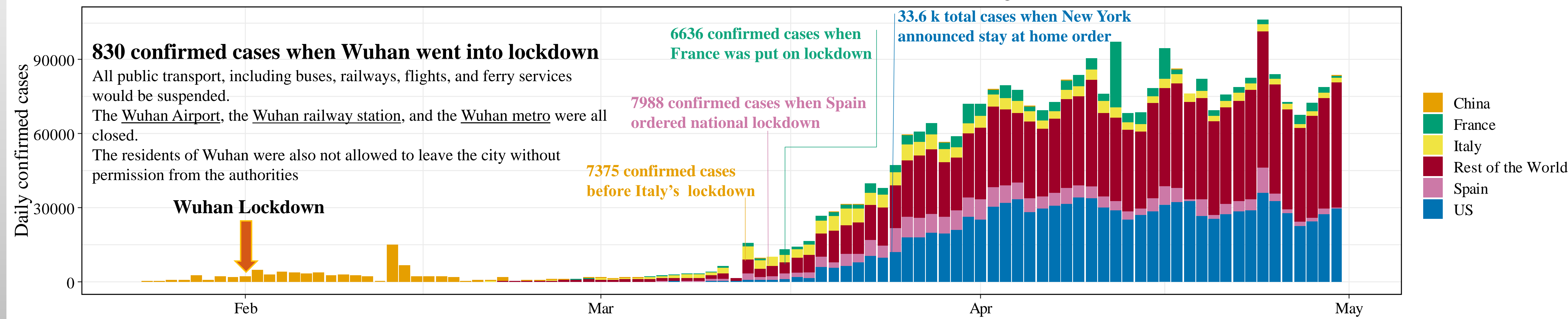


COVID-19 Pandemic; Factors Affecting Spread And Fatality

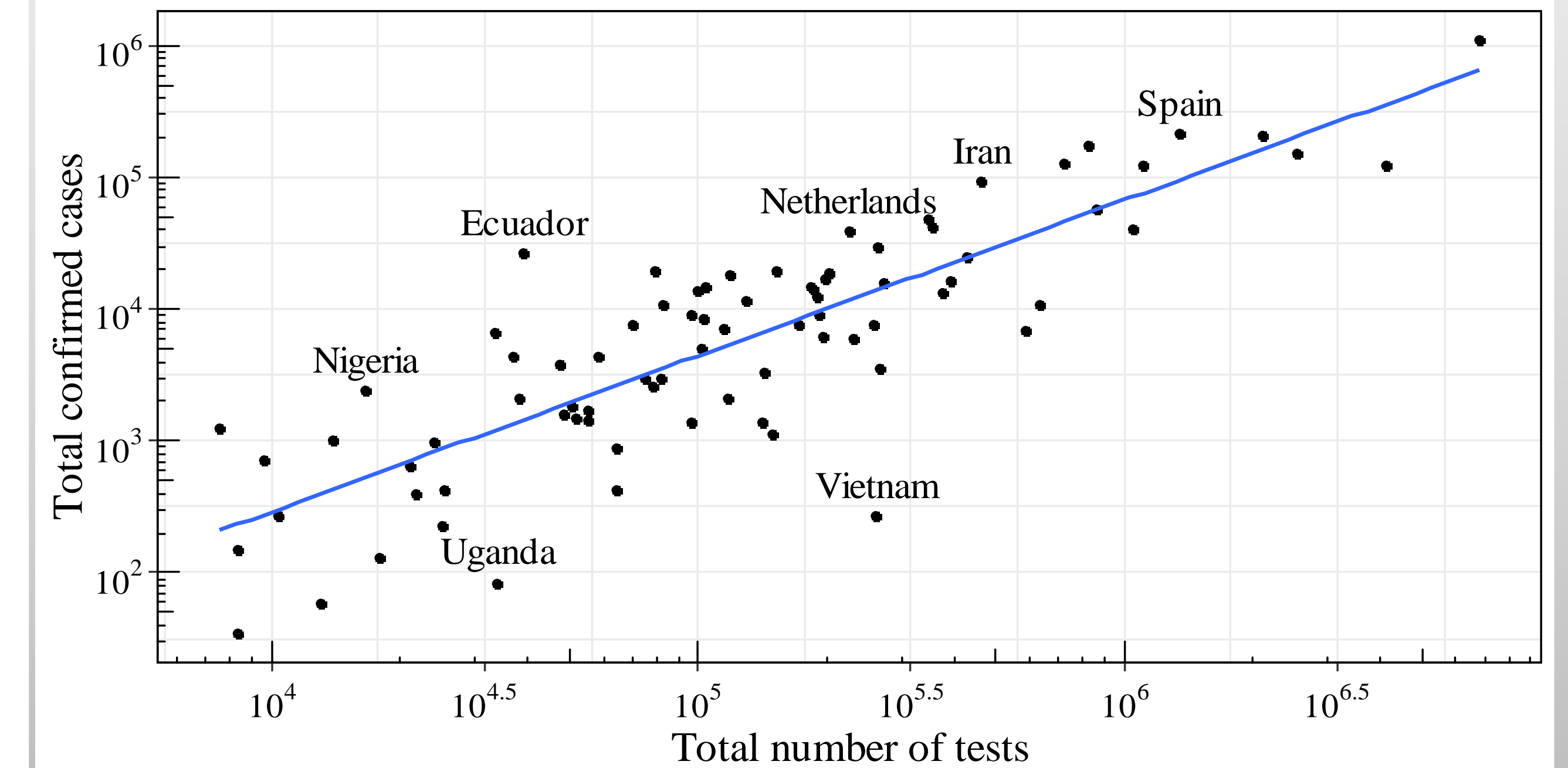
Bibo Zhong, Ramin Ziaei, Yalei Tang

University of Nebraska, Omaha

Countries with Earlier Lockdowns are More Successful in Containing The Virus



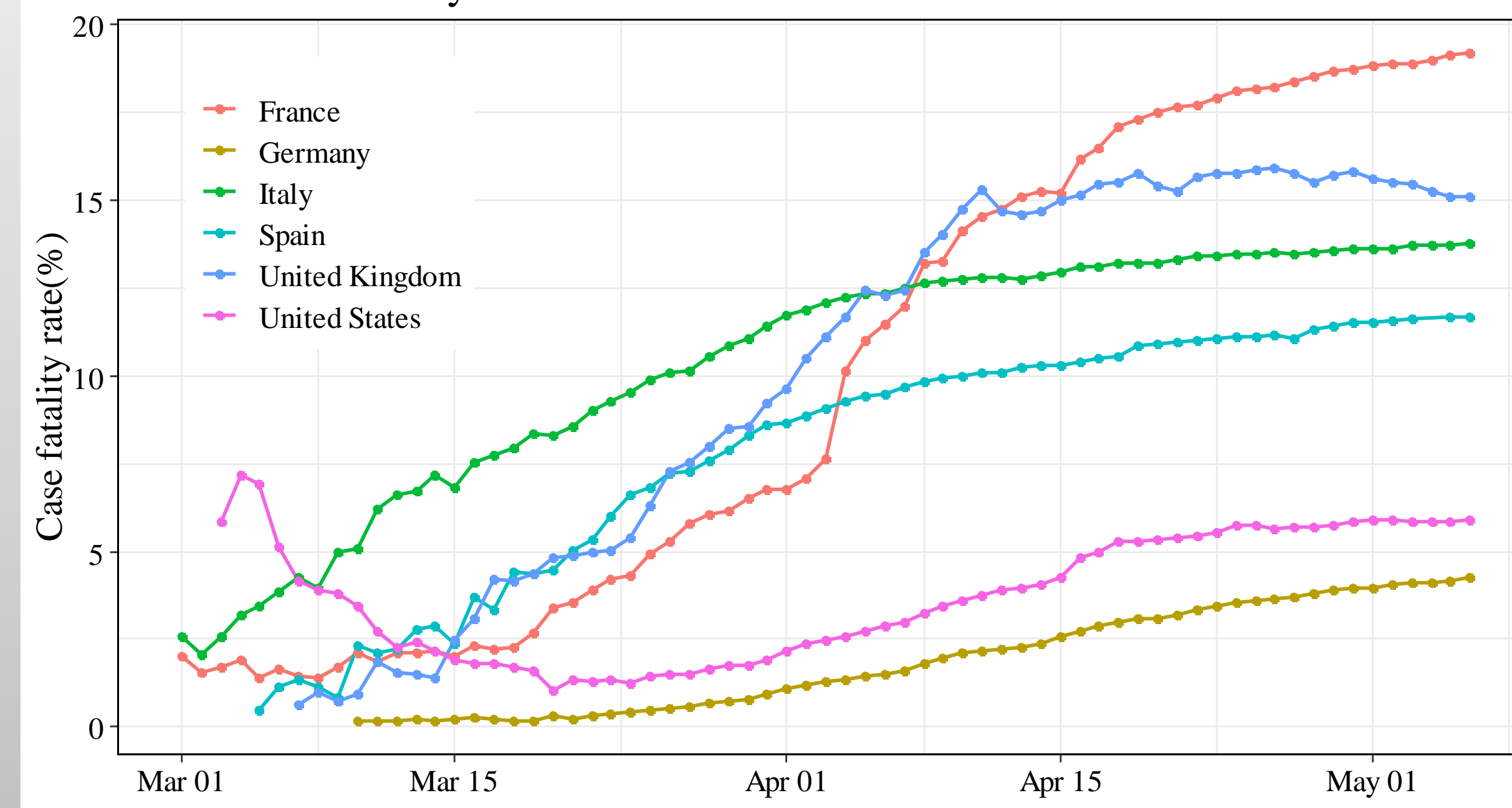
More Testing Turns up More Cases



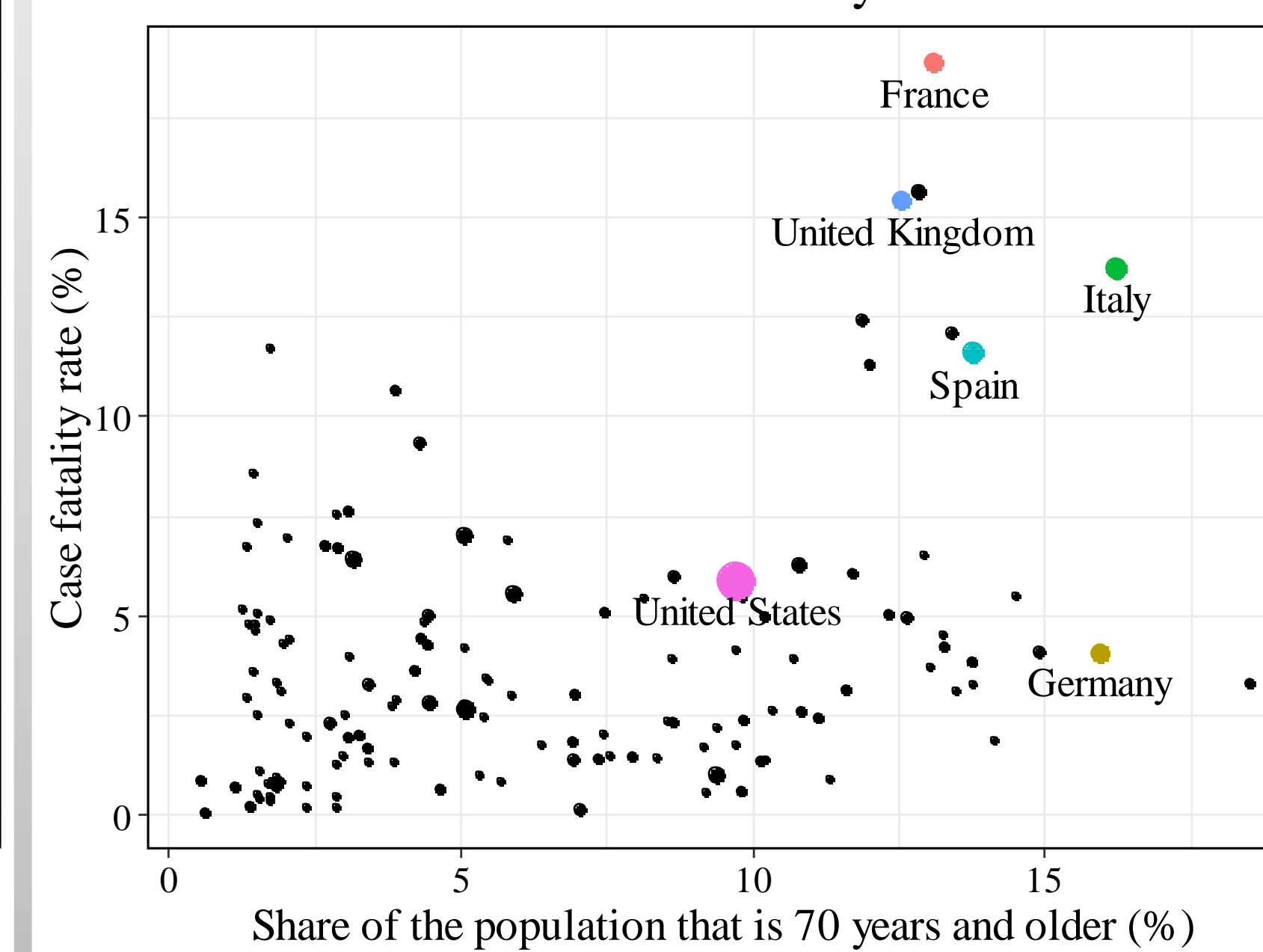
Fatality Rate Investigation

Case fatality rate has increased over time. As the healthcare system becomes saturated with cases, it will become increasingly difficult to detect, track and contain new transmission chains which will subsequently lead to higher case fatality rates. This will be even worse for countries having older populations.

Fatality Rate of Countries with Most Confirmed Cases

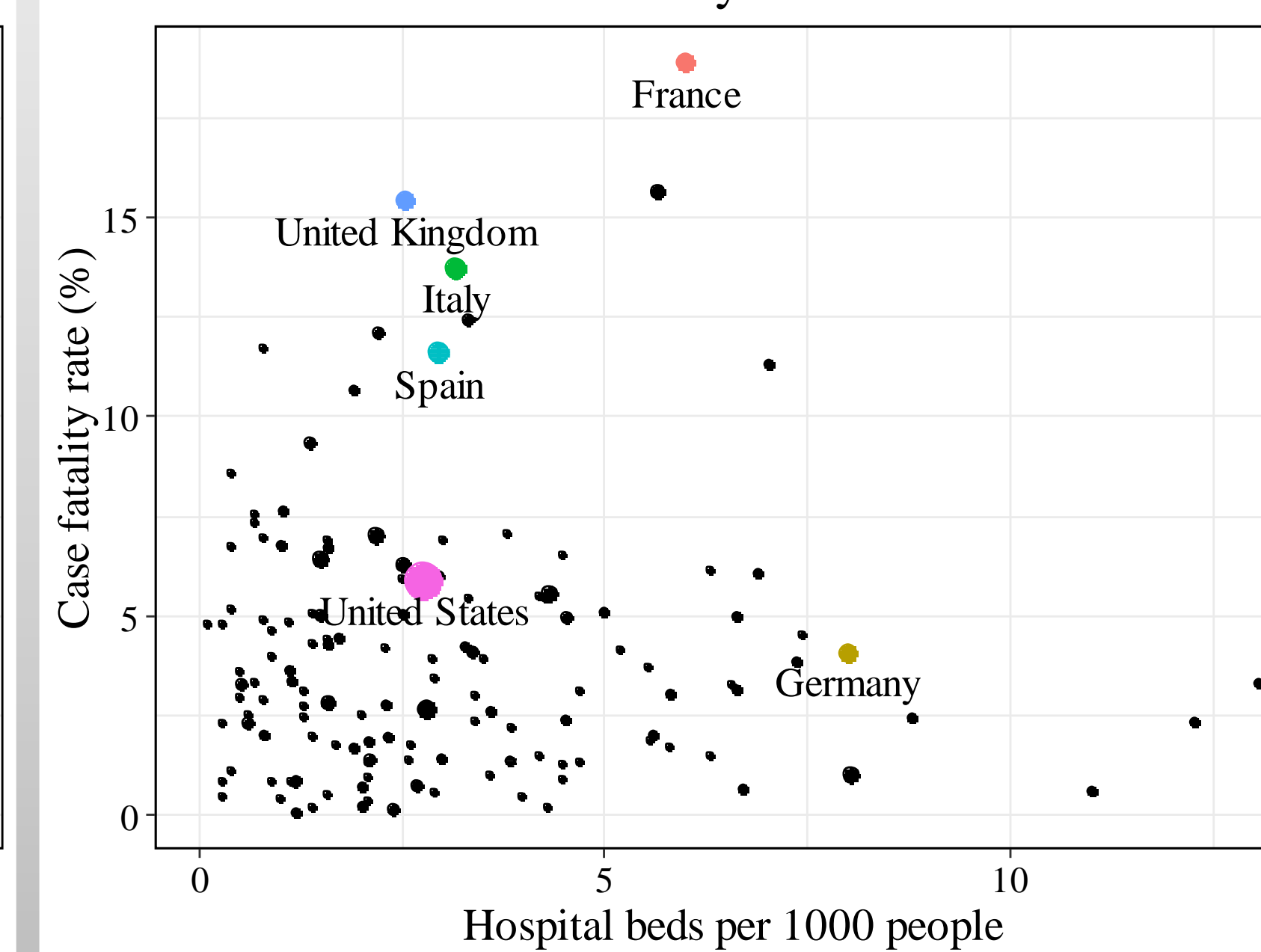


Older Countries Can be at Higher Risk but Not Always

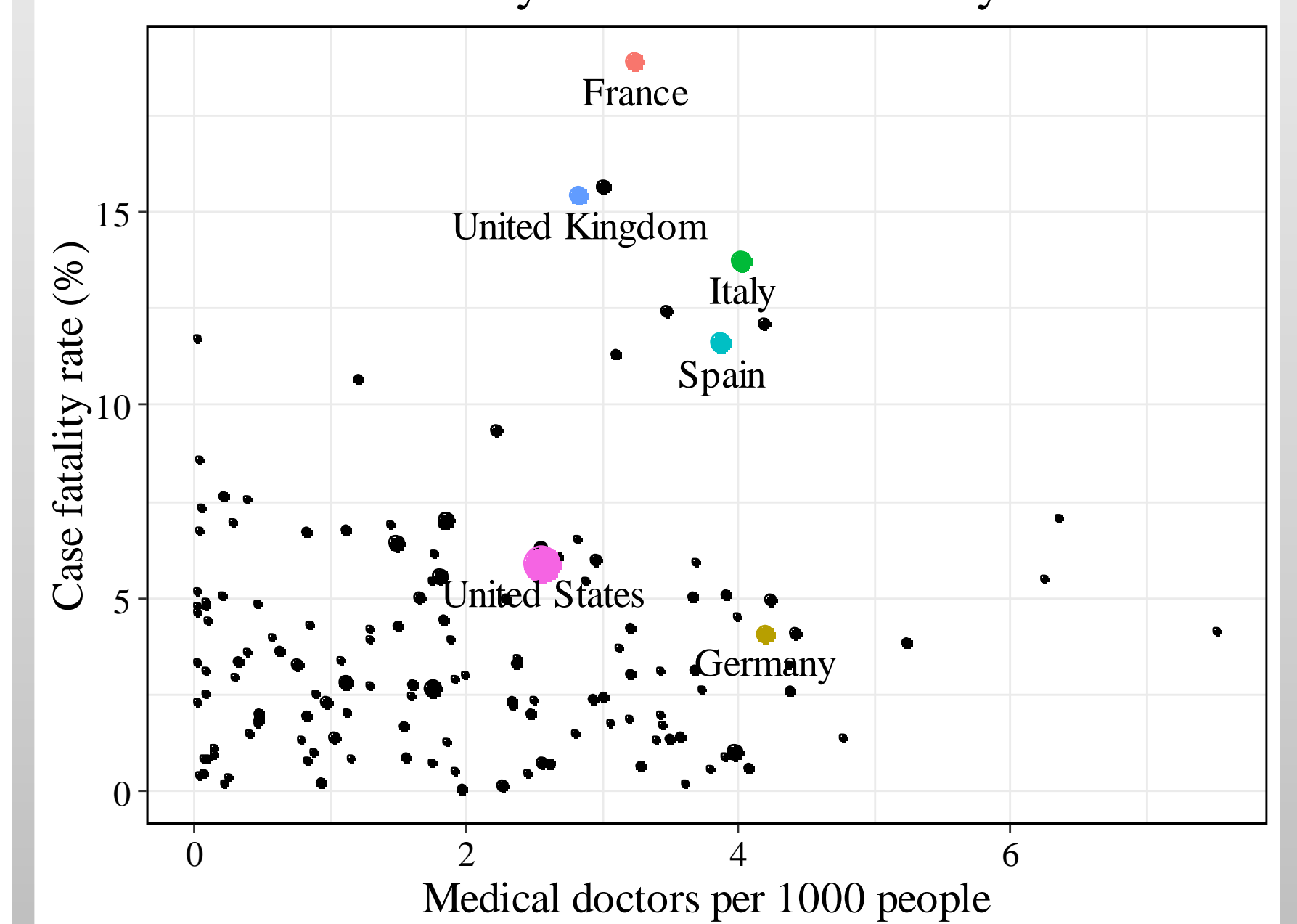


* Size of the points in scatter plots indicates total confirmed cases.

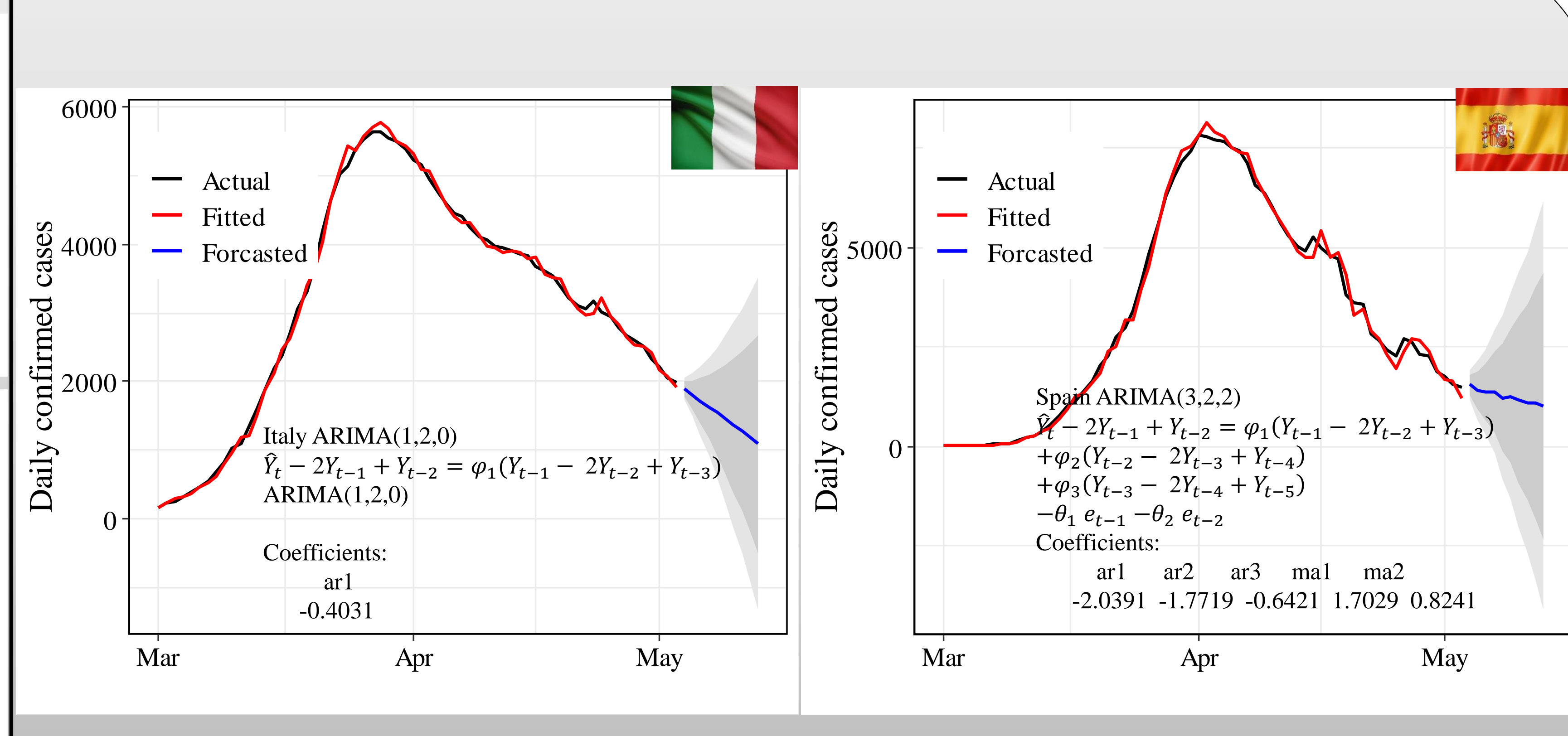
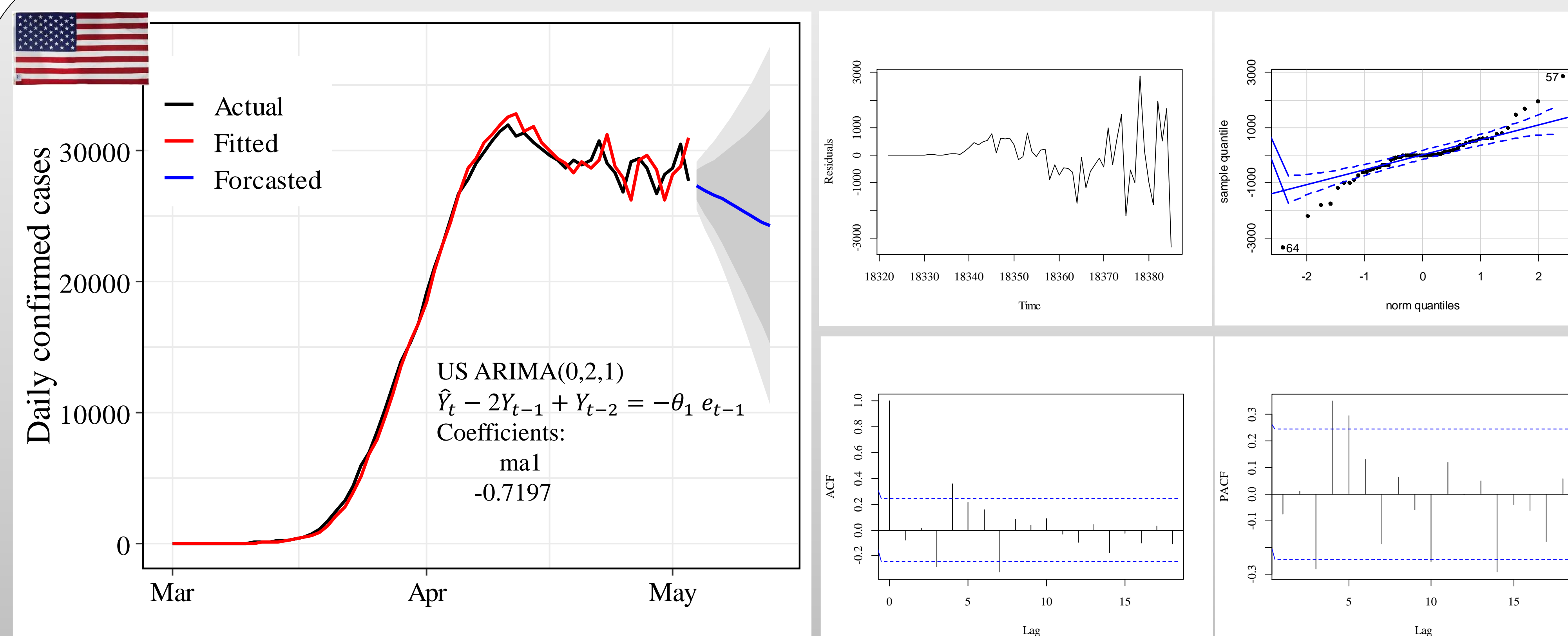
Having More Hospital Beds Can Decrease the Fatality Rate in Most Cases



Having More Physicians Does Not Necessarily Decrease The Fatality Rate



10-day Forecast of Daily Confirmed Cases Using an ARIMA Model



Conclusions

1. Putting coronavirus hotspots on lockdowns at an early stage can help to keep the virus from wide-spreading.
2. Conducting more tests can help to find the infected people, so that they can be isolated.
3. No matter how good the healthcare system of a country is, it will fail once hospitals are inundated with COVID-19 cases.
4. Countries with older populations may be hit hardest.
5. Good news is many countries have already passed the peak, and the predicted line shows a continuous declining trend in the number of daily confirmed cases.
6. However, the number of daily confirmed cases in the United States has just started to slow down, and according to the prediction, we can expect to see the start of a declining trend in the next 10 days.