Children's Hospital of Philadelphia
PolicyLab

New COVID-19 Projections Show First Signs of Colder Weather Creating New Risk for Resurgence

Philadelphia, Pa. – September 23, 2020 – New COVID-19 case projections released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) show increasing resurgence risk across the Upper Midwest and into the Mountain States over the next four weeks, suggesting cooler weather may accelerate the spread of the virus this fall. Meanwhile, projections for southern states, such as South Carolina, Tennessee, and Florida, have improved with lower county-level testing positivity rates across the region, despite data integrity concerns the researchers hold for Texas and Georgia.

The forecasting model's projections for risk of resurgence in the Upper Midwest have deteriorated significantly since the researchers reported the first signs of increased transmission rates last week. Forecasts are particularly concerning across Minnesota and northern and western Wisconsin, including the Green Bay region and Eau Claire County. This heightened risk is also appearing in projections for the Chicago metropolitan area and southward into Michigan, with increasing testing positivity rates in Grand Rapids, Kalamazoo and Flint. Furthermore, this week's data now show widespread transmission risk in the Mountain States, most evidently from Flagstaff, Ariz., northward to Utah, Denver and Boulder Colo., and Montana. The researchers believe this is a bellwether warning of what may be coming as the weather turns colder across much of the U.S.— that COVID-19 may spread more rapidly, likely through greater respiratory transmission and at lower temperatures.

In more temperate parts of the country, the outlook is better with improving forecasts across much of the South and southern California. Despite a slow decline in case counts, testing positivity rates and risk for resurgence have greatly dropped in this week's data for South Carolina—a long-standing hotspot—and also Tennessee. In Florida, four-week projections for Miami and the southeast coast resemble those of the early spring, when the state had very low, manageable case counts. Finally, particularly in the South, outbreaks on college campuses have greatly slowed, significantly reducing risk for widespread community transmission from these events.

Still, the researchers' reported concerns about data integrity in states like Texas and Georgia have only increased. The introduction of new antigen tests this month has led to unreliable reporting of case numbers and data discrepancies—heightened testing positivity rates, but declining case counts—coming from counties across these states. The researchers stress this bears watching as it is impacting the ability to predict county-level risk.

"Optimistically, our county-level forecasts for much of the country look promising for the next few weeks when it comes to safe windows to reopen schools for in-person learning," 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, the rapid resurgence risk we're already seeing in the Upper Midwest and Mountain States, where temperatures have quickly dropped, should serve as a warning—for the Northeast and Mid-Atlantic, in particular—of what we could experience later this fall if we're not diligent now in our COVID-19 mitigation practices of masking and distancing."

For additional comments from COVID-Lab's 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-eye-hurricane

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**.

###

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**.