

N.J.'s Most Vulnerable Communities: Data Serves as Predictor for COVID Hotspots

Health disparities are driven in part by race, ethnicity, geography, and socioeconomic status, but where one lives within the Garden State also has a significant impact on health status and health vulnerability. Good or poor health status does not occur independent of one's environment. Unfortunately, in the two years since NJHA created a database of social and environmental factors that contribute to health status, little has changed for those communities ranked as the state's most vulnerable. Economically and medically underserved communities continue to be at the greatest health risk, a fact borne out during the COVID-19 pandemic. The very same communities identified as New Jersey's most vulnerable based on 20 health and social indicators were consistent with those areas that felt the greatest impact and density of COVID cases.

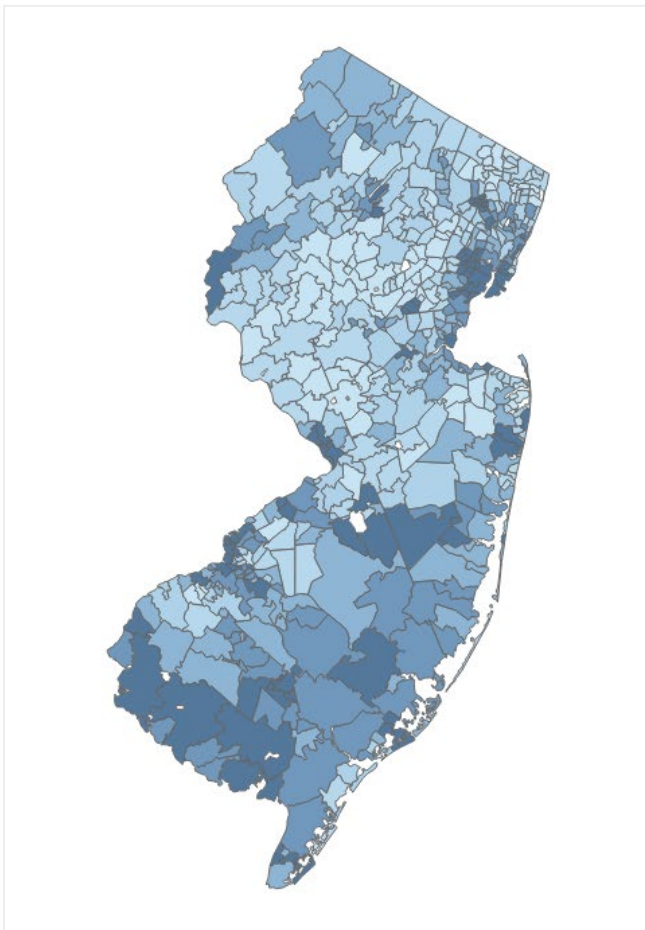
NJHA's research hub, the Center for Health Analytics, Research & Transformation (CHART) embarked on its journey to determine New Jersey's most vulnerable communities from a health status perspective in the 2019 report, *New Jersey's Most Vulnerable Communities: A Zip Code Analysis of Social Gaps and Their Impact on Health*. In the report CHART established a set of 20 clinical and social measures that were scored and weighted and then combined to create an overall score of health status. Communities were ranked based on zip code from high to low, with the lowest scoring zip codes deemed the most vulnerable from a health status perspective. In 2021, CHART updated a significant portion of the databases with the most [current data](#) available. Alarming, but not surprisingly, the most vulnerable communities remain essentially the same.

New Jersey's Most Vulnerable Communities: No Change to the Top Ten

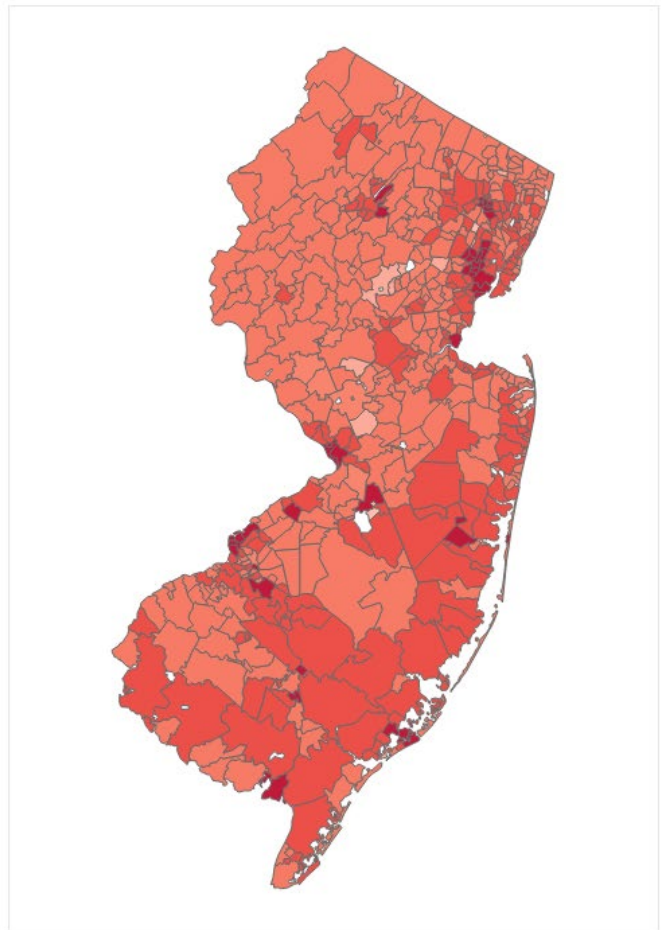
<u>2019 Study</u>	<u>2021 Study</u>
08103 – Camden	08104 - Camden
08608 – Trenton	08103 - Camden
08104 – Camden	08608 - Trenton
08102 – Camden	08102 - Camden
07102 – Newark	07102 - Newark
08401 – Atlantic City	08401 – Atlantic City
07505 – Paterson	07505 - Paterson
07114 – Newark	08105 - Camden
08105 – Camden	07114 - Newark
07108 – Newark	07108 - Newark

COVID-19 proved to be an unanticipated test of the vulnerable communities data model. In 2019, when NJHA's database was first developed, the SARS-CoV-2 virus had not yet emerged as the greatest public health crisis in a century. However, as the maps below illustrate, the high-impact communities with the greatest per-capita volume of hospitalized residents infected with COVID are similar to the communities identified as highly vulnerable in the 2019 zip code analysis. In fact, seven of the ten most vulnerable communities are also the communities with the highest COVID-19 hospital rates per capita (Camden (4), Trenton, Newark, and Paterson). Viewed side by side, these maps illustrate the real-world impact of the social and economic factors that all too often determine which communities will pay the highest toll in illness and death. This information shows the power of data as an important public health planning tool and reinforces the need to address population health strategies by targeting investments and interventions in those communities.

New Jersey's Most Vulnerable Communities



COVID-19 Hospital Rates per 1,000 Residents*



*Source: U.S. Census Bureau, 2021. Population estimates, July 1, 2019 (V2019) and New Jersey hospital Discharge Data
*Note: Includes both outpatient and inpatient hospital volume

New Jersey's Demographic Profile

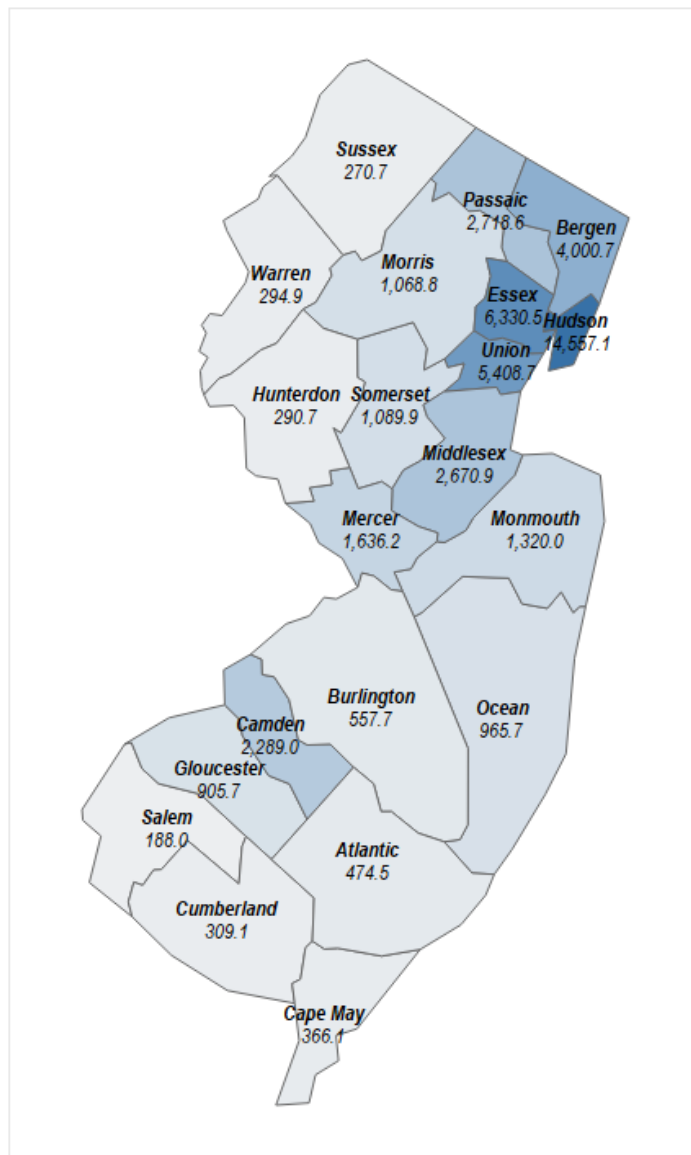
New Jersey is diverse and densely populated, with approximately 8.9 million residents spread over 7,350 square miles. That equates to roughly 1,208 residents per square mile, making New Jersey the most densely populated state in the country (excluding Washington, D.C.), far surpassing the national average of 94 residents per square

mile. Northeast counterpart states such as Massachusetts (886), Connecticut (734), New York (410), and Pennsylvania (286) are all significantly less densely populated than New Jersey.

In 2019, Bergen County was New Jersey's most populous county with almost 1 million residents, while Hudson County was the most densely populated with 14,557 residents per square mile. Conversely, Salem County, with a population of just 66,501 residents, was the least densely populated county with just 188 residents per square mile. Many of these densely populated, urban areas are the most prone to poor health status.

Across these most vulnerable zip codes, social determinants of health (SDH) have an impactful role in shaping health status. Factors such as housing, food, education, employment, income, insurance coverage and access to needed services are the building blocks to improved health status. Just one of those factors alone, such as high unemployment or low high school graduation rate, can impact a community's health status significantly. In areas where several social determinants intersect, the result can be lasting and profound health vulnerability for entire communities.

New Jersey Population Density



Source: U.S. Census Bureau, 2021. Population estimates, July 1, 2019, (V2019).

Findings:

New Jersey ranks as the nation's 8th most healthy state in America's Health Rankings from the United Health Foundation (up from 11th in a prior study) and, as high as 3rd according to the most recent annual ranking from Sharecare, a digital health company and the Boston University School of Public Health. Yet CHART's data illuminates some dramatic disparities that persist within its communities. Variation in life expectancy, the presence of chronic conditions and mental health disorders are striking.

This study found poor health status embedded in New Jersey's neediest communities. A review of the state's 38 lowest ranked zip codes (those ranked from 500th through 537th) found negative commonality across many metrics. When focusing on these communities with the lowest vulnerability scores, the following common trends emerged:

Common Traits of New Jersey's Most Vulnerable Communities

- SNAP benefits – One in four households access Supplemental Nutrition Assistance Program benefits.
- Household income – The average household income is slightly above \$41,000 per year, less than half the statewide average.
- Disabled status – One in eight individuals is managing some form of disability.
- Medicaid coverage – Four out of every 10 individuals is covered by Medicaid.
- No insurance – One in seven individuals lack health insurance.
- Chronic Conditions – Underlying chronic conditions, such as heart disease, hypertension, asthma and diabetes, are significantly more prevalent.
- High School diploma – One out of four individuals did not graduate from high school.
- Unemployment status – One out of 10 individuals are unemployed.
- Mental Health and Substance Use Disorders – The prevalence of mental health and substance use disorders is significantly greater.
- Households in a food desert – One out of four struggles with basic food needs and lacks access to a healthy food source.
- Limited English proficiency – One in six households has limited proficiency with English.
- Life expectancy – The overall life expectancy is three and a half years shorter than the statewide average.

Seeking a Healthier New Jersey

CHART's overarching goal in creating this New Jersey-specific neighborhood ranking system is to shine a more focused light on health disparity within the state and assist providers, public health and policy makers in targeting efforts that will narrow the health vulnerability gap. In the same vein the U.S Department of Health and Human Services (HHS) launched the Healthy People 2030 initiative with several very focused goals: Attain healthy, thriving lives and well-being free of preventable disease, disability, injury, and premature death.

- Eliminate health disparities, achieve health equity, and attain health literacy to improve the health and well-being of all.
- Create social, physical, and economic environments that promote attaining the full potential for health and well-being for all.
- Promote healthy development, healthy behaviors, and well-being across all life stages.
- Engage leadership, key constituents, and the public across multiple sectors to take action and design policies that improve the health and well-being of all.

The goals of targeting New Jersey's most vulnerable communities are more than just noble and altruistic targets. They are the foundational components of a healthy, productive society. In recent years, healthcare providers, insurers, government agencies, and other stakeholders have begun to recognize the impact that social determinants can have on health and well-being. Access to healthy food, stable housing, employment, and education all contribute to better or weaker health status. Clinicians should continue to seek to factor these variables into patient evaluations. Doing so will allow for a broader and more comprehensive approach to care delivery and preventative medicine. One only needs to observe the elevated rate of COVID infections in New Jersey's most vulnerable communities to validate the need for and value of focused interventions. This study was crafted with the goal of assisting in the process of targeting and grooming investments in individual communities. When combatting health status, a customized approach rather than one size fits all, should produce a better outcome.

Visit www.njha.com/chart for additional resources.