new york minute

Mapping Vulnerability across New York State: Risk Factors for COVID-19

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There is substantial variation across New York State's counties in the vulnerability of their populations to a localized COVID-19 outbreak. The risk factors associated with COVID-related complications and hospitalizations are numerous and include demographic factors such as age, living arrangements and the prevalence of underlying health conditions. These risks do not necessarily accelerate COVID-19 case trajectories, but have the potential to compromise the capacity of local health and social service infrastructures at peak transmission.

Drawing on data from the U.S. Census Bureau and the Expanded Behavioral Risk Factor Surveillance System, Cornell demographers have developed a new resource: Demographic and Health-Related Vulnerability for NYS Counties. Indices of COVID-related vulnerability were generated for each of NYS's 62 counties. The interactive maps display Demographic and Health Vulnerability Scores; corresponding, sortable tabular data are provided that include data on component risks. The mapping application, which continues to be enhanced, allows analysis of spatial patterns for each of the demographic and health measures, and provides up-to-date data on Covid-19 testing and positive cases in NYS.
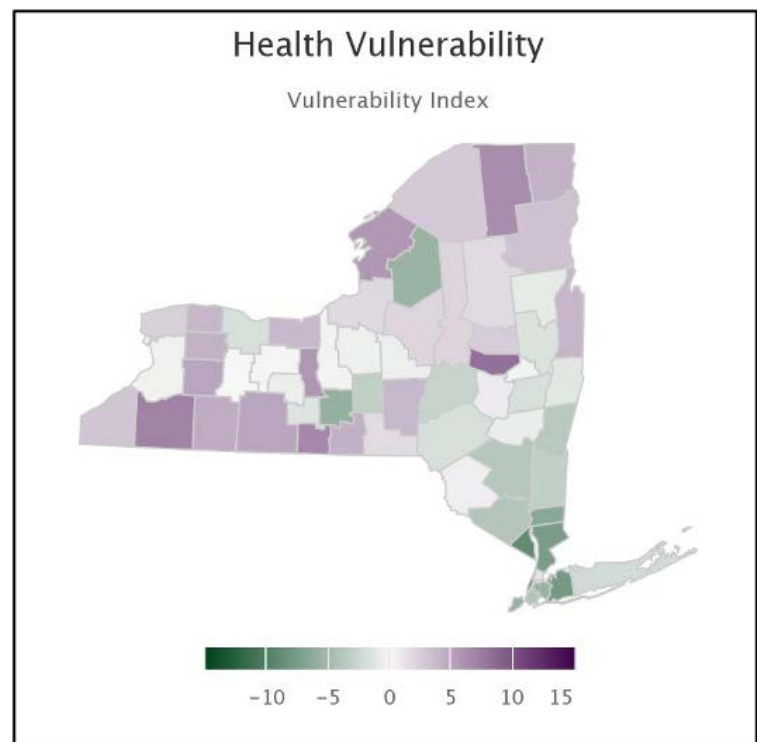
Several key takeaways are evident from the data:

1. While the Metro NYC area has borne the brunt of NYS's crisis, the parts of the state that are likely to be most vulnerable are in rural Upstate, particularly in the Adirondack and Chautauqua-Allegheny regions.

2. While the overlap between demographic and health vulnerability is not strong (Pearson's r of .42), there are several counties that rank in the riskiest-quartile on both measures, including Allegany, Chenango, Clinton, Orleans and Seneca.

3. By contrast, several counties rank relatively low on both indices, with Kings, Lewis, New York, Orange, Putnam, Richmond, Rockland, Tompkins, and Westchester counties ranking in the bottom-quartile on both measures.

Health Vulnerability
Vulnerability Index

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Additional Resources (click on title for link)

Mapping application to map all vulnerability measures

NY State Department of Health Coronavirus information

COVID-19 Cases in New York State