

# Coronavirus Disease 2019 (COVID-19)



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## Cases, Data & Surveillance

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## CASES, DATA & SURVEILLANCE

# COVID-19 Forecasts: Deaths

Updated Nov. 19, 2020 [Print](#) [f](#) [t](#) [in](#) [🌐](#)

Observed and forecasted new and total reported COVID-19 deaths as of November 16, 2020.

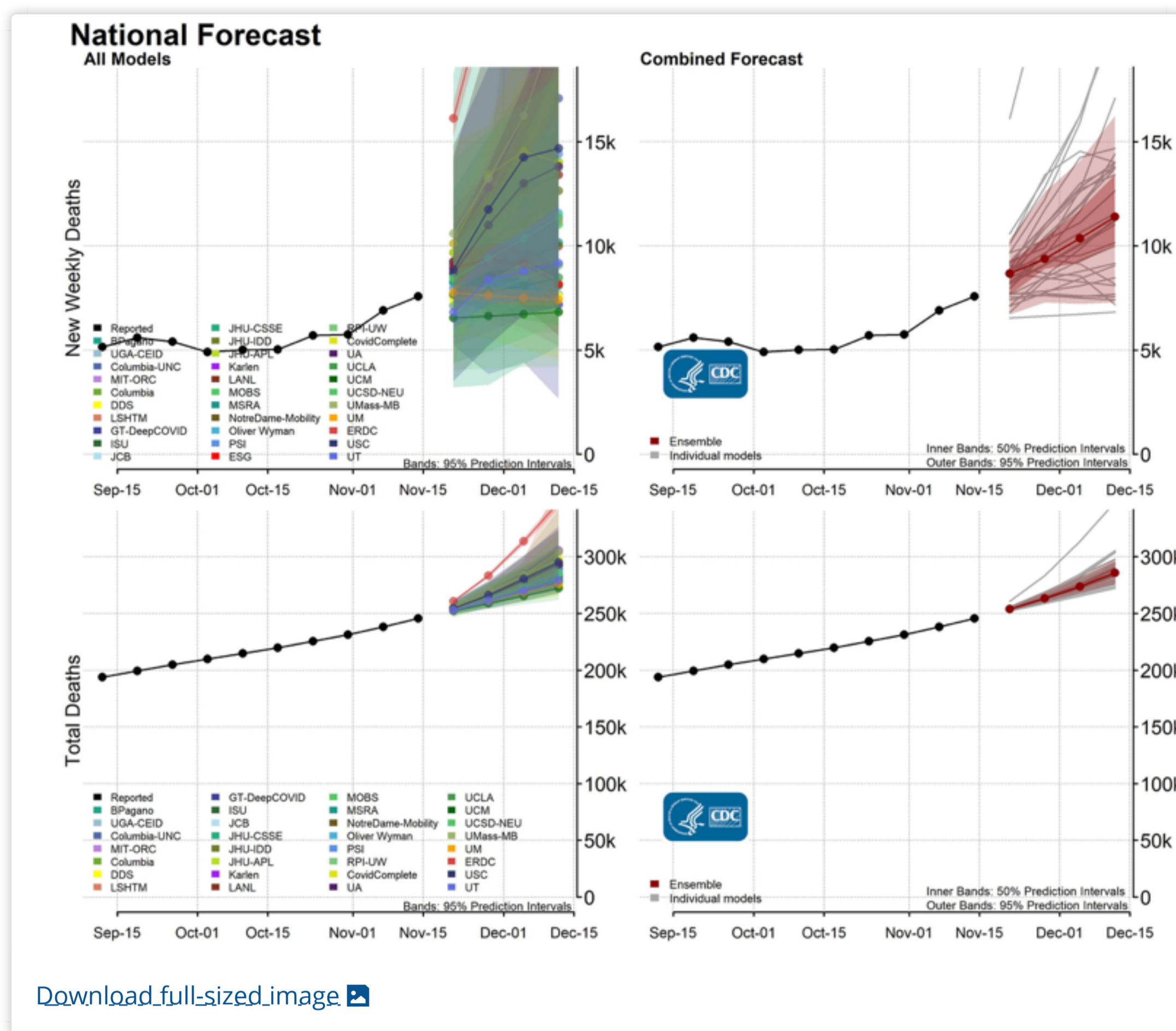
## Interpretation of Forecasts of New and Total Deaths

- This week CDC received forecasts of COVID-19 deaths over the next 4 weeks from 36 modeling groups that were included in the ensemble forecast. Of the 36 groups, 33 provided forecasts for both new and total deaths, two groups forecasted total deaths only, and one forecasted new death only.
- This week's national [ensemble forecast](#) predicts that the number of newly reported COVID-19 deaths will likely increase over the next four weeks, with 7,300 to 16,000 new deaths likely to be reported in the week ending December 12, 2020. The national ensemble predicts that a total of 276,000 to 298,000 COVID-19 deaths will be reported by this date.
- The state- and territory-level ensemble forecasts predict that over the next 4 weeks, the number of newly reported deaths per week will likely increase in 36 jurisdictions, which are indicated in the forecast plots below. Trends in numbers of future reported deaths are uncertain or predicted to remain stable in the other states and territories.

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## National Forecast



- The top row of the figure shows the number of new COVID-19 deaths reported in the United States each week from September 12 through November 14 and forecasted new deaths over the next four weeks, through December 12.
- The bottom row of the figure shows the number of total COVID-19 deaths in the United States each week from September 12 through November 14 and the forecasted number of total COVID-19 deaths over the next four weeks, through December 12.
- Models make various assumptions about the levels of social distancing and other interventions, which may not reflect recent changes in behavior.

[Download national forecast data](#) [XLS - 24 KB]

## State Forecasts

Plots of individual state forecasts, each state-level [ensemble forecast](#) and the underlying data can be downloaded below. Each state forecast figure uses a different scale, due to differences in the number of COVID-19 deaths between states.

[Download state forecasts](#) [PDF - 2 MB, 29 Pages] <sup>1</sup>

[Download forecast data](#) [CSV - 1 MB]

Additional forecast data and information on forecast submission are available at the [COVID-19 Forecast Hub](#).

**Forecasts on COVID Data Tracker**  
View interactive visualizations of current and past cumulative and weekly COVID-19 death forecasts for the U.S. states and territories. Also, find maps and charts tracking cases, deaths, and trends of COVID-19 in the U.S.

## Ensemble Forecast

An "ensemble" forecast combines each of the independently developed forecasts into one aggregate forecast to improve prediction over the next 4 weeks. Both national and state-level ensemble forecasts are developed for predicting new and total COVID-19 deaths reported each week for the next 4 weeks. [Ensemble Forecasts of Coronavirus Disease 2019 \(COVID-19\) in the U.S.](#) describes its accuracy in short-term predictions and its usefulness as a real-time tool to help guide policy and planning.

## Forecast Inclusion and Assumptions

The forecast included in the ensemble are displayed below. Forecasts are included when they meet a set of submission and data quality requirements, further described here: <https://github.com/reichlab/covid-19-forecast-hub#ensemble-model>.

The forecasts make different assumptions about social distancing measures. Information about individual models is available here: [https://github.com/cdcepi/COVID-19-Forecasts/blob/master/COVID-19\\_Forecast\\_Model\\_Descriptions.md](https://github.com/cdcepi/COVID-19-Forecasts/blob/master/COVID-19_Forecast_Model_Descriptions.md). The list below includes all models that submitted a national- or state-level forecast.

Forecasts fall into one of two categories:

- These modeling groups make assumptions about how levels of social distancing will change in the future:
  - [Columbia University](#) (Model: Columbia)
  - [Google and Harvard School of Public Health](#) (Model: Google-HSPH)
  - [John Burant](#) (Model: JCB)
  - [Johns Hopkins University, Infectious Disease Dynamics Lab](#) (Model: JHU-IDD)
  - [Predictive Science Inc.](#) (Model: PSI)
  - [University of California, Los Angeles](#) (Model: UCLA)
- These modeling groups assume that existing social distancing measures will continue through the projected four-week time period:
  - [Bob Pagano](#) (Model: BPagano)
  - [Carnegie Mellon Delphi Group](#) (Model: CMU)
  - [Columbia University and University of North Carolina](#) (Model: Columbia-UNC)
  - [Discrete Dynamical Systems](#) (Model: DDS)
  - [Georgia Institute of Technology, College of Computing](#) (Model: GT-DeepCOVID)
  - [Iowa State University](#) (Model: ISU)
  - [Johns Hopkins University Applied Physics Lab](#) (Model: JHU-APL)
  - [Johns Hopkins University, Center for Systems Science and Engineering](#) (Model: JHU-CSSE)
  - [Karlen Working Group](#) (Model: Karlen)
  - [London School of Hygiene and Tropical Medicine](#) (Model: LSHTM)
  - [Los Alamos National Laboratory](#) (Model: LANL)
  - [Massachusetts Institute of Technology, Operations Research Center](#) (Model: MIT-ORC)
  - [Microsoft Research, Asia](#) (Model: MSRA)
  - [Northeastern University, Laboratory for the Modeling of Biological and Socio-technical Systems](#) (Model: MOBS)
  - [Notre Dame University](#) (Model: NotreDame-Mobility)
  - [Oliver Wyman](#) (Model: Oliver Wyman)
  - [Rensselaer Polytechnic Institute and University of Washington](#) (Model: RPI-UW)
  - [Robert Walraven](#) (Model: ESG)
  - [Steve McConnell](#) (Model: CovidComplete)
  - [University of Arizona](#) (Model: UA)
  - [University of California, Merced](#) (Model: UCM)
  - [University of California, San Diego and Northeastern University](#) (Model: UCSD-NEU)
  - [University of California, Santa Barbara](#) (Model: UCSB)
  - [University of Georgia, Center for the Ecology of Infectious Disease](#) (Model: UGA-CEID)
  - [University of Massachusetts, Amherst](#) (Models: UMass-MB and Ensemble)
  - [University of Michigan](#) (Model: UM)
  - [University of Southern California](#) (Model: USC)
  - [University of Texas, Austin](#) (Model: UT)
  - [US Army Engineering Research and Development Center](#) (Model: ERDC)
  - [Walmart Labs Data Science Team](#) (Model: Walmart)

<sup>1</sup> 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: Deaths](#)

[FAQ: COVID-19 Data and Surveillance](#)

[CDC COVID Data Tracker](#)

[COVID-19 Mathematical Modeling](#)

[Ensemble Forecasts of Coronavirus Disease 2019 \(COVID-19\) in the U.S.](#)