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

January 27, 2021 Update

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Health Services
LOS ANGELES COUNTY

Key Findings of the January 27th Update

- This update includes data on hospitalizations through January 25, 2021.
- The underlying statistical prediction model is unchanged from last week.
- Key findings:
  - The number of new patients with COVID-19 requiring hospitalization each day across Los Angeles County, although still very high, has decreased. The illness severity in hospitalized patients remains very high, with high demand for intensive care, mechanical ventilation, and high mortality.
  - Based on hospitalization information that reflects transmission in early January, the estimated transmission number ("R") at that time was 0.85 with an uncertainty of 0.81 to 0.88. Our prior estimate for one week earlier was 0.94 with an uncertainty of 0.90 to 0.97.

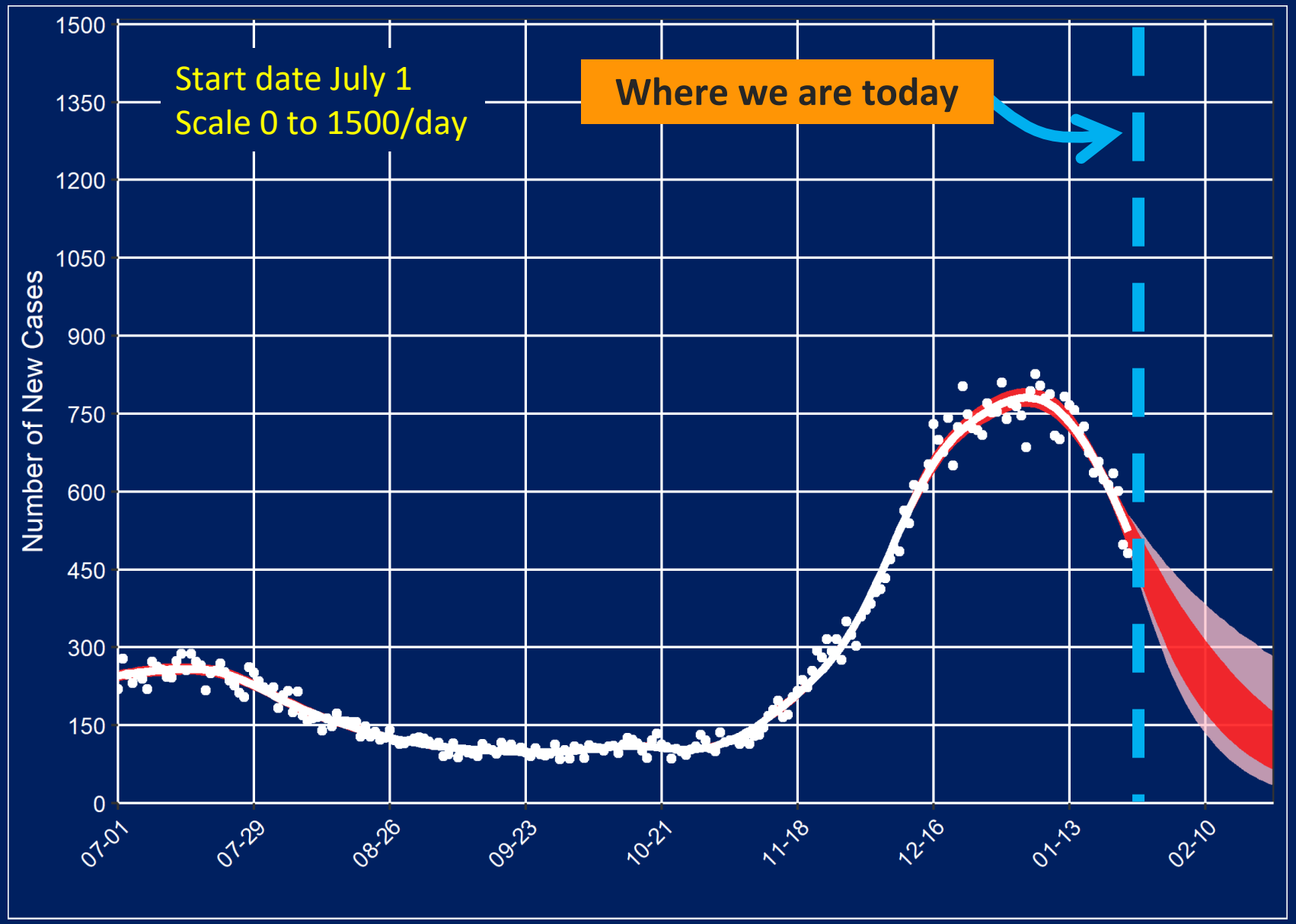
Key Findings of the January 27th Update (Continued)

- Key findings (Continued):
  - Based on the pattern in hospitalizations, we expect a continued high but decreasing demand for hospital-based services with a limited supply of hospital beds and continued shortages in ICU beds over the next 4 weeks. The number of ventilators in Los Angeles County appears adequate over the next 4 weeks. We expect average daily mortality to continue to be very high but then fall in the next 1 to 2 weeks.
  - An increase in behaviors that increase transmission could lead to an increase in the number of hospitalized patients in about 3 weeks' time

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 suggests that about 0.39% (uncertainty of 0.24% to 0.61%) of everyone in Los Angeles County is currently infected and infectious to others.
- This would suggest about 1 in 260 (between 1 in 430 and 1 in 160) Los Angeles County residents are currently infectious to others. One week ago, this estimate was 1 in 130.
- Approximately 1 in 3 persons in Los Angeles County has been infected with COVID-19 since the beginning of the pandemic.

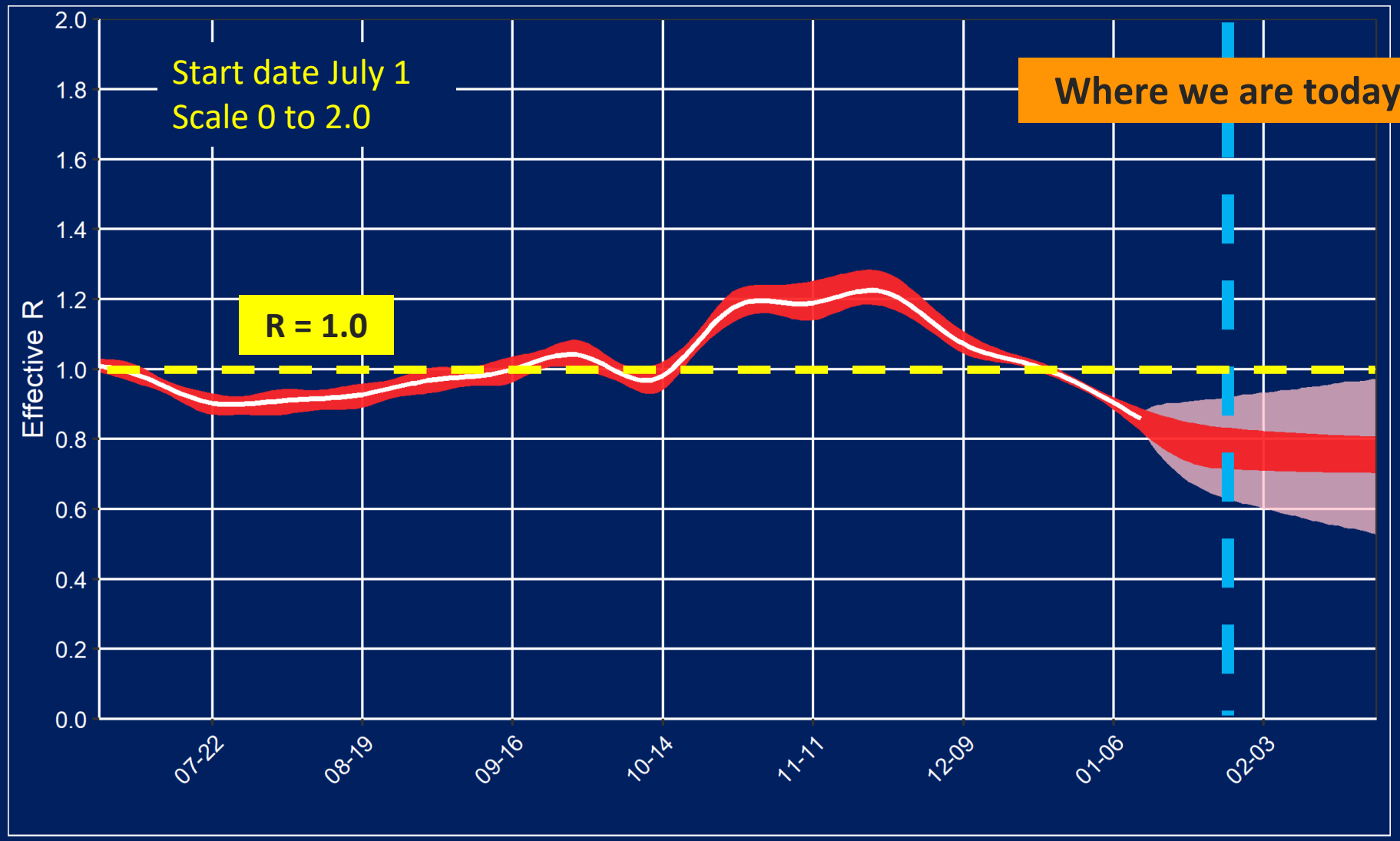
Hospital New Patient Projections



Additional uncertainty if transmission behavior varies

Uncertainty with no recent change in transmission behavior

Effective Transmission Number “R”



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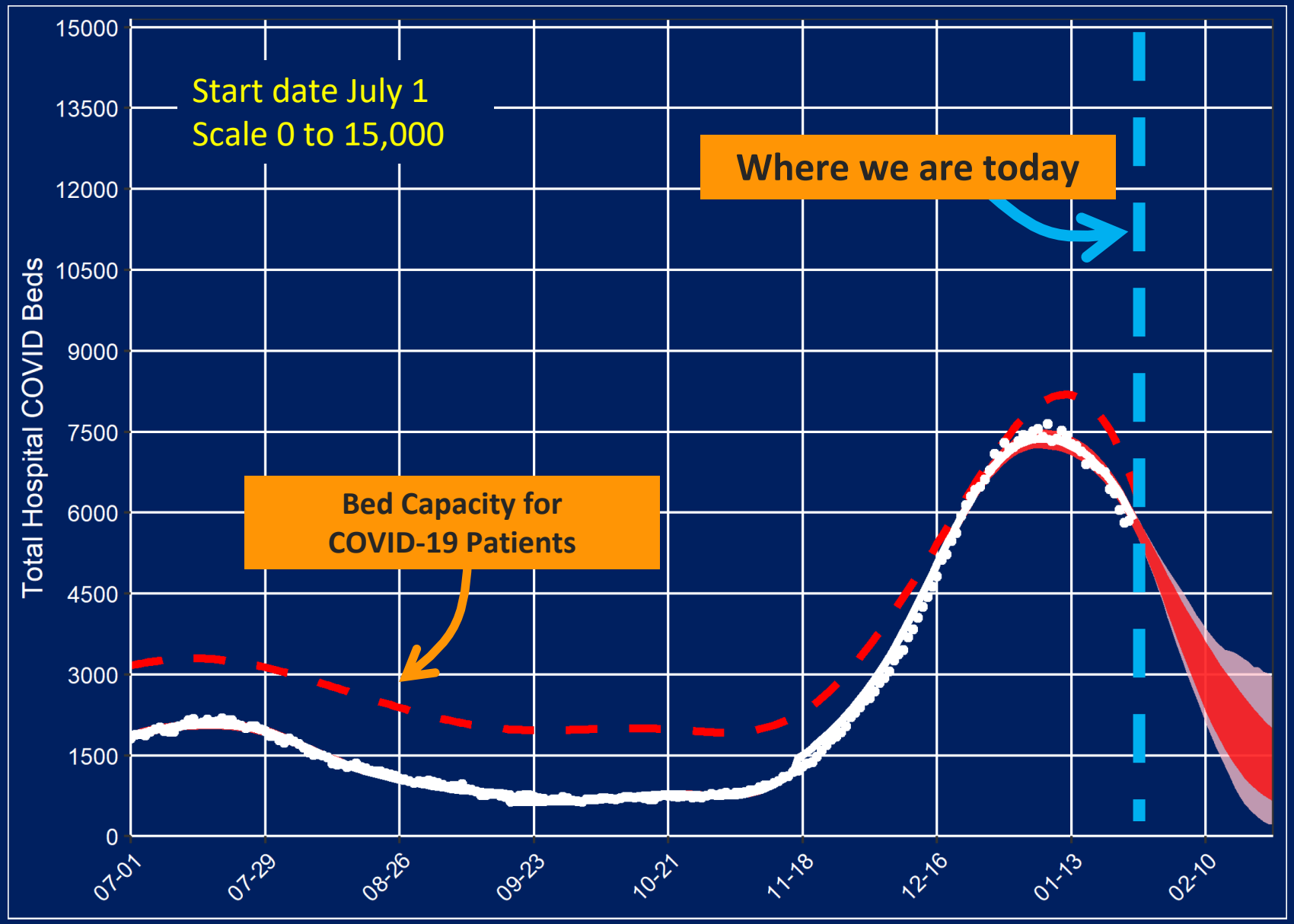
Note: We have adjusted the R that we present to account for the fraction of the population that is presumed to be immune to reinfection. At the beginning of the pandemic, this fraction was essentially zero so this would not have made any difference. But as more people have been infected, and are presumed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

Predictions of Hospital Bed Demand



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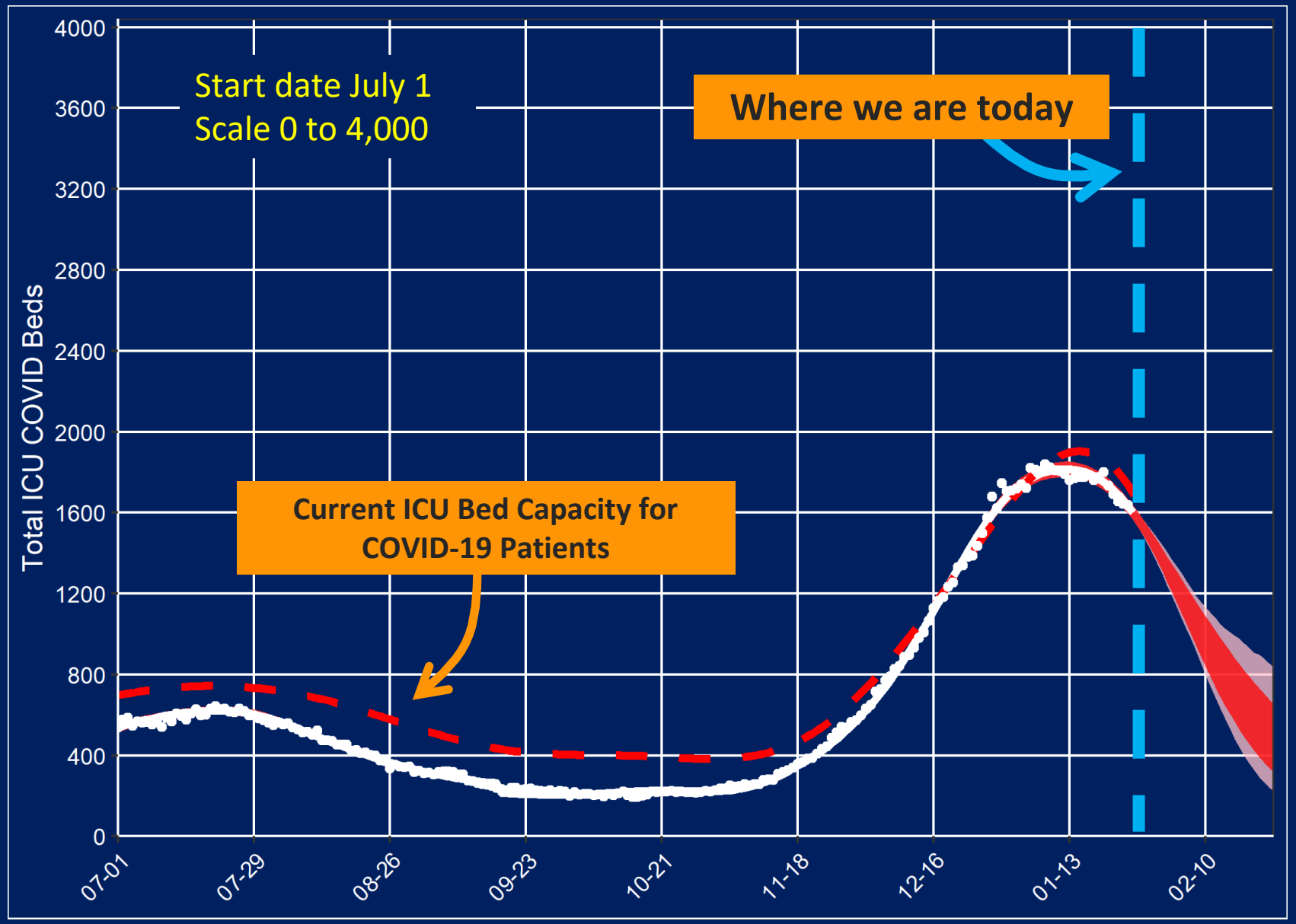
Predictions of ICU Bed Demand



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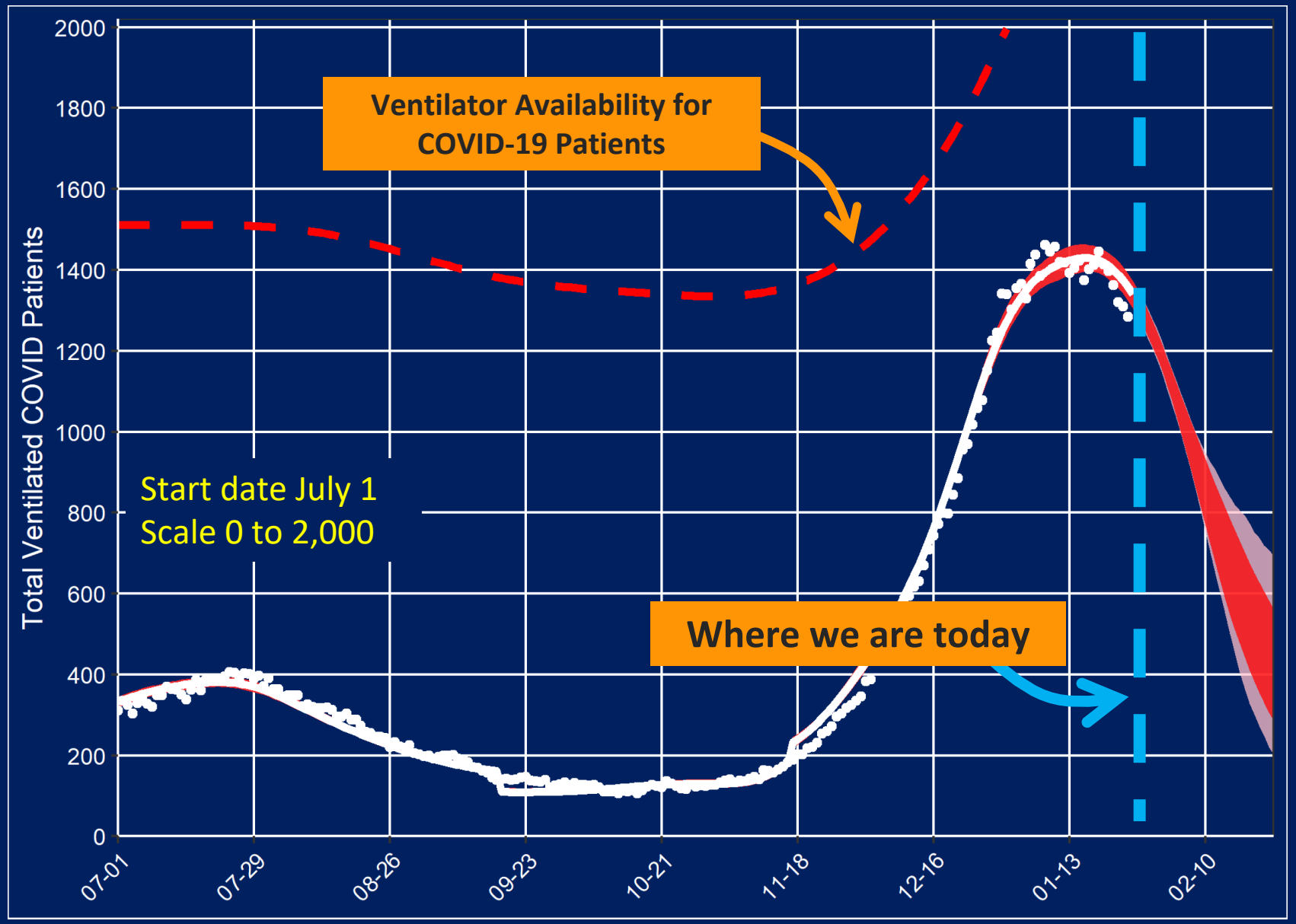
Predictions of Ventilator Demand



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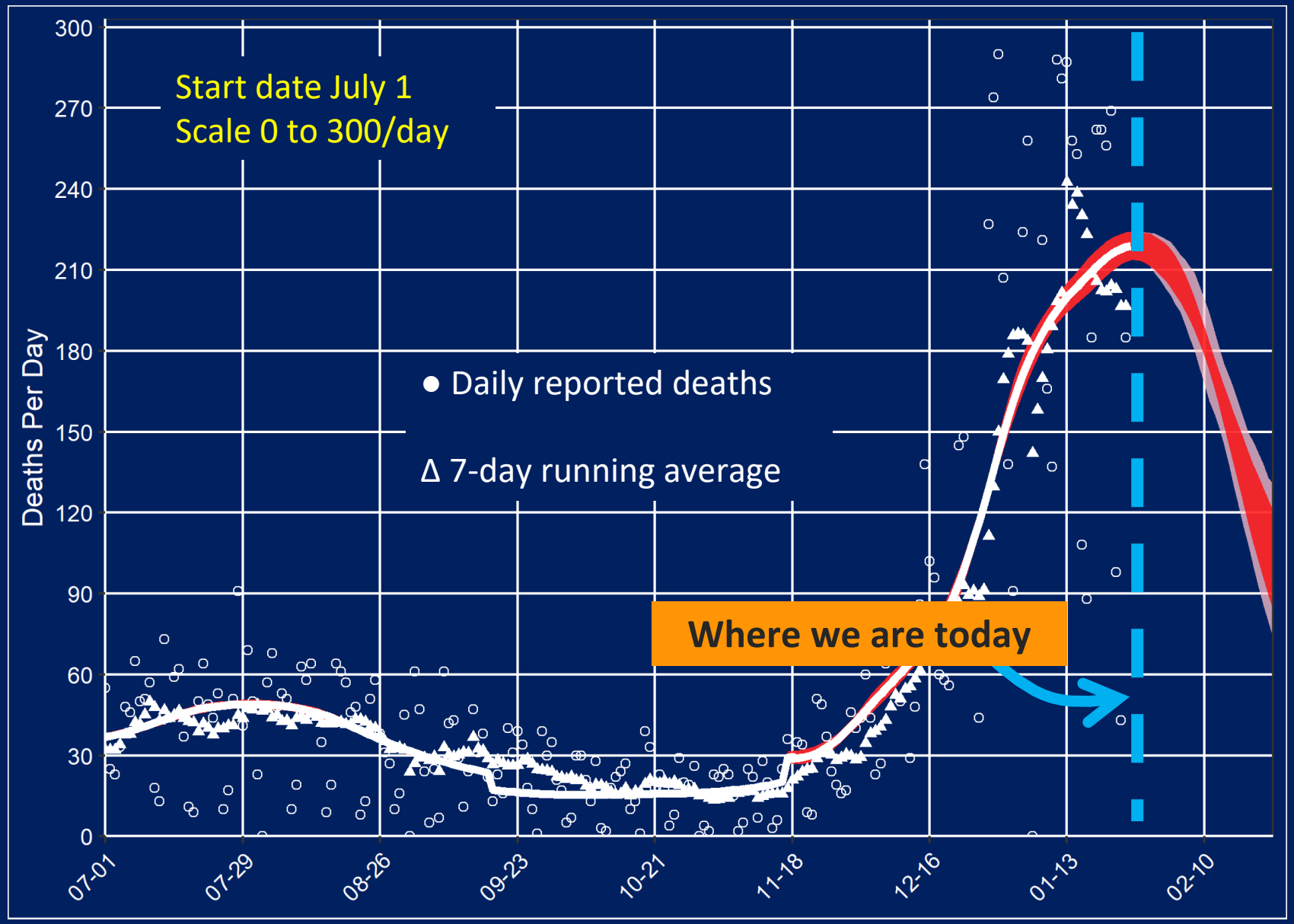
Predictions of Daily Mortality



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