Children's Hospital of Philadelphia
PolicyLab

New COVID-19 Projections Show Resurgence Risk Now Present in Northeast and New England

Philadelphia, Pa. – October 7, 2020 – New COVID-19 case projections released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) show the resurgence risk blanketing much of the Midwest, Heartland, and Mountain States over the past few weeks has spread into the Northeast, where testing positivity rates have jumped and forecasts look worse for the next four weeks. The researchers believe weather-related impacts on the spread of SARS-CoV-2, the virus that causes COVID-19, and lack of vigilance to proven mitigation practices are contributing to more widespread transmission throughout the northern U.S., as well as concerning rises in hospitalization rates in states including Oregon and Wisconsin.

According to PolicyLab's forecasting model, much of the Northeast and New England is now expected to see rising infection rates over the next four weeks. Cases counts are projected to more than double in Boston by early November if social distancing and other conditions remain the same. Testing positivity rates are on the rise throughout Connecticut; New London County is already seeing 150 new cases a week per 100,000 residents. For the first time since the spring, forecasts are worse for all five New York City boroughs, and risk for widespread community transmission has increased in the entire area surrounding the Big Apple. Further south, case incidence is accelerating in Philadelphia and Wilmington, De., where weekly case counts rose to 90 and 160 per 100,000 residents, respectively. Case incidence levels in the large northeastern cities are now approaching those seen in similar-sized Midwestern cities.

Finally, the researchers consider forecasts for counties throughout Oregon to be some of the most concerning in the country, given explosive growth in case counts and quickly rising testing positivity rates that have more than doubled in some areas.

What differentiates the current growth in case incidence across the country from this summer's surge is the rise in hospitalization rates in many areas, including throughout the Midwest and Heartland, and now into the Northeast. Hospitalizations have doubled in Wisconsin in the last month and increased nearly 50% since mid-September in Massachusetts. There also appears to be a broadening age spectrum of those getting sick—as infections shift from young adults to older, more high-risk individuals and children—as well as an increased ability of this virus to spread more efficiently in colder temperatures, which the researchers showed in their July *JAMA Network Open* study and continue to find in their updated models. PolicyLab's researchers stress that prevention measures such as consistent mask use, social distancing, and hygiene/disinfection practices are more necessary than ever as temperatures drop and communities seek to keep children safely in school this fall.

"The resurgence of COVID-19 throughout the north and Midwest is occurring at a time when many children and adolescents are newly back in the classroom; yet, it is important to note that a link between these rising rates and evidence of in-school transmission of the virus has not been well established," 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. "The emerging evidence suggests that schools with strong, multilayered safety plans can and do protect students and teachers, minimizing the risk of spread substantially during the school day. However, as case incidence continues to rise in many locations over the coming weeks, school districts

will need to rely more than ever on the expertise of their local health departments, who are doing the important work of contact tracing that will alert them if and when in-school transmission risk begins to rise, and how that might alter their plans for in-person vs. remote learning."

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-northeast-resurgence-has-begun-safe-school-reopenings-still-possible

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**.