

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

March 15, 2021 Update

Los Angeles County DHS COVID-19 Predictive Modeling Team (alphabetical):

Tom Belin, PhD;¹ Andrea Bertozzi, PhD;¹ Nishchal Chaudhary, MS;² Todd Graves, PhD;³
Jeffrey Guterman, MD, MS;⁴ M. Claire Jarashow, PhD, MPH;⁵ Roger J. Lewis, MD, PhD [*Team Lead*];⁴
Joe Marion, PhD;³ Frederic Schoenberg, PhD;¹ Megha Shah, MD, MPH, MS;⁵
Juliana Tolles, MD, MHS;⁴ Elizabeth Traub, MPH;⁵ Kert Viele, PhD;³ Fei Wu, PhD⁶

1. University of California, Los Angeles
2. City of Long Beach
3. Berry Consultants, LLC, Austin, TX
4. Los Angeles County, Department of Health Services
5. Los Angeles County, Department of Public Health
6. Los Angeles County, Office of the Chief Information Officer



Key Findings of the March 15th Update

- This update includes data on hospitalizations through March 12, 2021.
- The underlying statistical prediction model is unchanged from last week. The vertical scales on graphics were changed last week to better show recent data.
- Key findings:
 - The daily number of newly hospitalized patients with COVID-19 across Los Angeles County has continued to decrease, but at a slower rate.
 - Based on recent hospitalization data, reflecting transmission that occurred around the end of February, the estimated transmission number (“R”) at that time was 0.87 with an uncertainty of 0.80 to 0.94. This is higher than our estimate one week earlier of 0.79 with an uncertainty of 0.72 to 0.85.
 - Based on the pattern in hospitalizations, we expect a decreasing or stable demand for hospital-based services including hospital beds, ICU beds, and ventilators over the next 4 weeks, combined with decreasing daily mortality.

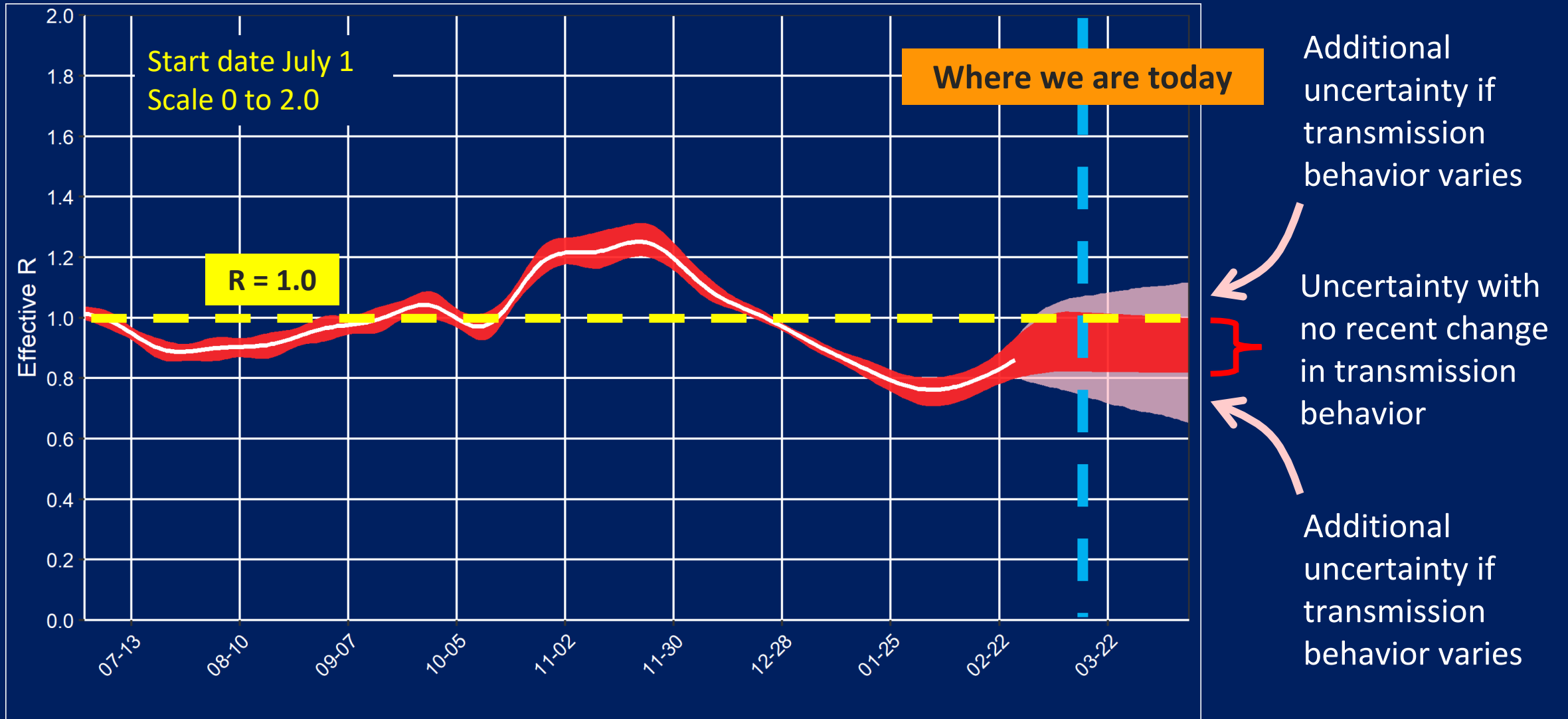
How Many in Los Angeles are Infectious to Others?

- 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 0.11% (uncertainty of 0.07% to 0.16%) of everyone in Los Angeles County is currently infected and infectious to others.
- This would suggest about 1 in 940 (between 1 in 1500 and 1 in 610) Los Angeles County residents are currently infectious to others. One week ago, this estimate was 1 in 1200.
- Approximately 3 in every 8 persons in Los Angeles County has been infected with COVID-19 since the beginning of the pandemic.

Hospital New Patient Projections

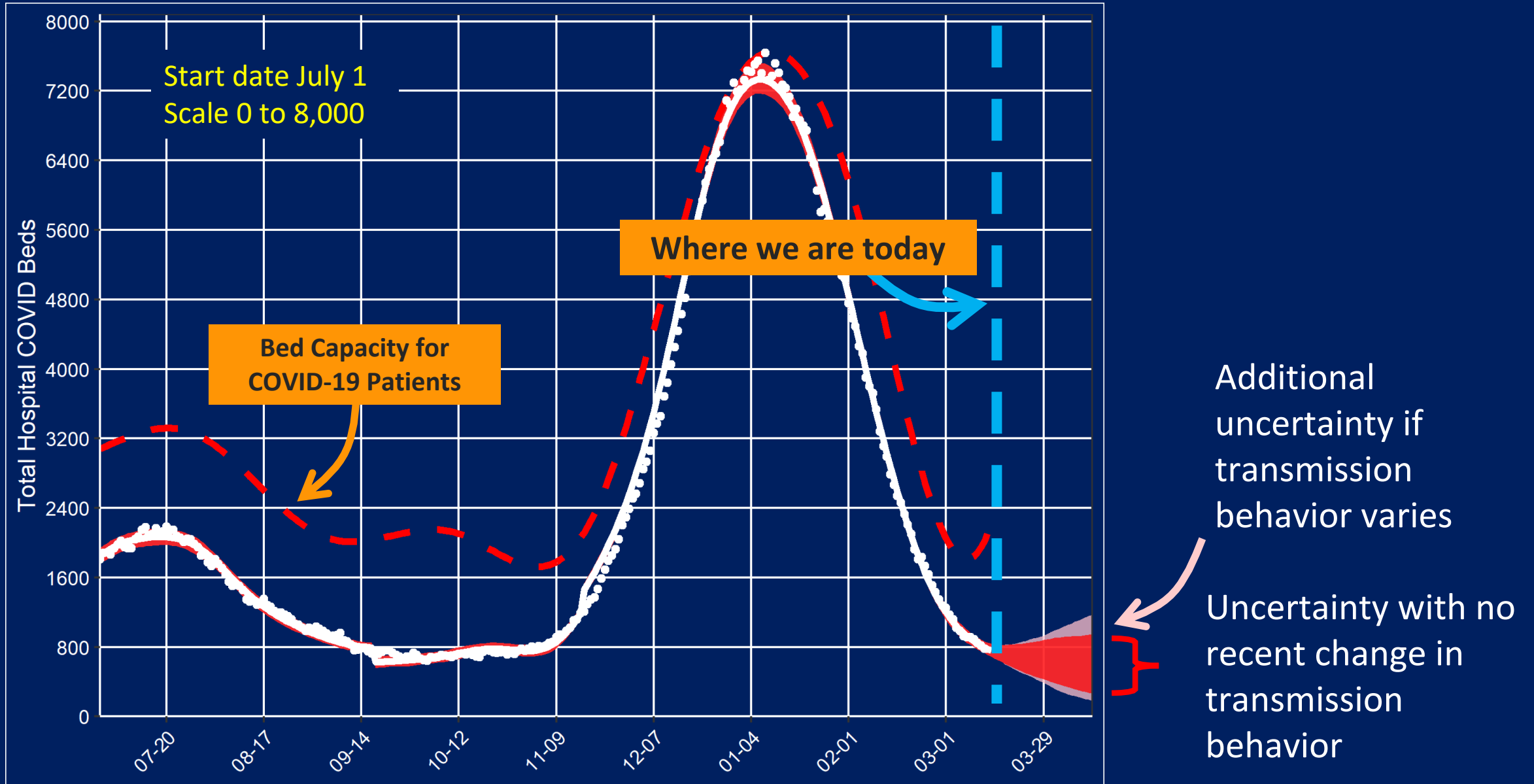


Effective Transmission Number “R”

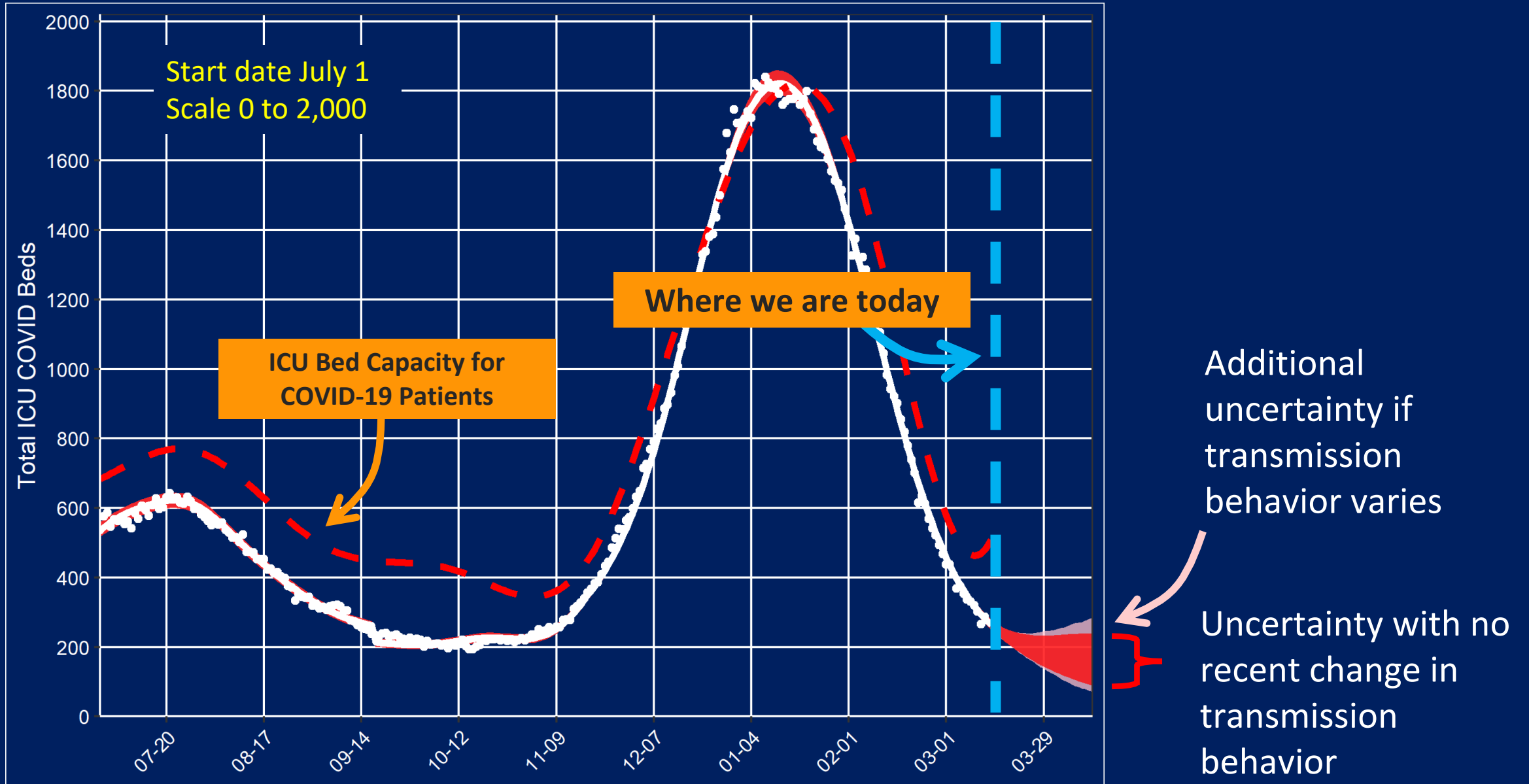


Note: The effective transmission number R is reduced by the partial herd immunity due to persons who have either experienced and recovered from COVID-19 or have been immunized.

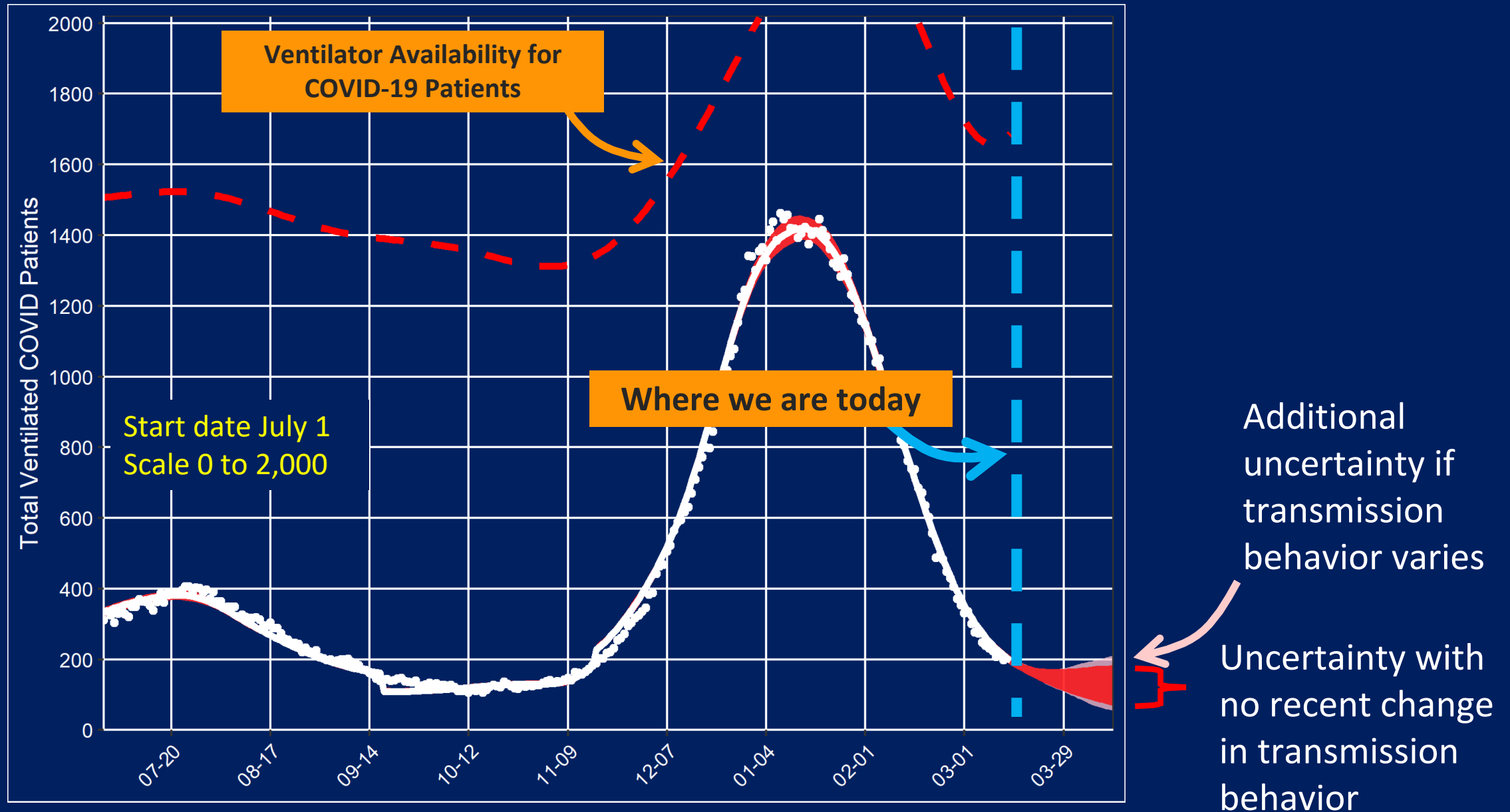
Predictions of Hospital Bed Demand



Predictions of ICU Bed Demand



Predictions of Ventilator Demand



Predictions of Daily Mortality

