University of Kentucky

Gatton College of Business and Economics

Institute for the Study of Free Enterprise

New study asks if we are using the right data to measure the spread of COVID-19 in Kentucky

- **By the end of September Kentucky had 66,000 cases of COVID-19, however, estimates using statistical models and CDC data indicate that the true number of total infections had likely crested 200,000**
- **These models indicate that in March the State of Kentucky only captured 10% of COVID-19 cases, and by September still only captured 50% of COVID-19 cases.**

COVID-19 has upended economies and societies since its spread in early 2020. Although there is still much to learn, there has been considerable research on COVID-19's effects on people's behaviors as well as economic and health outcomes. ISFE Affiliate and Richard W. and Janis H. Furst Endowed Chair of Economics, Professor Ken Troske, along with University of Louisville's Emeritus Professor of Economics Paul Coomes, add to this burgeoning literature by presenting a model that can better track actual spread of COVID-19 and by asking whether we are using the right data to track COVID-19 and make policy decisions.

Their paper asserts that model-based estimates of new daily cases may be a better measure of new cases in the state of Kentucky. It appears that the state's reported case count has underestimated the true case count by ten times at the beginning of the pandemic and may still be underestimating true case counts by a factor of two. Using these numbers, they estimate that between 1.5 and 2.0 percent of people who contract COVID-19 end up in the hospital and 0.4 percent end up in the ICU. Their data and models also indicate that while the case fatality rate (the rate of fatalities based on reported cases) has fluctuated since the start of the pandemic, the infection fatality rate has remained a fairly constant, albeit relatively high, 0.7 percent.

These estimates use models that adjust estimated daily case counts by the number of people being tested, hospitalization rates, death rates, data on mobility, in addition to other biases that are known to exist in the currently reported data. They also emphasize the importance of random testing of the population in estimating the true spread of COVID-19.

The study notes, "failing to use the best data results in a waste of taxpayer money and unnecessary deaths. Unfortunately, given the limitations of the existing data resources, public officials do not have any better understanding of how the disease is spreading throughout the State or the deadliness of the disease than they did back in March."

The authors continue, "Given the impact of the disease it is hard to understand why the state continues to ignore the recommendation of the National Academy of Sciences, Engineering and Medicine, as well as the evidence for random testing programs implemented in Jefferson County and Indiana, and devote at least some portion of their testing budget to periodically testing random samples of the population so that we can develop better measures of how the disease spreads through communities, a better understanding of the fatality of the disease, and better measures to protect the most vulnerable people in Kentucky while limiting the economic and social burden of public health policies. Given the enormous costs the disease is imposing on Kentuckians, it seems worth making the relatively small investments in collecting better data that could help save additional lives. "