Children's Hospital of Philadelphia
PolicyLab

New COVID-19 Projections Show Growing Risk in Known Hotspots, Stabilization in Northeast & Midwest

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Philadelphia, Pa. – June 17, 2020 – New county-level projections released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) demonstrate increasing risk over the next four weeks for COVID-19 resurgence in known hotspots, including Florida, Arizona, Texas and South Carolina. This has occurred even as other areas—like Denver, Atlanta, St. Louis and Columbus, Ohio—continue to contain transmission of the virus while reopening.

The new modeling data project many southern and western communities—including Phoenix, Houston, Dallas, and San Antonio, and areas throughout Arkansas, North Carolina and South Carolina—that have been in the news recently for increasing case counts will continue to see a concerning rise in COVID-19 infections into July. However, over the past week, social distancing, which the model measures as changes in travel to non-essential businesses, has begun to tighten again in some counties, particularly in Texas and the Southwest—a sign that community members or local officials are slowing the pace of reopening to combat the rise in cases. The researchers will closely watch over the next few weeks how quickly that tightening may help to flatten these evolving epidemics.

Still, among all of the worsening forecasts, several areas in Florida had considerably more alarming predictions from last week—for example, new daily cases are projected to rise to 500 in Palm Beach and nearly 350 in Orlando by mid-July. New areas of concern are also emerging on the coast of South Carolina—from Myrtle Beach through Charleston and Hilton Head Island—and worsening disease burden in parishes around New Orleans are threatening virus resurgence in that city for the first time in two months. Meanwhile, increasing case forecasts for Oklahoma City, Tulsa and Kansas City bear close watching to see if they might lead to more widespread community transmission.

Importantly, the researchers did not observe a significant effect of the recent outdoor protests in increasing risk for COVID-19 resurgence in the large urban cities of the mid-Atlantic, Northeast, Midwest and Upper Midwest. Instead, the clustering of counties with concerning forecasts along major highway routes, including I-85, I-95 and I-5, and among southern communities that received an influx of Memorial Day visitors, leads the researchers to suspect that increased travel as places reopen is a greater factor in perpetrating spread of the virus. This is particularly true in areas with high circulating case counts and uncertain vigilance with respect to masking in indoor locations. Although the current PolicyLab model does not yet account for factors related to vehicular traffic, it is expected to include this feature in future models.

Finally, the model continues to project that areas in the Northeast, Mid-Atlantic and Midwest that reopened more cautiously or slowly—such as Denver, Columbus, Ohio, Madison, Wis., St. Louis, Atlanta, New York City and Boston—will be better able to contain any increase in case counts as social distancing relaxes over the next four weeks.

"Understanding the underlying reasons why some communities are succeeding so far in containing additional widespread community transmission of COVID-19—whether due to differences in ability to contain local outbreaks in high-risk locations, like meatpacking plants, or vigilance in personal protective behaviors—will be key to informing community strategies to contain spread of coronavirus beyond this summer," said David Rubin, MD, MSCE, director of PolicyLab at CHOP and a professor of Pediatrics at the University of Pennsylvania's Perelman School of Medicine. "Those bright spots should be receiving equal, if not more, attention than the

hotspots as we prepare for what may be a difficult fall."

For additional comments from lead investigators Dr. Rubin, Dr. Gregory Tasian, and Dr. Jing Huang on their updated forecasts and findings, read this blog post: https://policylab.chop.edu/blog/covid-19-outlook-america-hangs-balance-early-evidence-behavior-shifts

Background

Researchers at PolicyLab at CHOP and the University of Pennsylvania developed the model, known as COVID-Lab: Mapping COVID-19 in Your Community, which tracks and projects COVID-19 transmission across 517 U.S. counties with active outbreaks, representing 71% of the U.S. population and 89% of all identified coronavirus cases. The researchers built their model to observe how social distancing, population density, daily temperatures, and humidity affect the number and spread of COVID-19 infections over time across a county, accounting for test positivity rates and population characteristics such as age, insurance status, crowding within homes and diabetes prevalence. COVID-Lab's projections forecast the number of coronavirus cases communities could experience over the next four weeks based on a three-day average of their current social distancing practices, defined by the change in travel to non-essential businesses as compared to pre-epidemic. A scientific review of the team's model and findings is available as a pre-print article ahead of peer review on medRxiv. The data are publicly available in the form of interactive maps and graphs.

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About PolicyLab at Children's Hospital of Philadelphia: PolicyLab at Children's Hospital of Philadelphia (CHOP) is dedicated to achieving optimal child health and well-being by informing program and policy changes through interdisciplinary research. Founded in 2008, PolicyLab is a Center of Emphasis within the CHOP Research Institute, one of the largest pediatric research institutes in the country. With more than 30 highly regarded faculty and 60 passionate staff who bring expertise from myriad of fields covering health, research and health policy, our work focuses on improving public systems, improving health care delivery and improving child health outcomes. For more information, visit **http://www.policylab.chop.edu**.

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