Children's Hospital of Philadelphia
PolicyLab

The Relationship Between State COVID-19 Vaccination Coverage and Adult Hospital Census in 200 Words

Population Health Sciences

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With COVID-19 case incidence rapidly declining across much of the U.S., we have an opportunity to catch our breath and evaluate the public health interventions employed throughout the pandemic to inform efforts during future public health emergencies. We've been observing state vaccination coverage and adult hospitalizations over time, and our new data visualization offers a unique look at how protective vaccines have been against severe disease during the delta and omicron waves.

This data visualization—or movie—captures the time-elapsed adult hospital census for each state (color coded by region and proportionally sized to the population) from July 2021 to the present. Shown as a scatter plot against state vaccination coverage, you'll see hospitalizations begin to increase last summer, particularly in the South. As the wave peaks and ebbs by early September, a clear inverse relationship remains between state vaccination coverage and hospital census. The higher hospital census in poorly vaccinated states likely reflects admissions and longer lengths of stay among unvaccinated individuals.

By mid-fall, the winter resurgence started in the Midwest and West, first with the delta variant, then omicron. By late December, all states quickly reach peak hospital census at the same time (without correlation to vaccine status) given the sheer magnitude of infections. But, as January moves into February, we end up in the same place we were in late September—a clear inverse relationship between vaccination coverage and persistent hospital census. Even with a different variant that was transmissable among the vaccinated, one thing held constant: the ability of vaccines to protect individuals against severe disease.

This type of data visualization provides unassailable evidence that vaccination continues to lower the risk for severe disease and may be helpful as local officials continue to promote vaccination.

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This post is part of our "____ in 200 Words" series. In this series, we tackle issues related to children's health policy and explain and connect you to resources to help understand them further, all in 200 words. If you have any suggestions for a topic in this series, please send a note to PolicyLab's Strategic Operations & Communications Director Lauren Walens.

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