

# COVID-19 Forecasting Model

**UAB** HEALTH SYSTEM



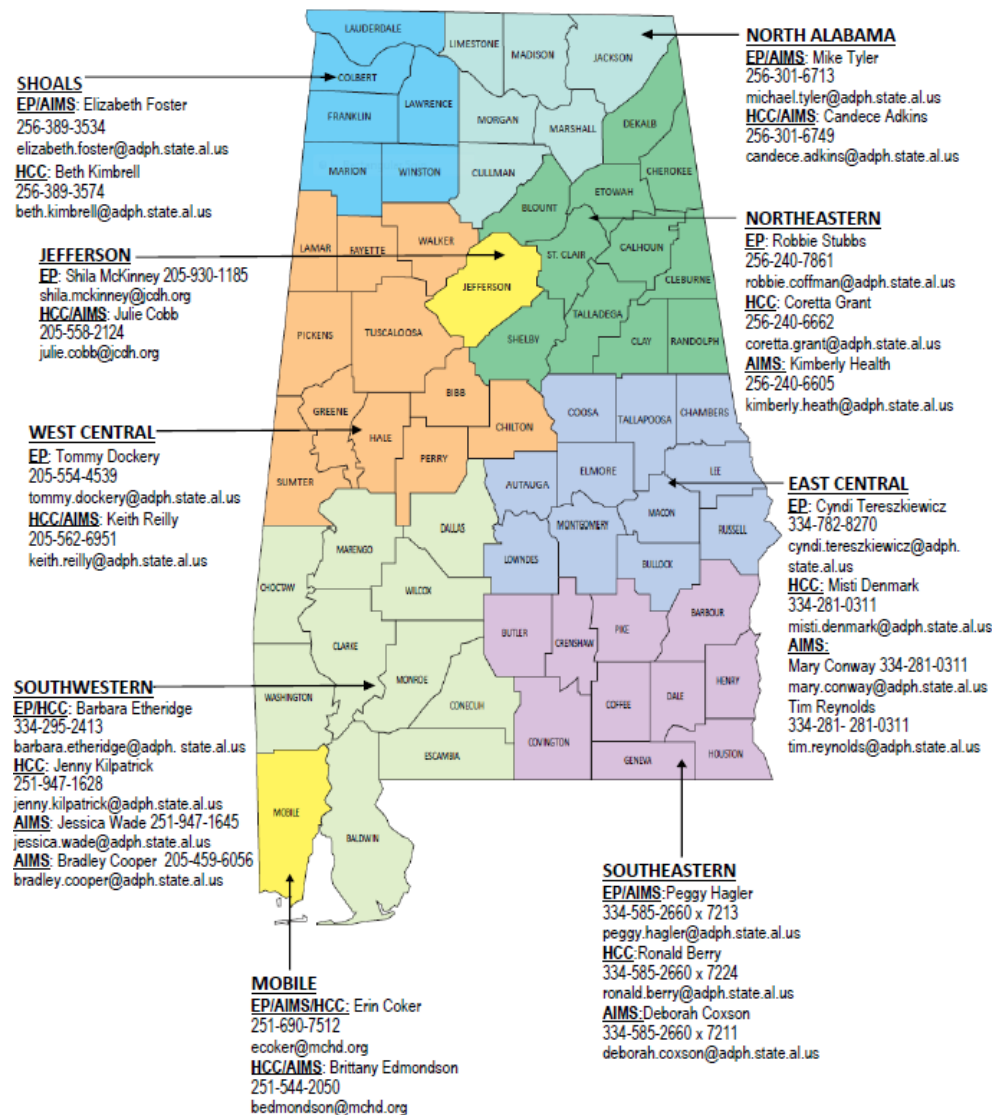
# Disclaimers

- **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

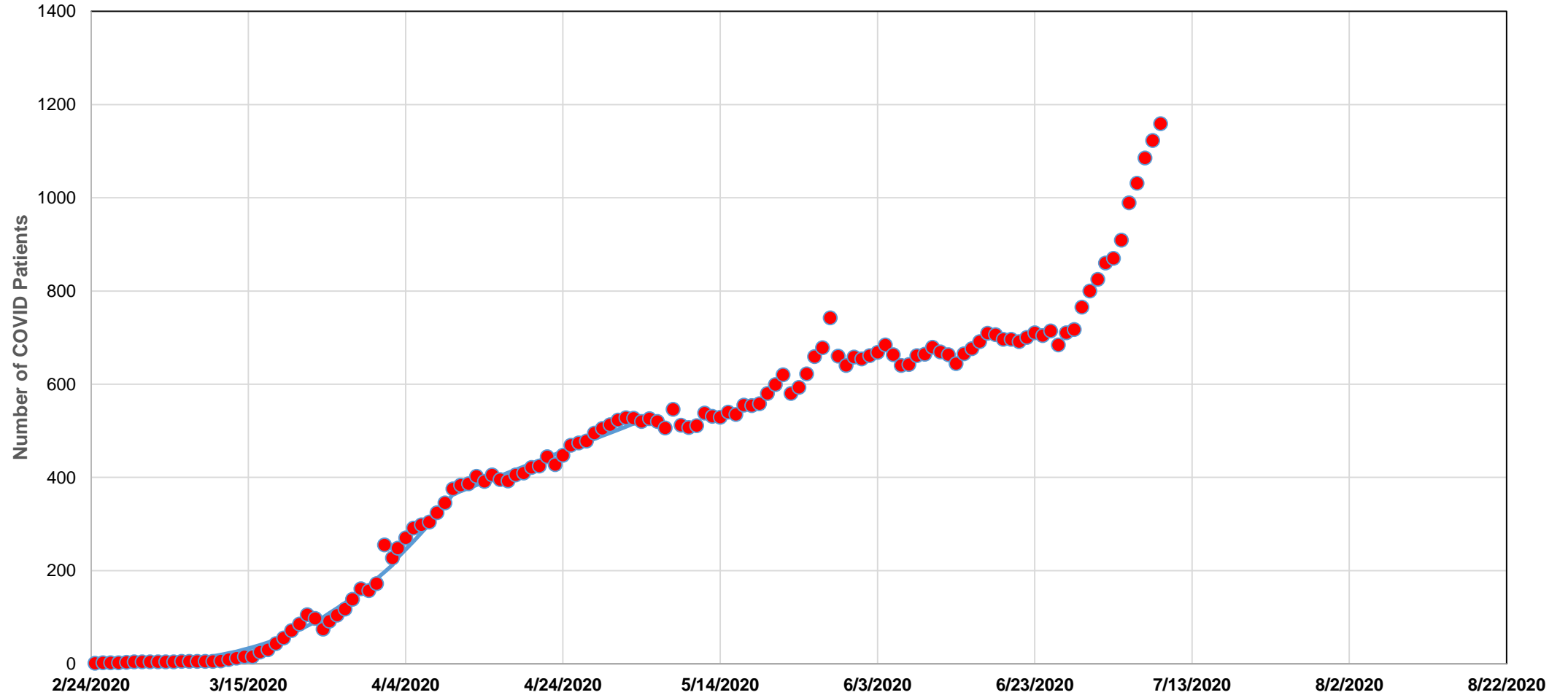
- Reported distributions of COVID deaths and cases across the globe were used to model the estimated time to peak and the shape of the distributions.
- Nonlinear regression models were applied to observed daily counts of patients for Alabama, UAB, and Emergency Preparedness districts. (Forecast models 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

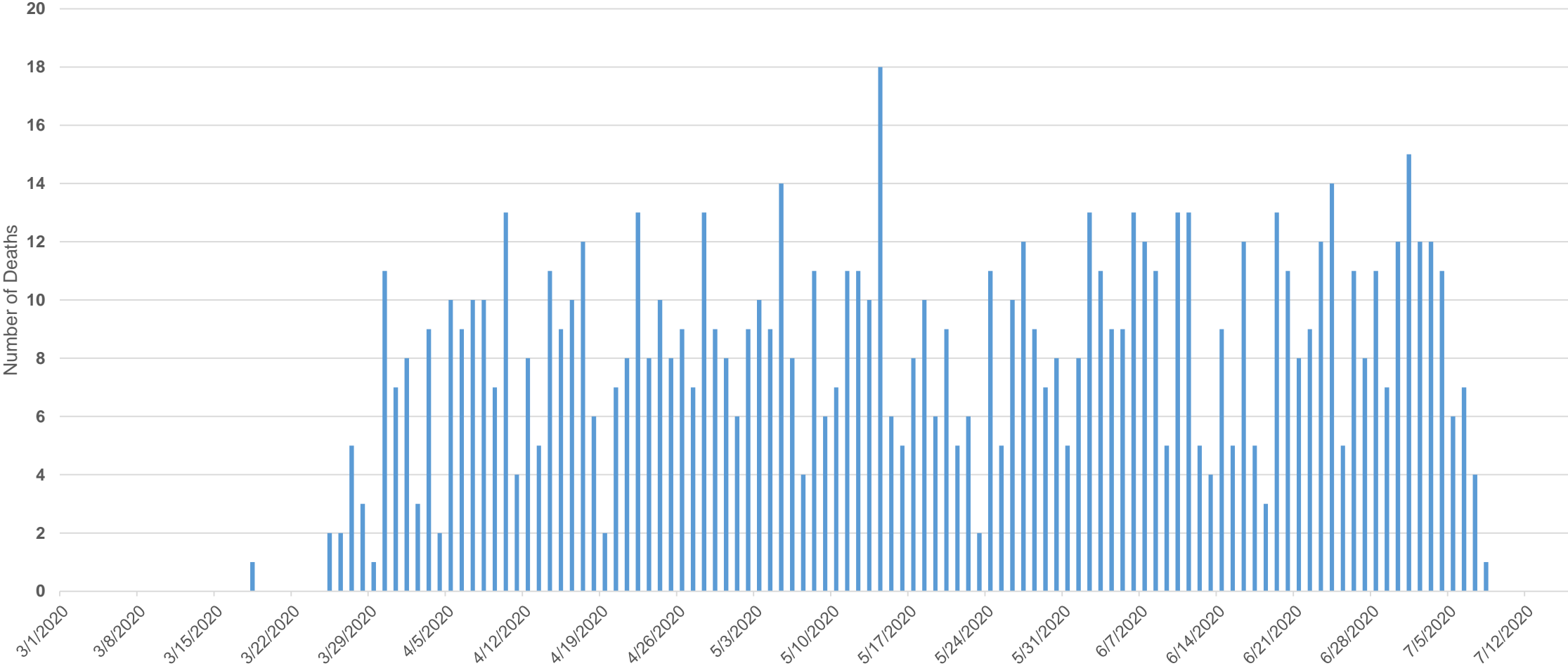


# Alabama COVID Patient Forecast

Observed and Predicted Number of COVID Inpatients, Alabama Hospitals



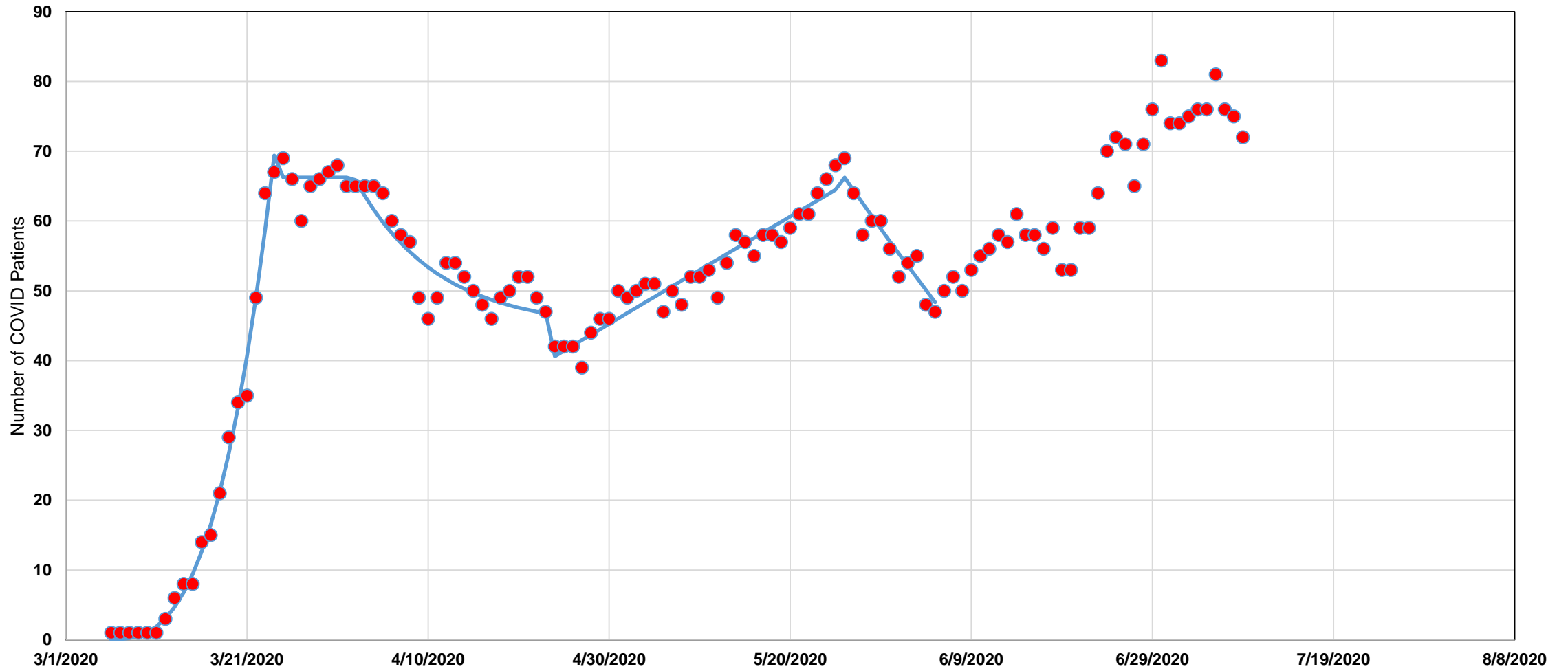
### Daily Number of Deaths Among COVID+ Hospitalized Patients, Alabama



# UAB COVID Patient Forecast

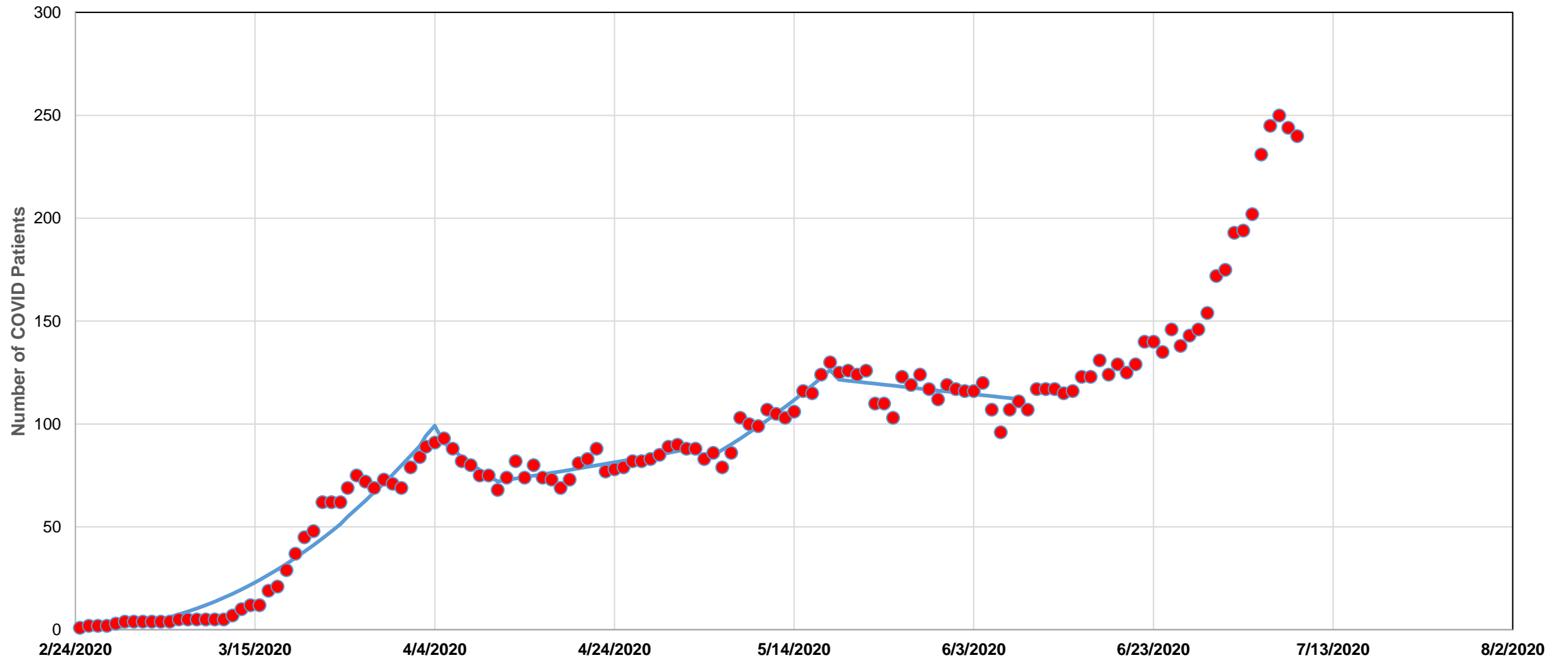


Observed and Predicted Number of COVID Inpatients, UAB Hospital



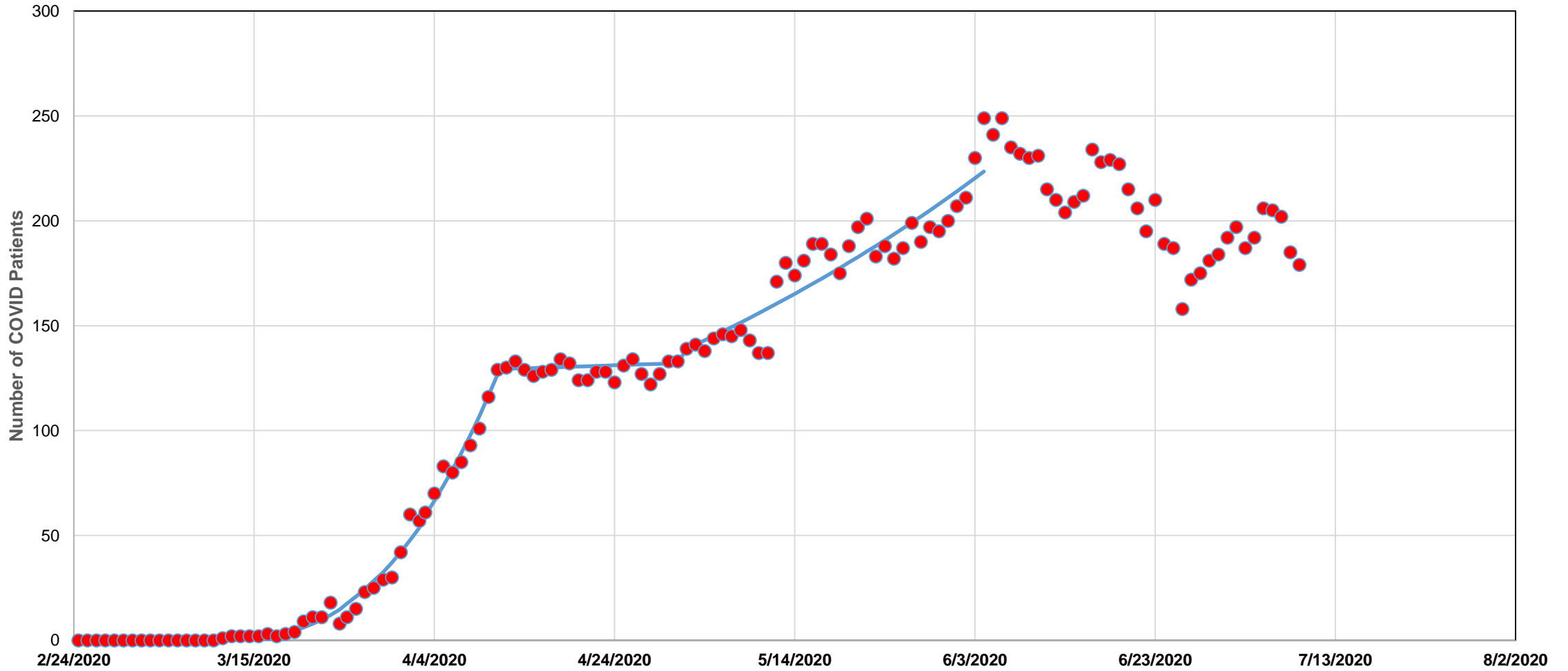
# Jefferson District COVID Patient Forecast

Observed and Predicted Number of COVID Inpatients, Jefferson County Hospitals



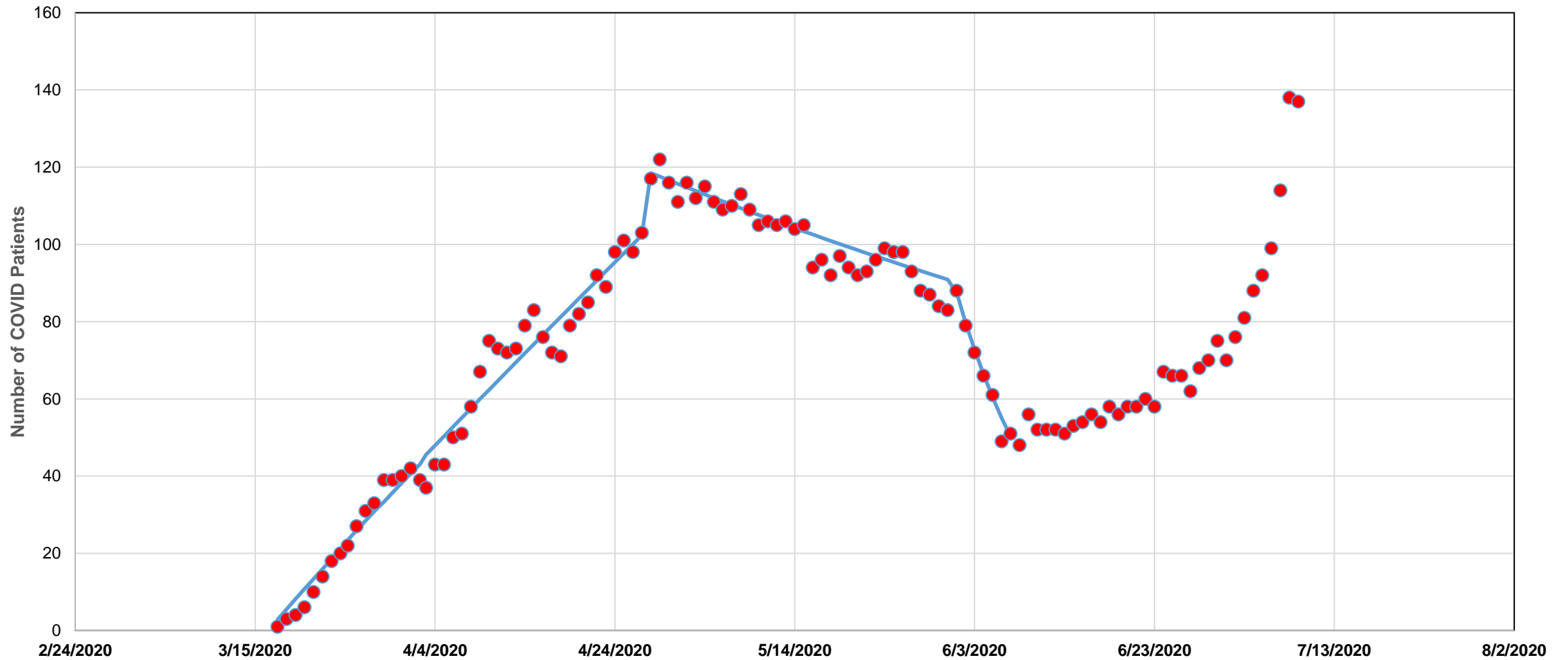
# East Central District COVID Patient Forecast

Observed and Predicted Number of COVID Inpatients, East Central District Hospitals



# Mobile District COVID Patient Forecast

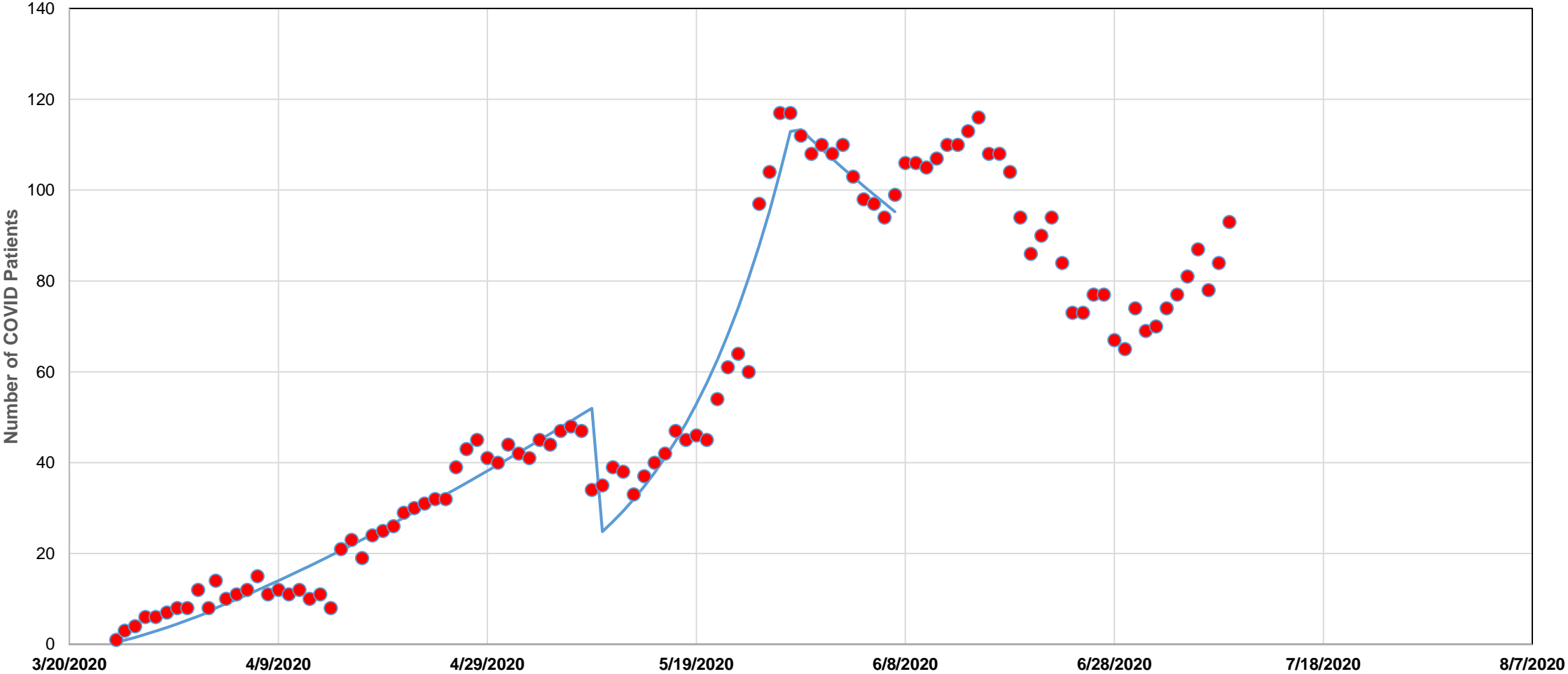
Observed and Predicted Number of COVID Inpatients, Mobile District Hospitals



# West Central District COVID Patient Forecast

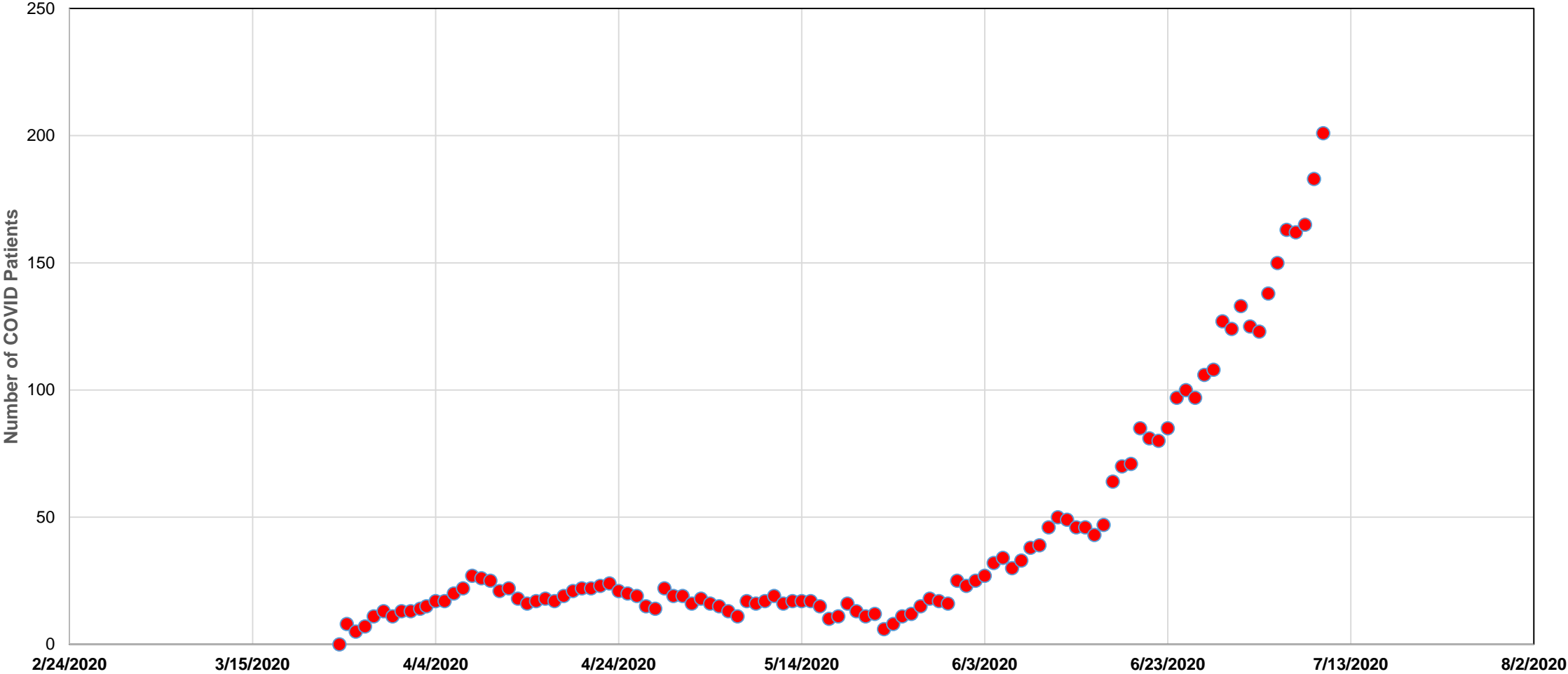


Observed and Predicted Number of COVID Inpatients, West Central District Hospitals



# North Alabama District COVID Patient Forecast

Observed and Predicted Number of COVID Inpatients, North Alabama District Hospitals



# Other Districts COVID Patient Trajectories

### Number of In-House COVID-19 Patients by Day and Region

