Coronavirus Disease 2019 (COVID-19)

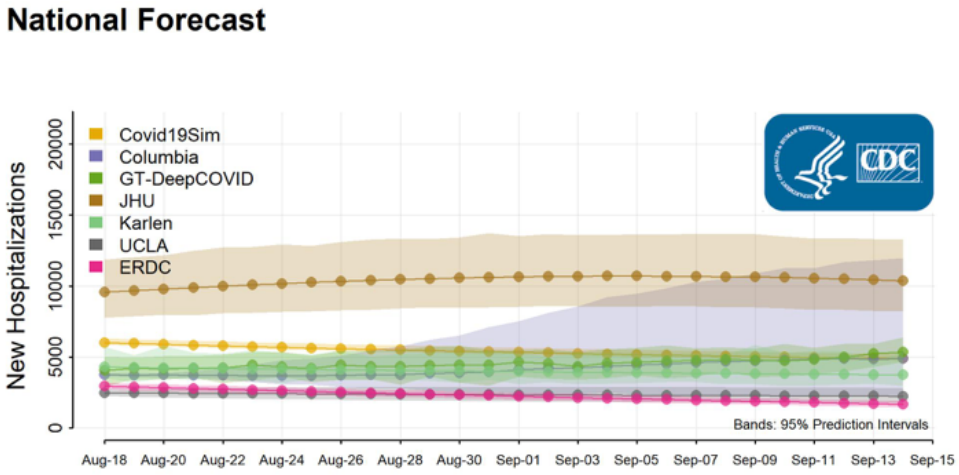
COVID-19 Forecasts: Hospitalizations

Updated Aug. 20, 2020 Print

Interpretation of Forecasts of New Hospitalizations

- This week, two national forecasts predict a likely increase in the number of new hospitalizations per day over the next four weeks, two forecasts predict a likely decline, and three forecasts are either uncertain about the direction of the trend or predict stable numbers. For September 14, the forecasts estimate 2,000 to 10,000 new COVID-19 hospitalizations per day.
- State-level forecasts also show a high degree of variability, which results from multiple factors. Hospitalization forecasts use different sources of data for COVID-19 cases or deaths, with different limitations, and make different assumptions about social distancing.
- Information about participating modeling groups, with model names, intervention assumptions, and methods, is available at: https://github.com/cdcepi/COVID-19-Forecasts/blob/master/COVID-19_Forecast_Model_Descriptions.md

National Forecasts



- The seven national forecasts show the predicted number of new COVID-19 hospitalizations per day for the next four weeks in the United States.
- The forecasts make different assumptions about hospitalization rates and levels of

social distancing and other interventions and use different methods to estimate the number of new hospitalizations.

State Forecasts

Eight state-level models predicting the number of new hospitalizations were submitted this week. These forecasts show the predicted number of new COVID-19 hospitalizations per day for the next four weeks in each state. Each state forecast uses a different scale, due to differences in the number of new COVID-19 cases occurring per day in each state.

Download state forecasts [7 pages][1]

Download forecast data [1 MB]

Additional forecast data and information on forecast submission are available at the COVID-19 Forecasting Hub.

Forecast Assumptions

These forecasts make different assumptions about social distancing measures and use different methods and data sets to estimate the number of new hospitalizations. Information about individual models is available here: https://github.com/cdcepi/COVID-19-Forecasts/blob/master/COVID-19_Forecast_Model_Descriptions.md.

Social distancing is incorporated into the forecasts in two different ways:

- These modeling groups make assumptions about how levels of social distancing will change in the future:
  - Covid-19 Simulator Consortium (Model: Covid19Sim)
  - Columbia University (Model: Columbia)
  - Johns Hopkins University, Infectious Disease Dynamics Lab (Model: JHU)
- These modeling groups assume that existing social distancing measures in each jurisdiction will continue through the projected four-week time period:
  - Georgia Institute of Technology, College of Computing, (Model: GT-DeepCOVID)
  - Karlen Working Group (Model: Karlen)
  - Los Alamos National Laboratory (Model: LANL)
  - US Army Engineer Research and Development Center (Model: ERDC)
  - University of California, Los Angeles (Model: UCLA)

The rate of new hospitalizations is estimated using one of three approaches:

- These modeling groups assume that a certain fraction of infected people will be hospitalized:
  - Covid-19 Simulator Consortium
  - Columbia University

    - Johns Hopkins University, Infectious Disease Dynamics Lab
    - Los Alamos National Laboratory
    - US Army Engineer Research and Development Center
    - University of California, Los Angeles
- The Georgia Institute of Technology, College of Computing, uses COVID-19 hospitalization data reported by some jurisdictions to forecast future hospitalizations.
- The Karlen Working Group uses the rate of reported infections to estimate the number of new hospitalizations in a given jurisdiction, unless the rates of reported infections and hospitalizations differ. In that case, the rate of reported hospitalizations is used to forecast new hospitalizations.

[1] The full range of the prediction intervals is not visible for all state plots. Please see the forecast data for the full range of state-specific prediction intervals.

Additional Resources

Previous COVID-19 Forecasts: Hospitalizations

FAQ: COVID-19 Data and Surveillance

CDC COVID Data Tracker

COVID-19 Mathematical Modeling

Last Updated Aug. 20, 2020
Content source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases