Children's Hospital of Philadelphia
PolicyLab

New COVID-19 Projections Show Fall Resurgence Risk Spreading Across Northern States More Quickly Than Anticipated

Date:

Wednesday, Sep 30, 2020

Philadelphia, Pa. – September 30, 2020 – Updated COVID-19 case projections and county-level testing positivity rates released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) show transmission risk has rapidly increased across much of the northern U.S., including the Pacific Northwest and Midwest, with increasing risk now moving into New York and other parts of the Northeast. The swift escalation of testing positivity rates in these regions suggests the negative consequences of cooler temperatures are taking hold sooner than the researchers anticipated, likely accelerated by community fatigue with mitigation strategies such as masking and distancing.

The resurgence risk that the researchers' identified in the last two weeks in the Upper Midwest and Mountain States has now spread to much of the remaining northern states. In the Pacific Northwest, forecasts have significantly worsened for Seattle, counties in eastern Washington and Bend, Ore. Testing positivity rates are rising again throughout Michigan (except Detroit) and Indiana, heightening transmission risk across the entire Midwest. Several concerning outbreaks on the east coast—including in central Pennsylvania, Ocean City, NJ, and Rockland County and Brooklyn, NY—are projected to result in widespread community transmission. While forecasts for New England remain overall stable this week, the researchers observed modest increases in risk across communities in Connecticut, Rhode Island, Massachusetts and New Hampshire that will warrant close monitoring.

Most worrisome, however, are rising hospitalization rates in the Upper Midwest and Mountain States that have followed in the weeks since PolicyLab researchers first observed increasing resurgence risk in these regions. This signals that the newly identified areas of concern, highlighted by the modeling data this week, could experience a similar trend in the near future. This trajectory, plus the stabilization in case counts and testing positivity rates in more temperate states, such as Florida and Alabama, is additional evidence that colder weather may facilitate more efficient transmission of COVID-19.

"The simultaneous convergence of rising testing positivity rates, hospitalizations, and case counts across much of the northern U.S., makes this week's forecasts among the most concerning that we have reported since Memorial Day," 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, our projections are just that—projections—and we should not accept them as fate. There is still time for communities experiencing heightened transmission risk to turn their trajectories around with strong mitigation policies, and for those areas not yet seeing resurgence, to commit to proven prevention practices, such as masking and distancing."

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-time-preserve-our-school-reopenings-new-wave-moves

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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