Children's Hospital of Philadelphia
PolicyLab

COVID-19 Projections Suggest State-by-State Mitigation Strategy Will Fail Over Next Four Weeks Without Implementation of National Standards

Date:

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Philadelphia, Pa. – July 8, 2020 – New COVID-19 modeling data released today by PolicyLab at Children's Hospital of Philadelphia (CHOP) forecast a deteriorating situation across most U.S. states over the next four weeks, showing little effect thus far of local masking mandates and suggesting the need for a nationwide strategy focused on increased social distancing.

The model, which follows 519 counties representing 71% of the U.S. population, shows increased risk for virus resurgence through early August in all but the New England area. Projections continue to worsen in known hotspots, such as Miami and Houston, which are reaching capacity for ICU beds and available health care resources. At the same time, based on the risk for growing case counts to quickly reproduce, the researchers forecast that new epicenters may form in the coming weeks—including in cities that have masking mandates in place, such as San Francisco and New Orleans. This suggests that masking policies alone—particularly if they are not enforced or followed with vigilance and not combined with some continued physical distancing and limitations to gathering size—will not suffice in reducing case counts to continue reopening society safely.

The updated data show that transmission rates and risk are rising in suburbs of major cities, such as the counties surrounding Kansas City, Mo., and Chicago, and along major highway routes, including I-95 on the East Coast and the I-80 corridors across central U.S. This implies that increased business and personal travel, as communities reopen, is a main driver for the growing nationwide spread of the virus. Risk for virus resurgence that was mainly concentrated in the south in past weeks is extending further to the north at increasing speed. The researchers are now seeing the first concerning signs of renewed case growth for Philadelphia and New York City. Furthermore, forecasts for several college towns, such as South Bend, Ind., and Tuscaloosa, Ala., are worsening just weeks before students are slated to return for the fall semester.

"While a state-by-state mitigation strategy was necessary in May to begin reopening communities, our projections show that without immediate actions to significantly reduce travel and social distancing nationwide, this virus will not only threaten our ability to reopen schools in the coming weeks, but our capacity to care for the sickest individuals," 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. "Without national standards that combine physical distancing, enforceable masking policies, and gathering size limitations to reduce case counts to a manageable number for our health care systems, we are creating an untenable situation for the fall when the virus is only expected to become more contagious and deadly."

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-reconsidering-national-strategy

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 519 U.S. counties with active outbreaks, representing 71% of the U.S. population and 88% 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. A scientific review of the team's model and findings is available as a pre-print article ahead of peer review on medRxiv. 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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