Children's Hospital of Philadelphia
PolicyLab

County-level COVID-19 Projections Show Troubling Shift Toward Resurgence in North and Midwest

Philadelphia, Pa. – August 12, 2020 – Updated COVID-19 projections released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) show that while spread of the virus is slowing in some hotspots like Arizona and Florida, it is continuing to take hold in the north and Midwest, overshadowing positive developments that have emerged and creating risk of widespread transmission in places that had previously worked hard to reduce case counts. This is evident in the model's new four-week forecasts across these regions, as the threat of resurgence grows from Milwaukee to Chicago and from Washington, D.C. to Boston.

For the past several weeks, PolicyLab's weekly projections have suggested surging cases in the south could quickly spread north, a scenario that is now playing out. In the Midwest and across the Heartland, recent improvements have stalled, and projected cases continue to rise in Indiana, Kentucky, Ohio, Nebraska, Missouri and Oklahoma. Along the I-95 corridor, which our researchers have been watching closely, forecasts are not improving from Virginia up to Boston. The model shows conditions could be tenuous in the coming weeks in Philadelphia's neighboring counties and transmission risk has not weakened in the New Jersey suburbs of New York City, threatening resurgence in America's largest city ahead of fall.

This growing risk is also playing out alongside schools reopening, as students in some parts of the country are already heading back to class or college campuses. In major college towns like South Bend, Ind., Athens, Ga., Tuscaloosa, Ala., Lexington, Ky., and Knoxville, Tenn., where the risk of transmission is already high, forecasts continue to raise concern for rapid case growth as students return.

Though limited, there are a few encouraging exceptions in this week's projections, particularly in places that have put strong social distancing and masking mandates into place and where residents have demonstrated commitment to these practices. This is evident across Arizona and New Mexico, which are both showing improvement in the researchers' forecasts. New York state is doing well among its neighbors in the Northeast, and despite troubling forecasts in the Midwest, Michigan stands out as having many counties with improving projections. Previous hotspots like Orlando, Fla., are leading the charge to flatten the curve through strong actions from local leaders in the absence of a statewide strategy.

"As schools across the country face pressure to open for in-person learning, it's hard not to feel that we're repeating the mistakes we made in the spring of reopening too quickly before case counts sufficiently degraded," 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. "This push, along with renewed spread of the virus in the northern region of the country, could create the perfect storm going into the fall, leading to schools closing down again and rapid spread among students and staff, worsening the epidemic across communities."

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-running-out-time-and-out-patience

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 747 U.S. counties with active outbreaks, representing 80% 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. The application of this model, which focuses on time-varying transmission rates during the early months of the pandemic in the U.S., was released on July 23, following peer review, in *JAMA Network Open*. You can read more about how the team validates their models for accuracy in this blog post. 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**.