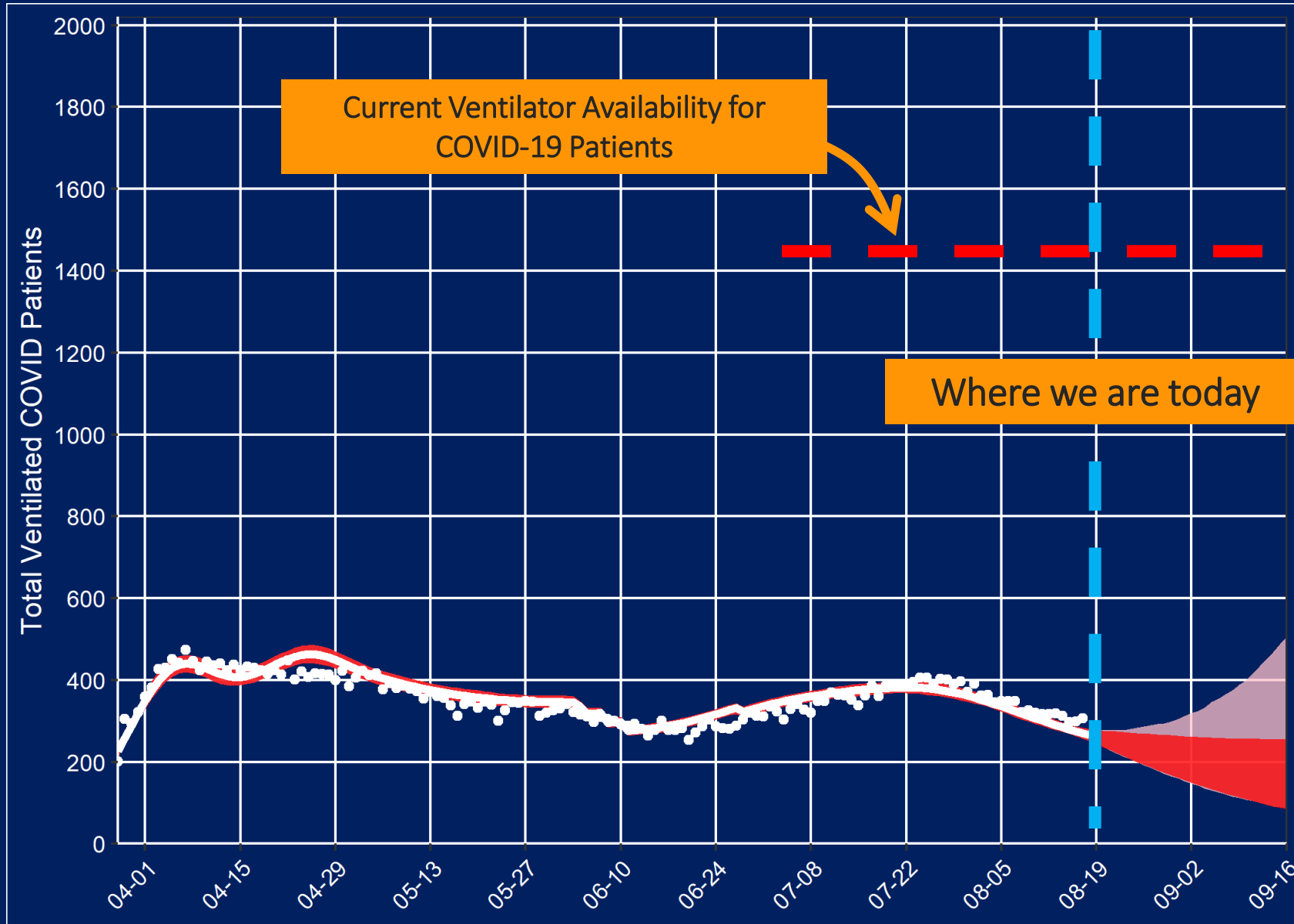
Predictions of Demand in LA County | Hospital Beds



Predictions of Demand in LA County | ICU Beds



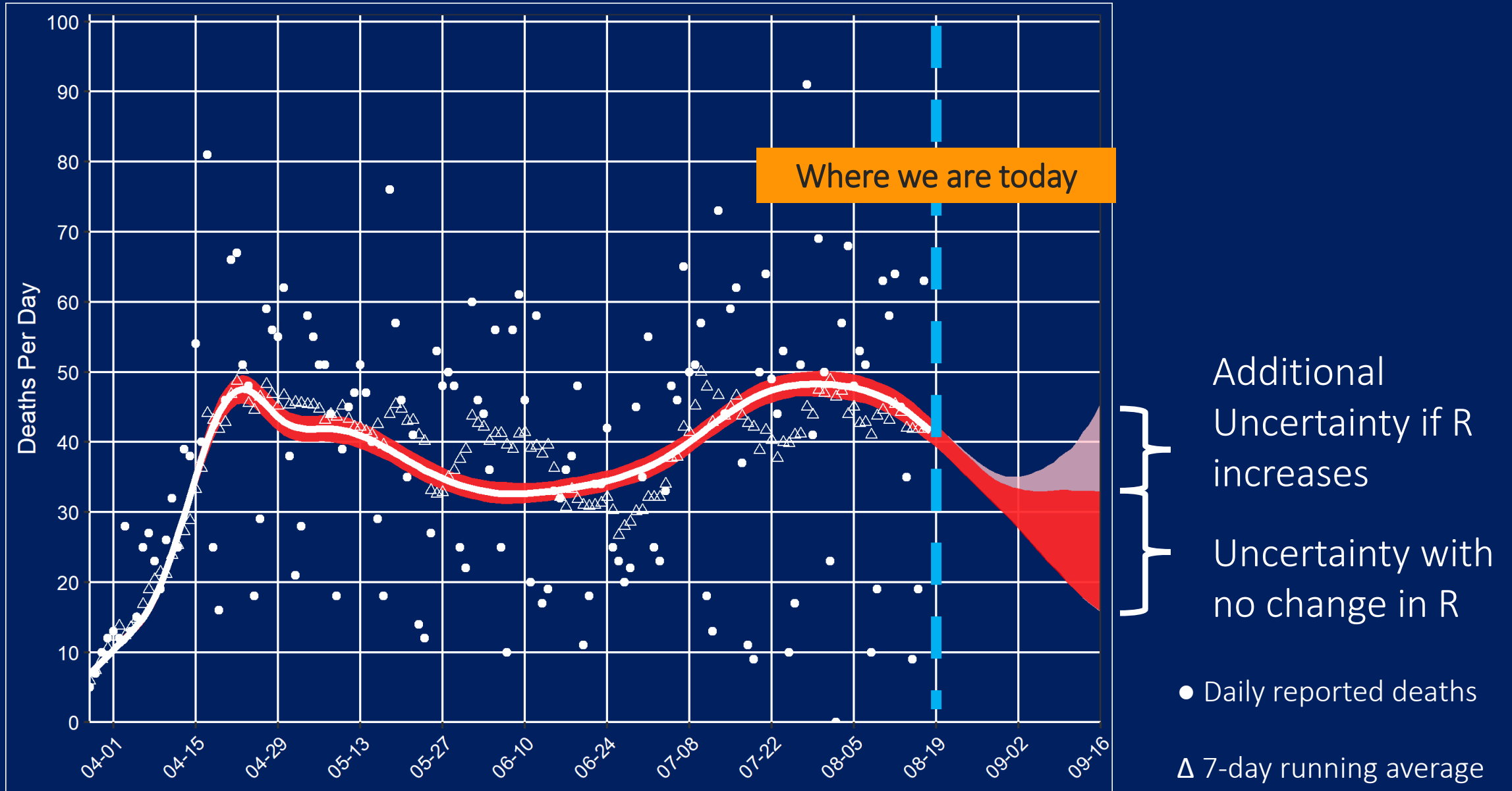
Predictions of Demand in LA County | Ventilators



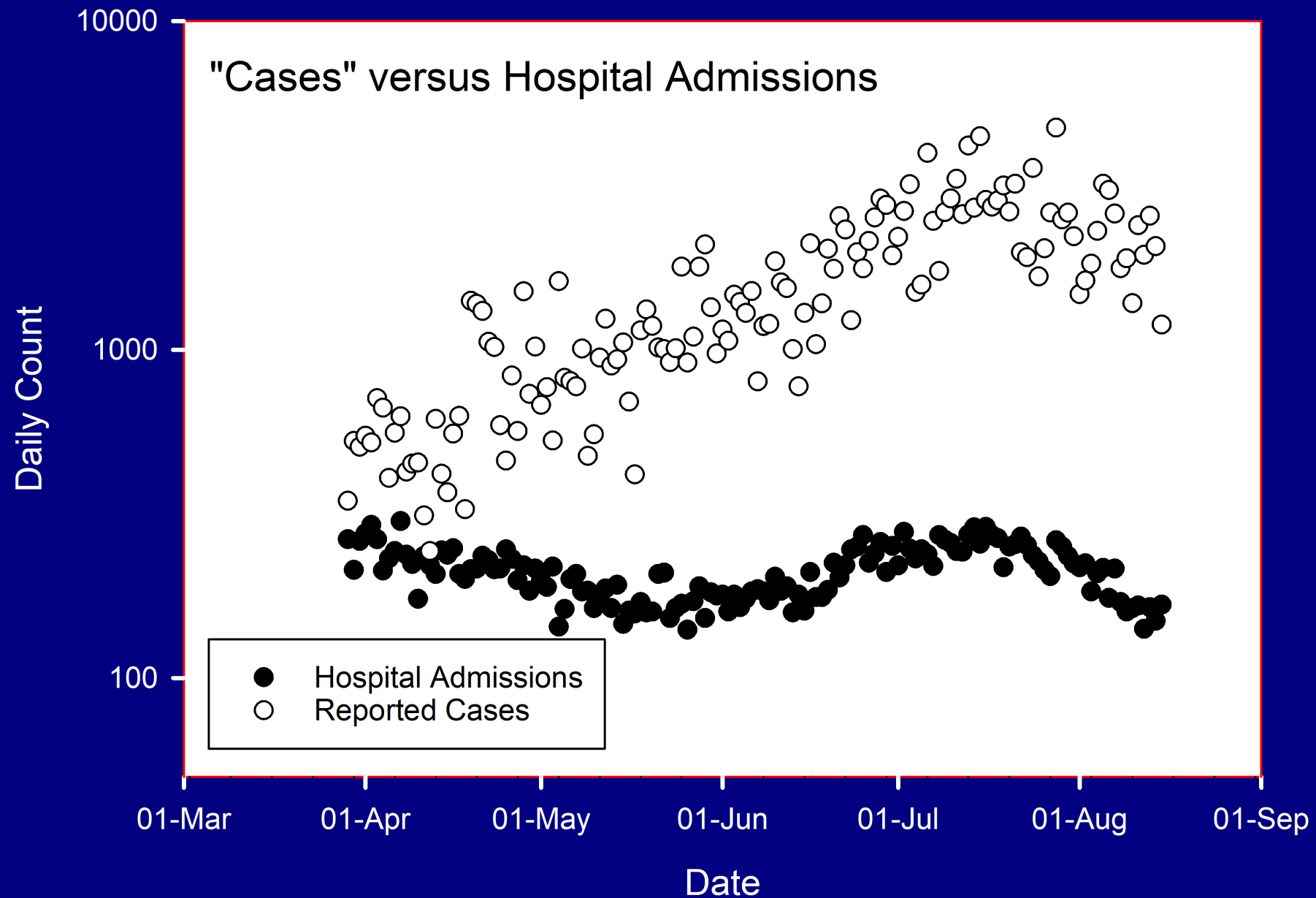
Additional
Uncertainty if R
increases

Uncertainty with
no change in R

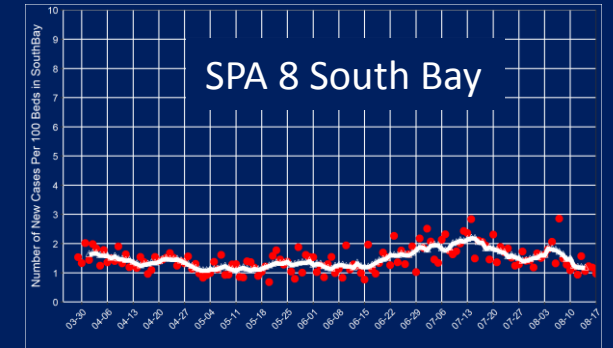
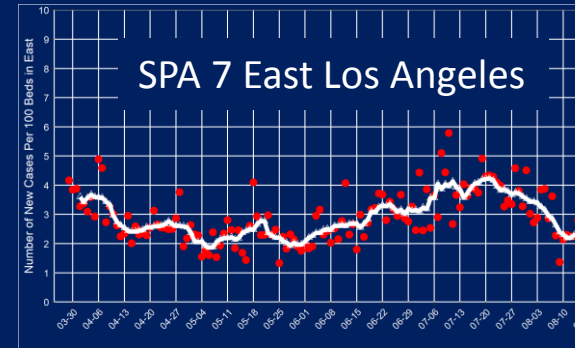
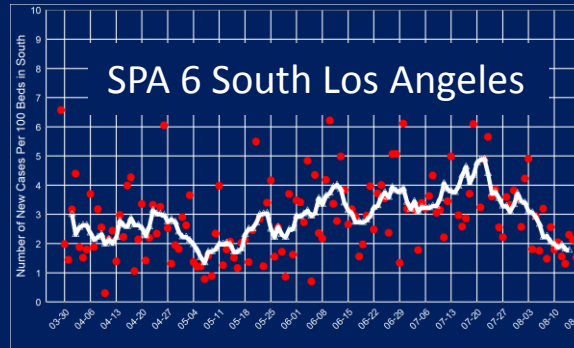
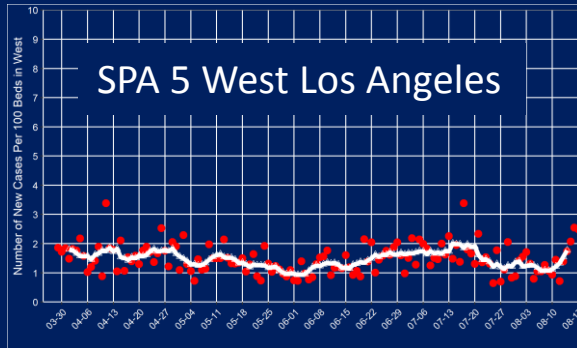
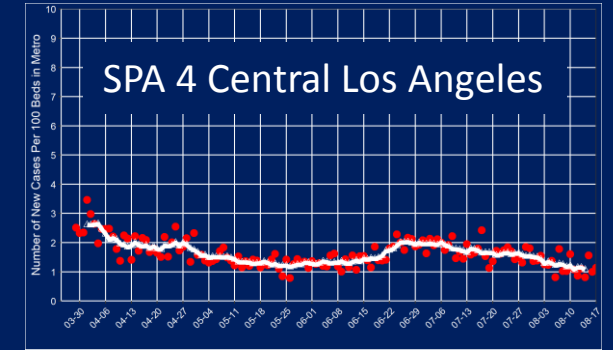
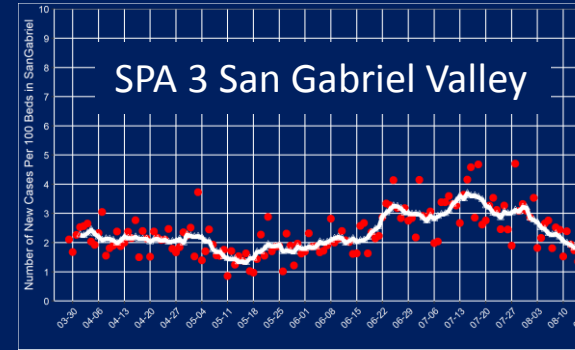
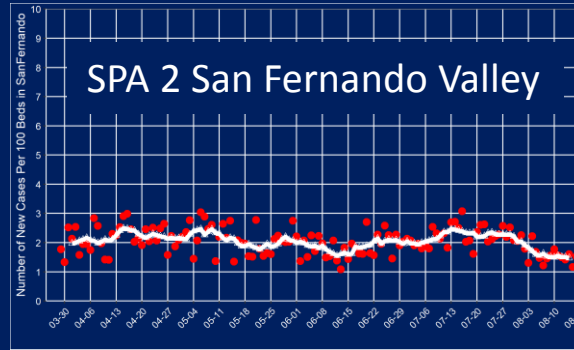
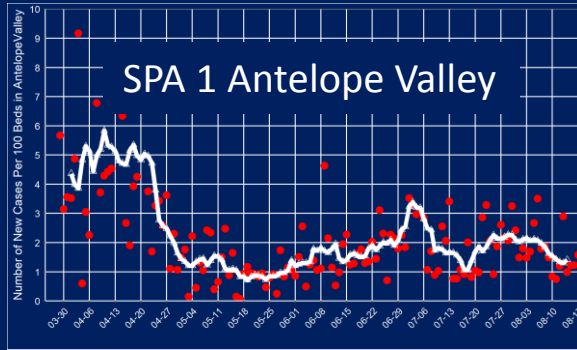
Predictions of Daily Mortality LA County



Hospital Admissions are a Decreasing Fraction of New Cases



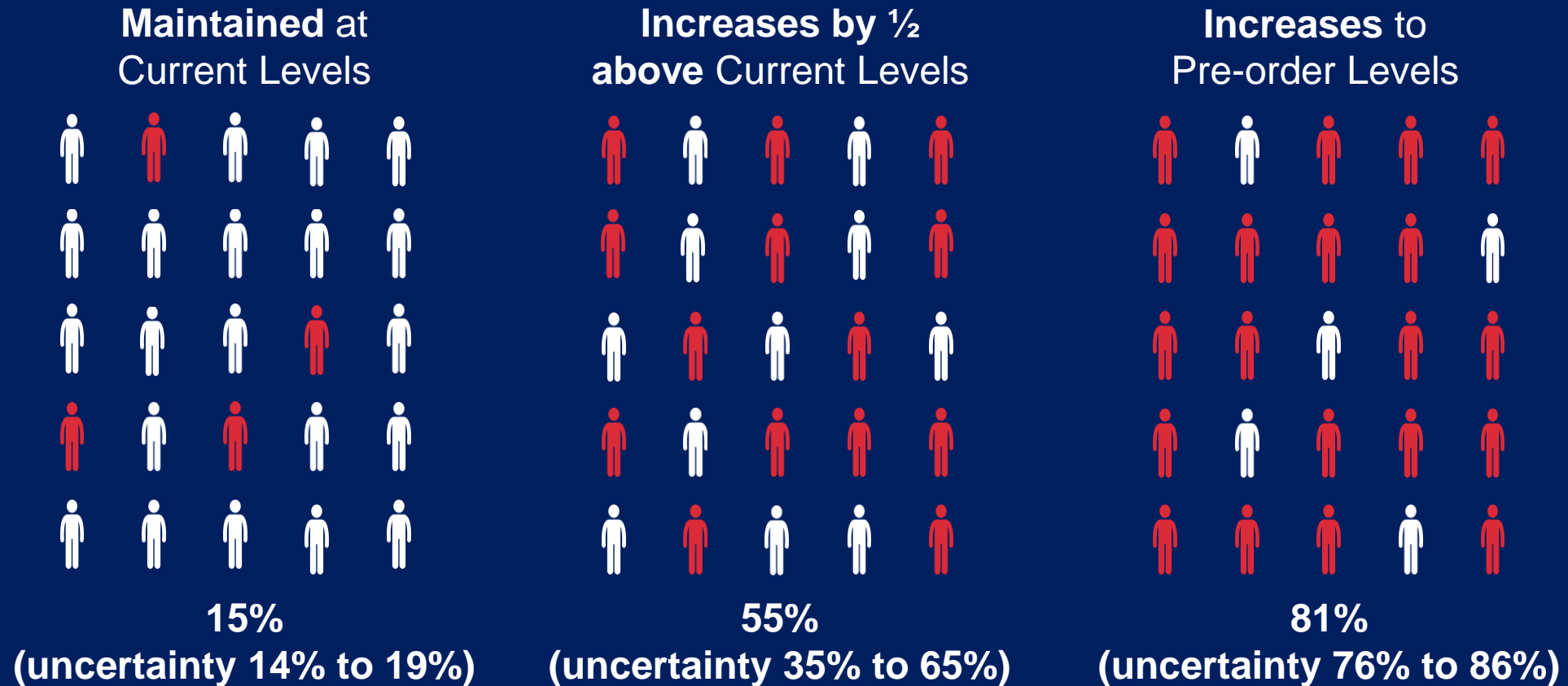
Daily New COVID-19 Hospitalizations by Service Planning Areas (SPAs), per 100 Hospital Beds



- The transmission of COVID-19 in Los Angeles County is changing over time, with different patterns in different geographic areas
- More detailed geographical analysis is required to identify specific communities needing additional support in identifying cases and limiting spread

Effect of Behaviors to Control Transmission

If transmission....



... of LA County residents will have been infected by December 1, 2020 *

**(This includes adults and children)*