Children's Hospital of Philadelphia
PolicyLab

New COVID-19 Forecasts Show Fragile Balance but Early Promise for Quiet Summer Across Many U.S. Counties

Philadelphia, Pa. – June 3, 2020 – New four-week COVID-19 projections released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) show while many U.S. counties are experiencing increased cases of the virus as they reopen, large second waves of widespread community transmission are not currently forecasted in most areas. The data from the COVID-Lab model add more evidence that increasing temperatures and humidity levels are reducing the risk of the virus spreading over the summer in less-populated counties that remain vigilant with personal protection in crowded indoor locations and maintain limited gathering sizes.

The model, which uses cell phone data to observe travel to non-essential businesses over time, continues to show reductions in social distancing across the country. Previous projections for some areas that had increased transmission over the last two weeks—represented by counties in Alabama, Florida and Nevada—stabilized this week. Given that the model has consistently shown social distancing is the most impactful factor in the spread of COVID-19, the researchers attribute the forecasted ability of these communities to prevent additional community spread to the beneficial effects of weather and suspected personal vigilance in masking and hygiene in many areas.

However, the model continues to underscore the risk in communities that have quickly relaxed social distancing, including Houston, Dallas and Phoenix, and some areas in Indiana, North Carolina and South Carolina. Furthermore, data show Chicago and Minneapolis are near their peaks in transmission, and the researchers identified new areas of concern in the Pacific Northwest such as the Portland, Ore., metropolitan area and Yakima, Wash. Finally, a new addition to this week's analysis includes a map of counties that saw dramatic increases in close proximity encounters over Memorial Day weekend, including vacation destinations like the Atlantic shore, the Poconos, Lake Michigan and southern California. The researchers will closely watch transmission risk for these communities and their feeder cities over the next two weeks.

"Overall, despite some persistent and emerging hotspots, there continue to be encouraging signs from our forecasts this week—it appears that weather is continuing to mitigate the risk for widespread community transmission in most areas as they reopen," 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. "However, we are mindful that the stabilization we are observing is quite fragile, as we are just beginning to see the effects of Memorial Day travel in many areas and aren't yet able to see the impacts of recent crowded protests against racial and social injustices. It will be critical to monitor the next two weeks of the epidemic to ensure that resurgence risk is really abating in most areas of the country."

For additional comments from the lead investigators on their updated forecasts and findings, read this blog post: https://policylab.chop.edu/blog/covid-19-outlook-hope-relatively-normal-summer

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 389

U.S. counties with active outbreaks, representing 68% of the U.S. population and 87% 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**.