COVID-19 Forecasting Model
Disclaimers

- The following forecast models ...
  - ... are predicated on the persistence of current behaviors.
  - ... do not account for outbreaks in specific settings (e.g., nursing homes).
  - ... are much like weather forecasts; that is, proximate predictions are more stable than distant predictions.
  - ... include the Emergency Preparedness regions with a sufficient number of patients to produce reliable results.
Methodology

• Reported distributions of COVID deaths and cases across the globe were used to model the estimated time to peak and the shape of the distributions.

• Nonlinear regression models were applied to observed daily counts of patients for Alabama, UAB, and Emergency Preparedness districts. (Forecast models for districts with small numbers of patients are not shown due to the instability of the results.)

• The regression models were informed by global time to peak estimates and the shape of the temporal distribution of deaths/cases from geographic areas that demonstrated optimal resemblance to Alabama, UAB, and Emergency Preparedness districts.
State Emergency Preparedness Districts
Alabama COVID Patient Forecast
Observed and Predicted Number of COVID Inpatients, Alabama Hospitals

Observed # of Inpatients

Predicted # of Inpatients

Number of COVID Patients
UAB COVID Patient Forecast
Observed and Predicted Number of COVID Inpatients, UAB Hospital
Jefferson District COVID Patient Forecast
Observed and Predicted Number of COVID Inpatients, Jefferson County Hospitals

Number of COVID Patients

Observed data points are represented by red circles, while the blue line represents the predicted trend. The graph shows a peak in the number of COVID patients around mid-April, followed by a decline and a slightly rising trend until July 13, 2020.
East Central District COVID Patient Forecast
Observed and Predicted Number of COVID Inpatients, East Central District Hospitals
Mobile District COVID Patient Forecast
Observed and Predicted Number of COVID Inpatients, Mobile District Hospitals

Number of COVID Patients
