

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

**May 20, 2020 Update**

County DHS COVID-19 Predictive Modeling Team:

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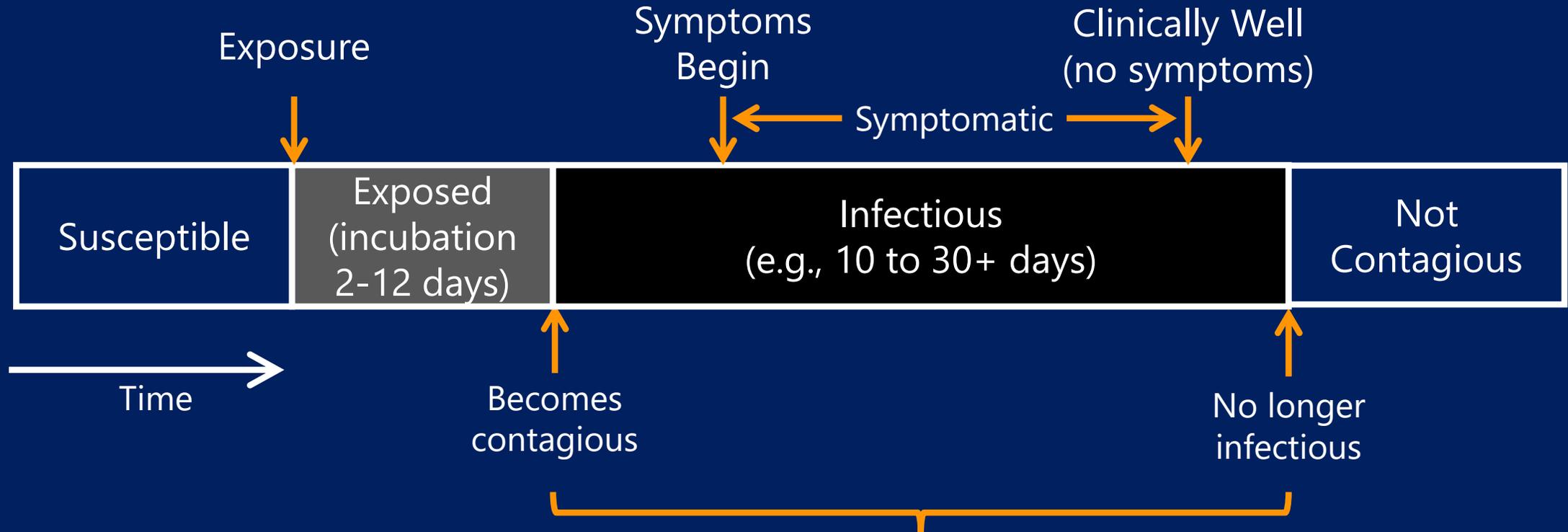


# Key Findings of the May 20<sup>th</sup> Update

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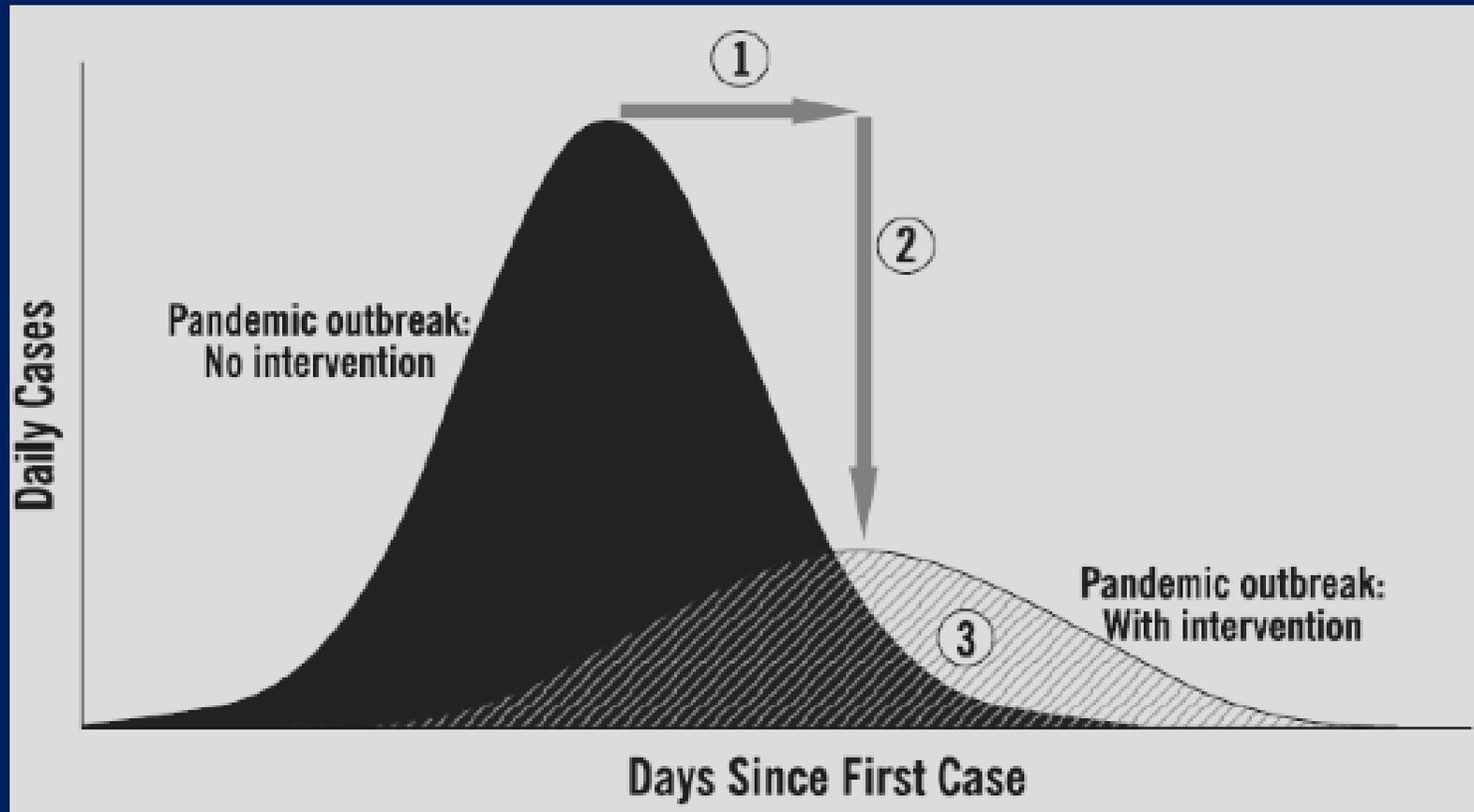
- This update includes data on hospital visits and volume through May 17, 2020.
- The model allows for changes in transmission associated with relaxation of physical distancing requirements. The total number infected during the epidemic, assuming different patterns in future transmission, is now determined through December 1, 2020.
- Key findings:
  - The overall volume of hospital-based care for patients with COVID-19 appears generally stable or slightly down trending, within the model uncertainty, consistent with prior predictions;
  - Prior to the relaxation of physical distancing requirements, it appears the effective transmission number, commonly called "R," was likely less than one. This value would be associated with a decrease in cases over time.
  - It is not yet known what effect the relaxation of physical distancing requirements will have on transmission of COVID-19. If transmission increases, modeling predicts that an increase in patient volume at healthcare facilities would occur after delay of approximately 2-4 weeks.
  - The number of hospital beds, ICU beds, and ventilators in Los Angeles County appears adequate to meet the projected need for the care of additional COVID-19 patients over the next 4 weeks, unless there is a marked increase in transmission.

# 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*

# Goal of Public Health Response

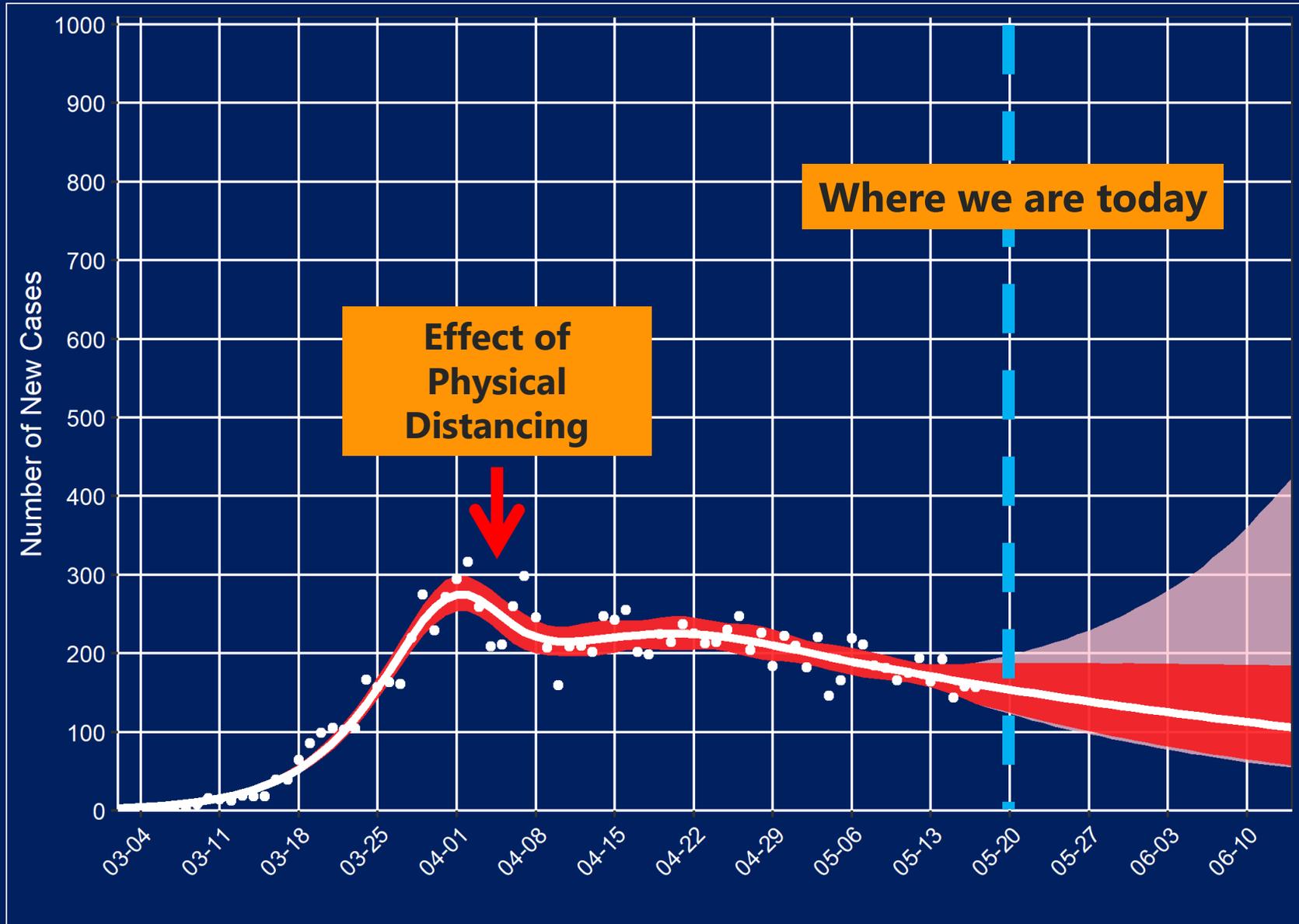


Effects of physical distancing & public health interventions:

1. Delay peak in demand, increased time to prepare
2. Decrease peak demand, increased ability to surge
3. Decrease total population infected

Source: CDC 2007

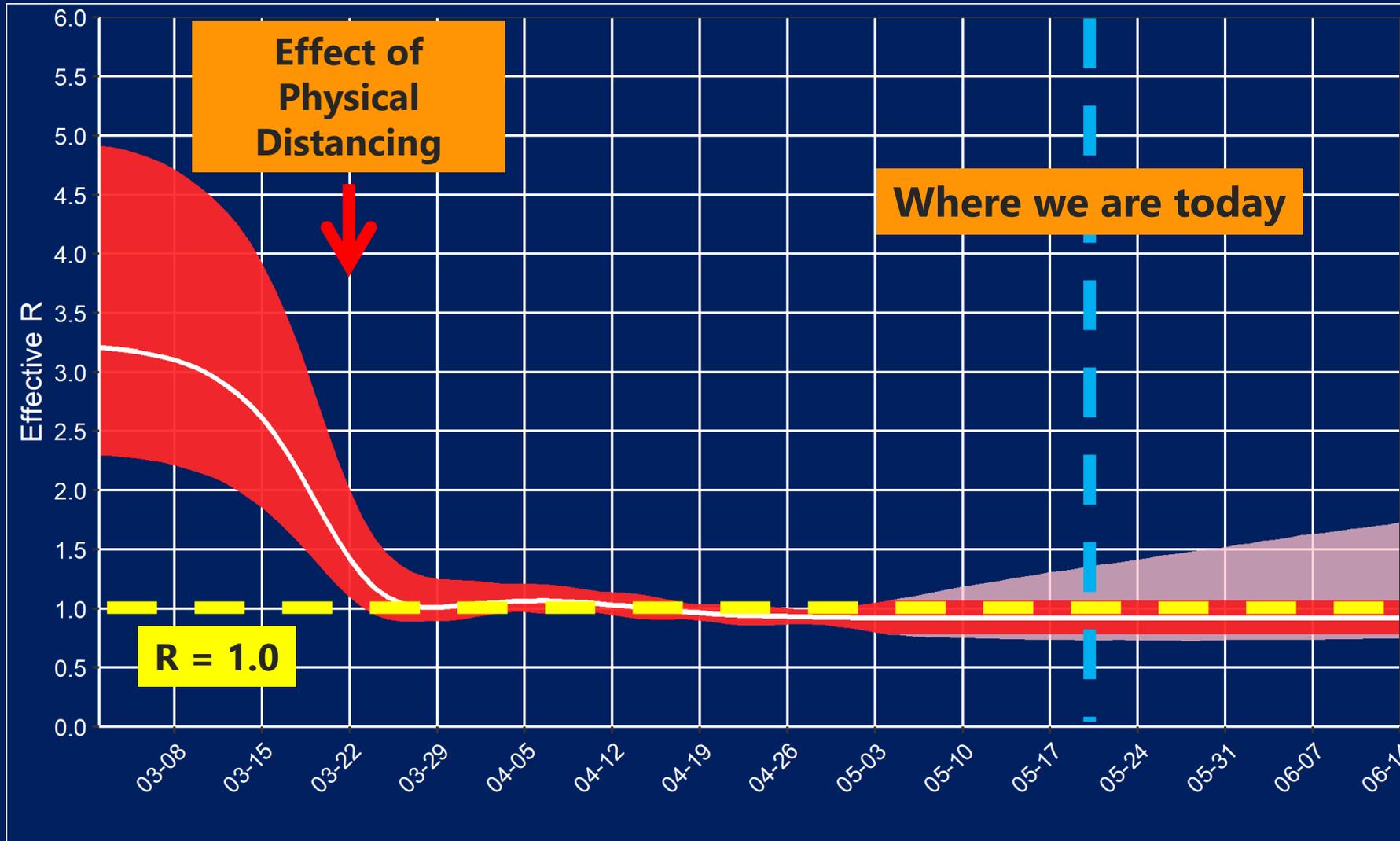
# Hospital Patient Projections



Uncertainty if R increases

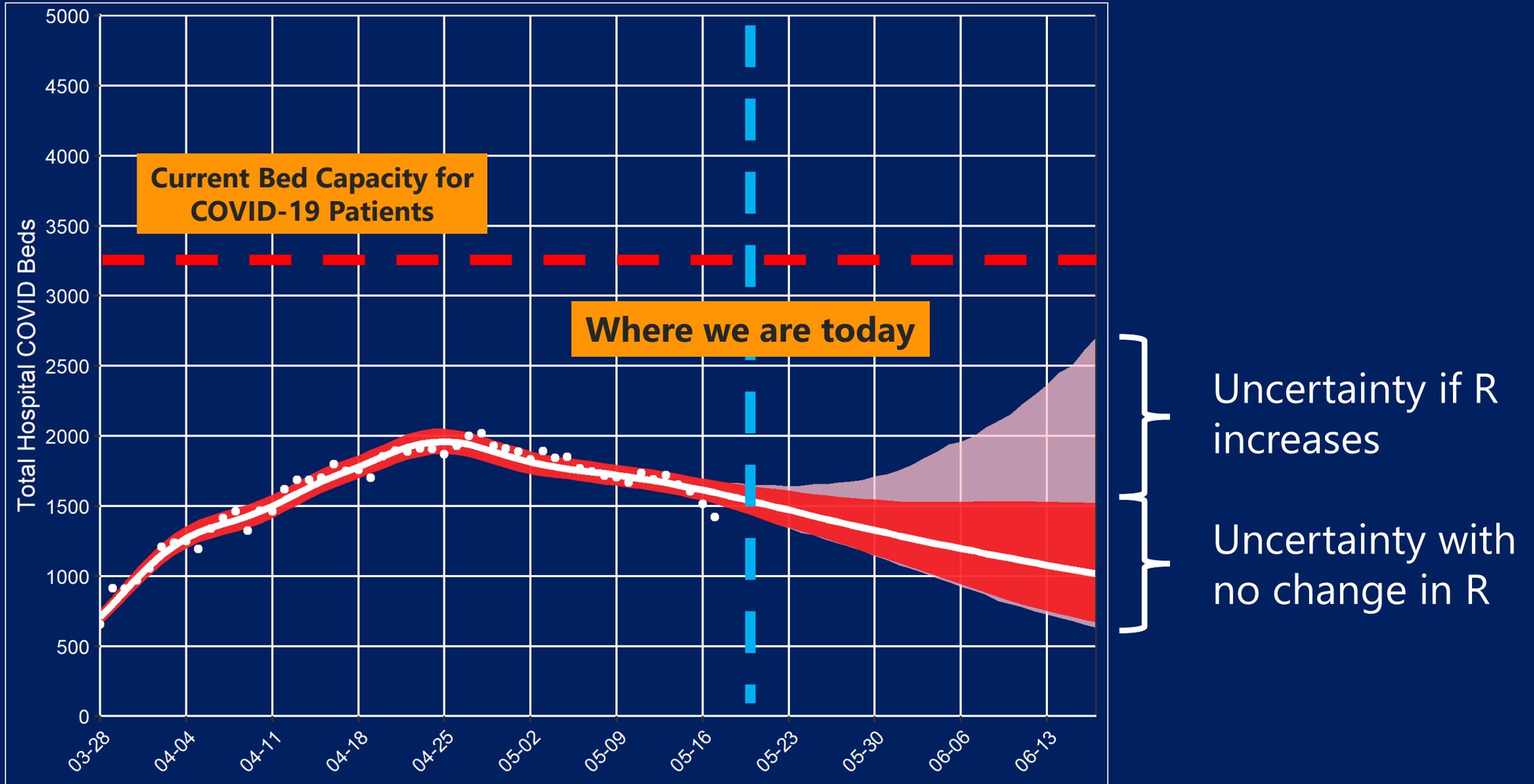
Uncertainty with no change in R

# Effective Transmission Number "R"

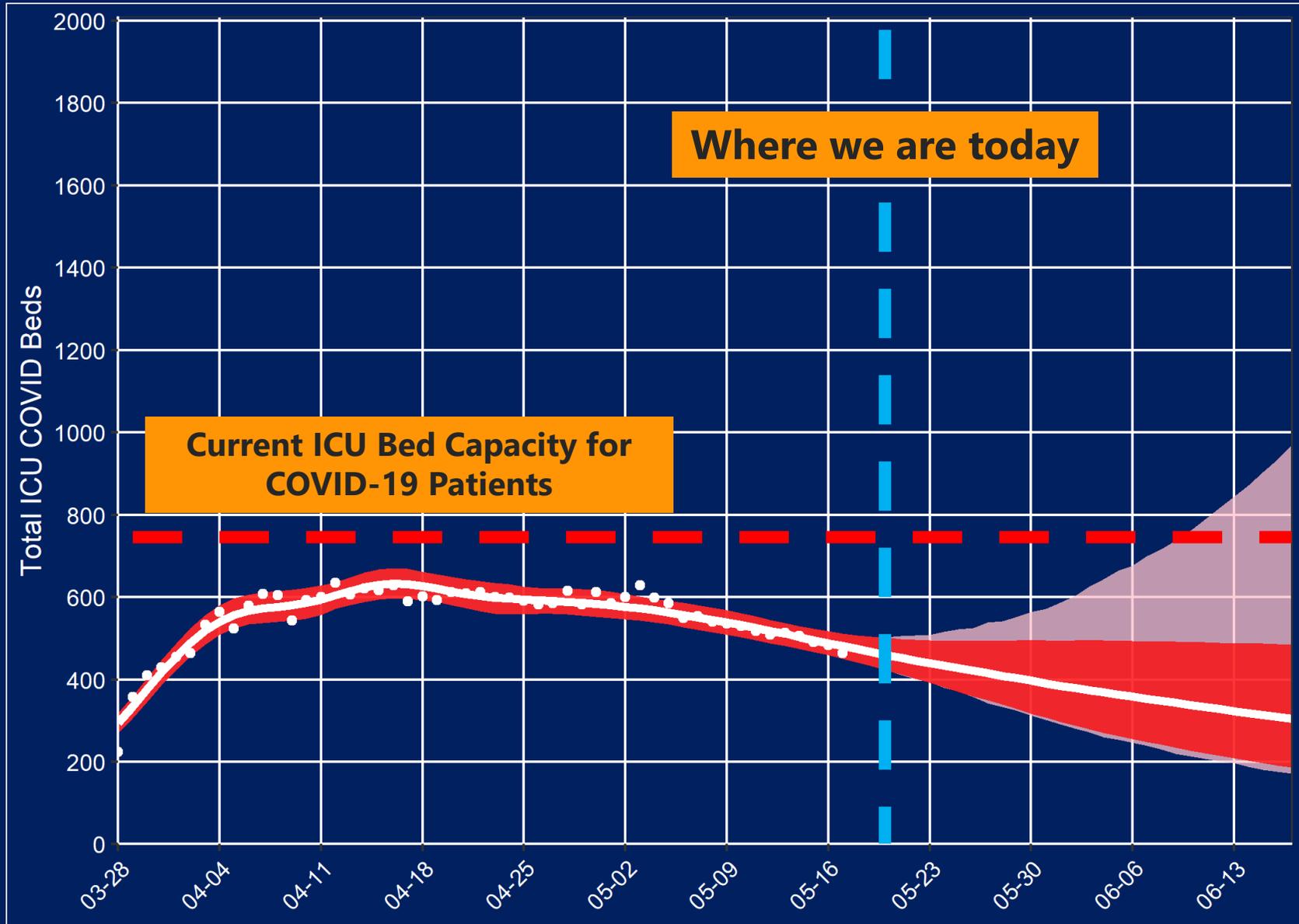


} Uncertainty if R is increasing  
} Uncertainty with no change in R

# Predictions of Demand in LA County | Hospital Beds



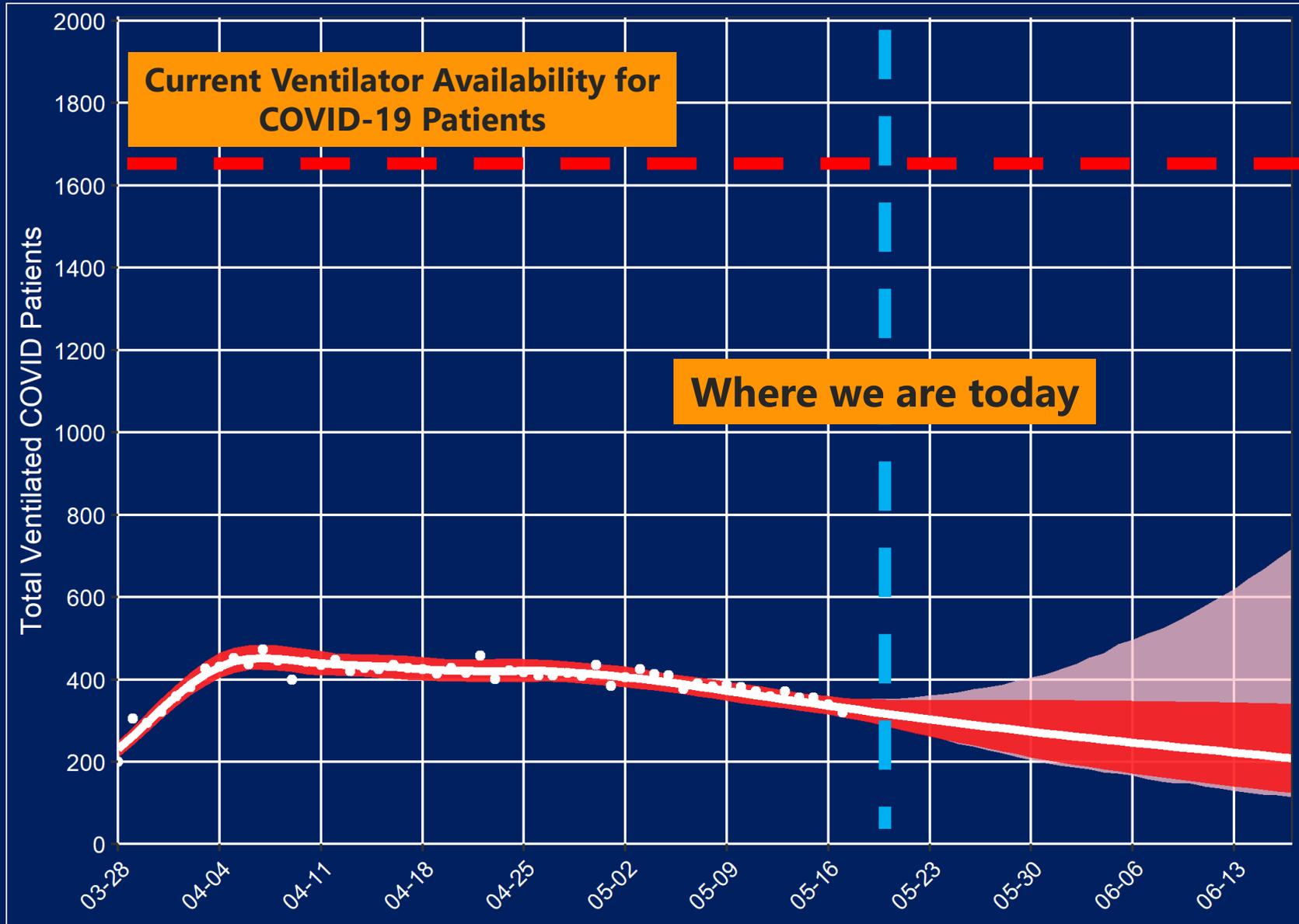
# Predictions of Demand in LA County | ICU Beds



Uncertainty if R increases

Uncertainty with no change in R

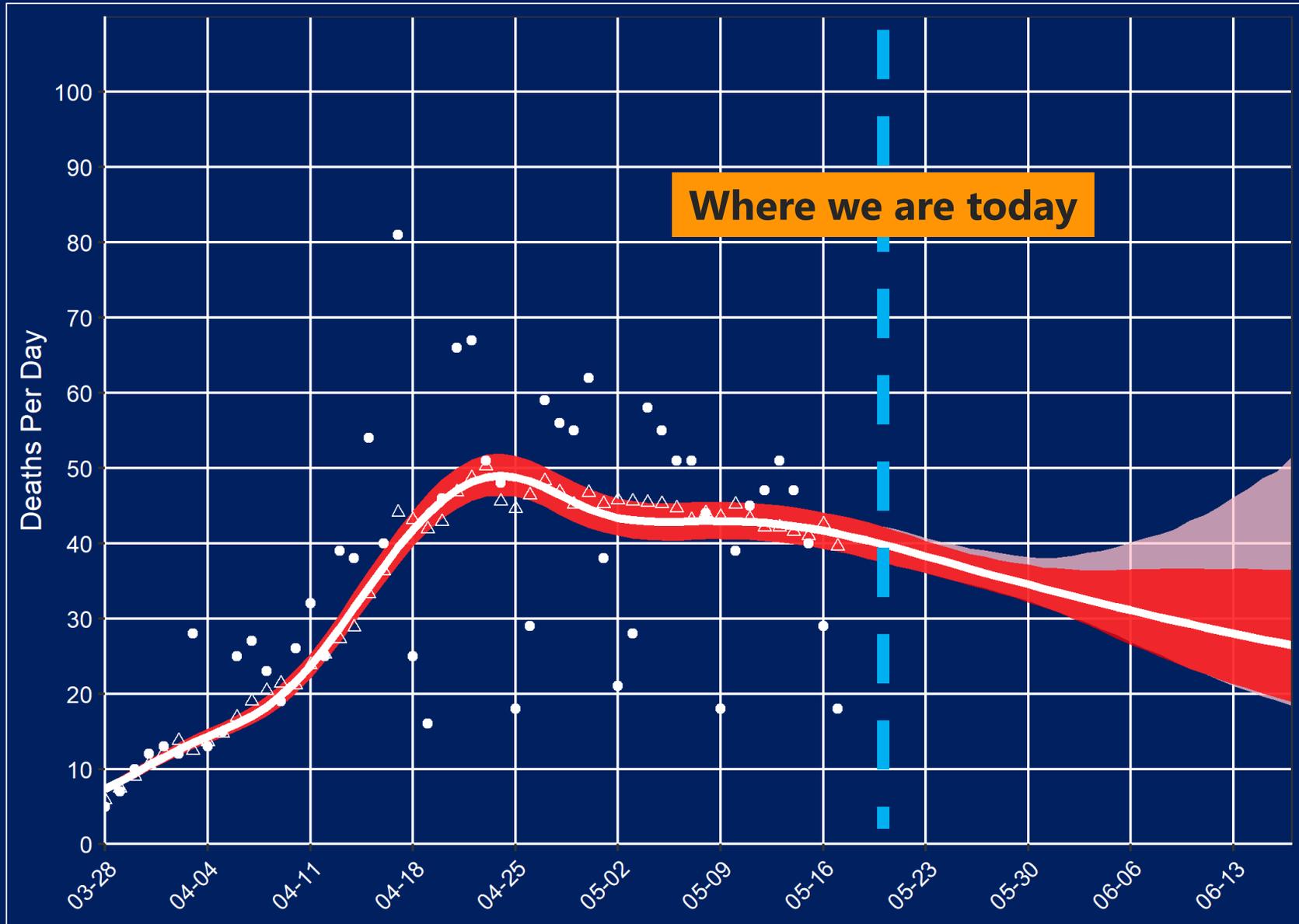
# Predictions of Demand in LA County | Ventilators



Uncertainty if R increases

Uncertainty with no change in R

# Predictions of Daily Mortality LA County



Where we are today

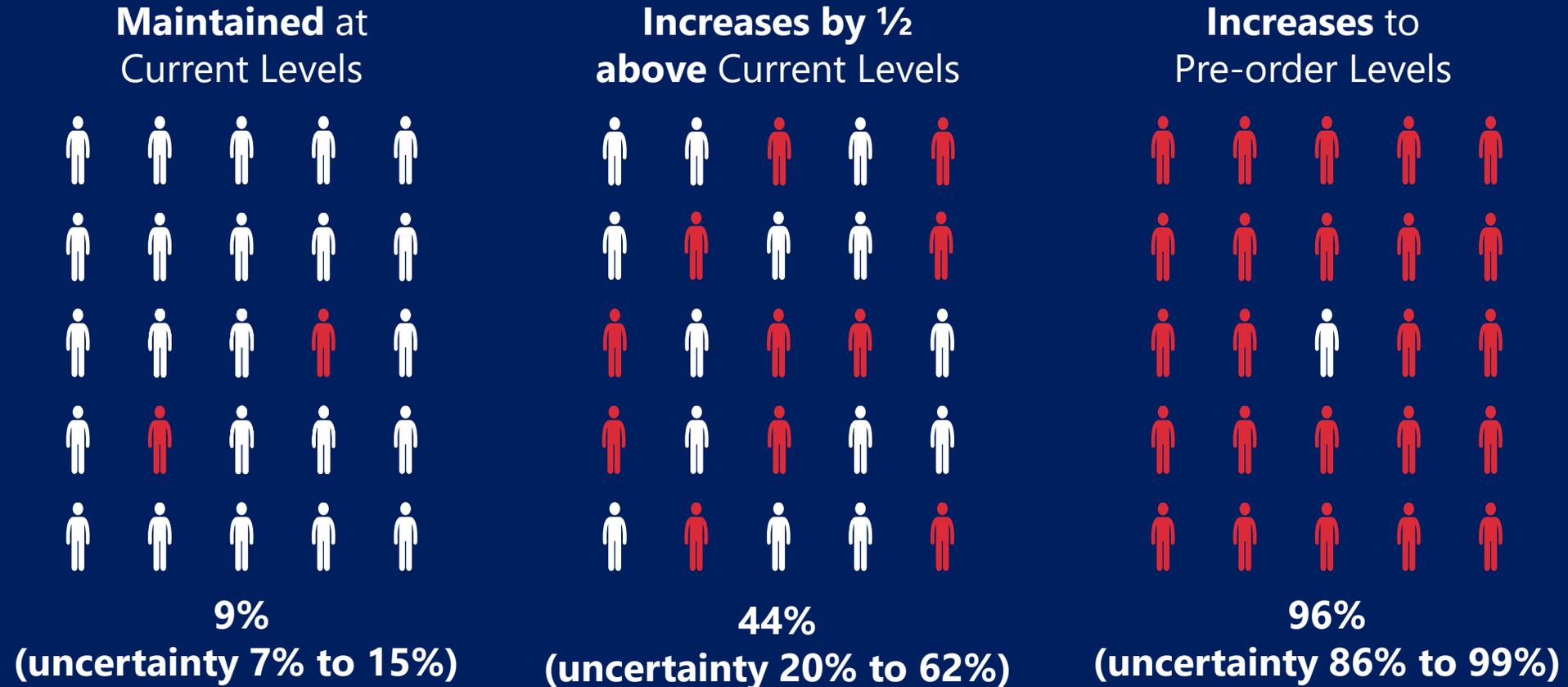


Uncertainty if R increases

Uncertainty with no change in R

# Effect of Behaviors to Control Transmission

If transmission....



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