Children's Hospital of Philadelphia
PolicyLab

# New COVID-19 Projections Show Resurgence Risk Moving North to South, Some Stabilization in Northeast

**Philadelphia, Pa. – October 14, 2020** – Updated COVID-19 case projections released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) show parts of the Southeast and Southwest will see infection rates rise significantly over the next four weeks as the early fall wave expands beyond the northern areas of the country to blanket much of the nation. Additionally, while the researchers forecast a continued deteriorating situation in the Midwest, they report that the acceleration of disease transmission is slower comparatively in the Northeast and Pacific Northwest, suggesting mitigation strategies may be helping communities at risk reduce resurgence as cold weather returns to these regions.

With county-level testing positivity and case incidence rates simultaneously growing, the forecasting model is showing clear signs that resurgence risk has arrived again in parts of the South. Forecasts have worsened in many areas of the Southeast, including in Charlotte, N.C., Myrtle Beach, S.C., Atlanta and most of the counties across Tennessee, where hospitalization rates are also rising. Counties in northern Texas, such as Dallas and Amarillo, are also seeing increased testing positivity rates and hospitalizations. In the Southwest, researchers observed exponential growth in transmission risk around Albuquerque and signs of declining conditions in Arizona's Maricopa (Phoenix) and Pinal Counties that follow a couple weeks of concerning forecasts in the Flagstaff area.

In the last week, PolicyLab's forecasts have only worsened for counties across the Midwest. According to the new projections, Minnesota and Wisconsin will continue to see a steady rise in case counts over the next four weeks, which is concerning given rapidly rising hospitalization rates in these states. With quickly growing case counts and testing positivity rates, projected case growth for the Chicago area now mimics that of Wisconsin a few weeks ago. Forecasts show counties across Indiana, Nebraska, and Iowa are likely just a week or two behind Chicago's resurgence, and Michigan and Ohio's projections uniformly worsened this week.

Still, the researchers are encouraged that case counts and testing positivity rates, although climbing, are growing more slowly in areas of the Northeast and Pacific Northwest. Of the northeastern states, areas of Connecticut and central and northern Pennsylvania are expected to grow the quickest, but case incidence and testing positivity rates appear to be rising more slowly in the New York City metro area, northern New Jersey and Massachusetts. The forecasting model shows similar slowing rates of growth in Washington and Oregon, areas where case counts and testing positivity rates had been accelerating the last couple of weeks. While it is still early fall, and risk may abruptly change as colder weather sets in, the researchers suspect that quicker public reaction to growing transmission risk through greater vigilance to masking and social distancing and/or sophistication of contact tracing and quarantine protocols has helped slow the rate of growth in these regions, compared to the Midwest where restrictions and public vigilance have lapsed in many areas.

"We keep waiting for signs that the fall resurgence, which started in the Upper Midwest, could reach a plateau, but testing positivity rates only continue to rise in the nation's hotspots and coronavirus-related hospitalizations are increasing in 44 of the 50 states," 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. "As resurgence risk continues to accelerate across much of the country, we must heed warnings that transmission risk will differ in

colder, drier weather from what we witnessed this summer, and that the potential for depleting health care resources is high. If communities don't respond quickly with strong, focused mitigation policies and individuals don't consistently adhere to masking and social distancing recommendations, the U.S. could be in for an even harder winter than we first expected."

For additional comments from COVID-Lab's lead investigators and collaborators on their updated forecasts and findings, read this blog post: https://policylab.chop.edu/blog/covid-19-outlook-second-wave-blanket-nation

**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 COVID-19 transmission and test positivity rates across all U.S. counties, and projects case counts for 817 counties with active outbreaks, representing 82% 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. This is just one tool in a toolbox of resources policymakers and decision-makers can use as they manage their COVID-19 response efforts.

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**.

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