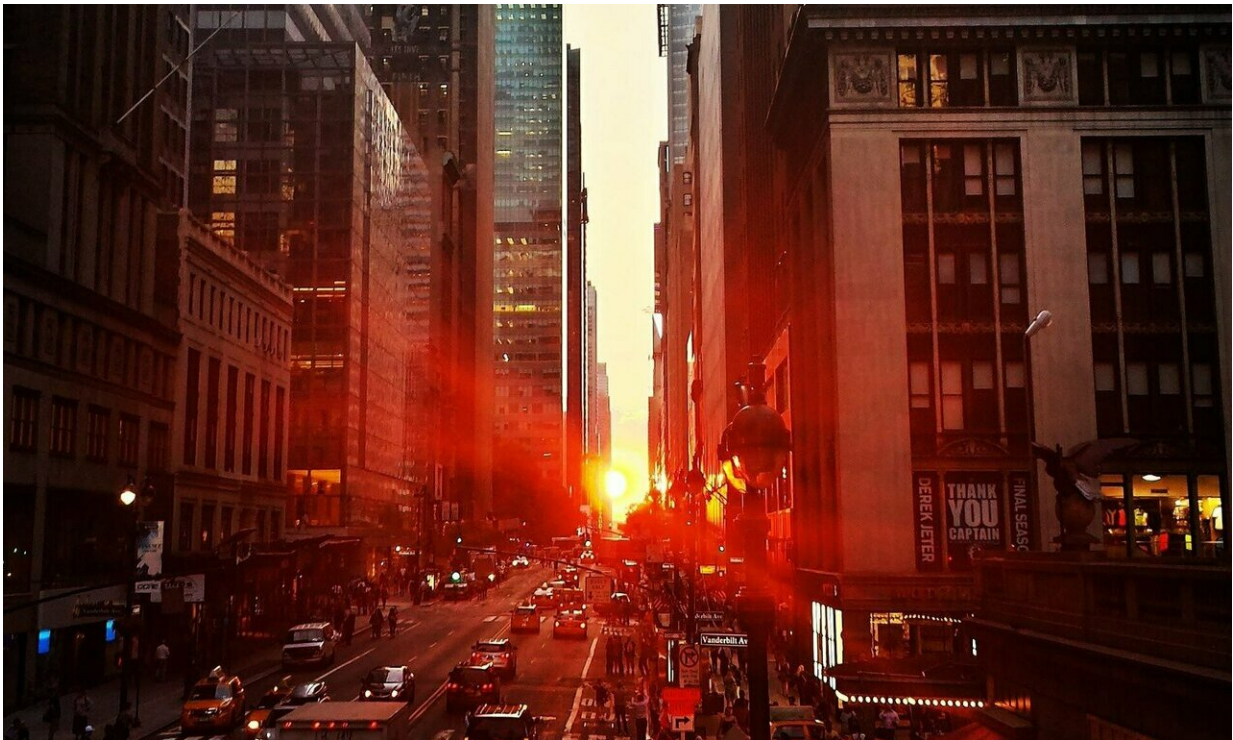


Team conducts first representative survey of energy insecurity in New York City

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Researchers at Columbia University Mailman School of Public Health and the New York City Department of Health and Mental Hygiene have conducted the first representative survey of energy insecurity and health of New York City residents.

The study's findings—including that energy insecurity is experienced by approximately 30 percent of New York City (NYC) residents—are [published](#) in *Health Affairs*. The study and its results help officials understand challenges faced by residents and develop possible interventions and efforts in response.

Results show that the population of New York City was impacted by three or more indicators of energy insecurity defined as the inability to meet household energy needs. These residents had higher odds of respiratory, [mental health](#), and cardiovascular conditions and electric medical device dependence than residents with no indicators.

Black non-Latino/a and Latino/a residents, compared with white non-Latino/a residents, experienced significantly higher levels of energy insecurity, as did renters compared with owners, recent immigrants compared with those living in the U.S. for longer, and those in households with children compared with those with no children.

"The issue of energy insecurity and how it affects [population health](#) is critical to understand," said Diana Hernández, Ph.D., associate professor of sociomedical sciences at Columbia Mailman School of Public Health and co-Director of the Energy Opportunity Lab at the Center on Global Energy Policy, and senior author of the study. "Our findings confirm there is a need for more large-scale, comprehensive and collaborative studies of this type."

In this study, as in previous research by Hernández and colleagues, a consistent pattern of unequal sociodemographic distribution of energy insecurity indicators emerges, with low-income, Black and Latino residents disproportionately affected.

"The implications of these disparities are relevant from a health equity perspective, given that the burden of disease inequitably falls on many of

the same populations," said first author Eva Laura Siegel, a postdoctoral researcher at the Mailman School of Public Health.

Furthermore, observes Siegel, energy insecurity and its linked health risks are known to be exacerbated by poor-quality housing.

"Unfortunately, higher risks of energy insecurity observed in these communities was not unexpected."

A key contribution of this work is the presentation of a wider breadth of indicators to characterize energy insecurity. Building on a narrower set of four indicators used in prior clinical and community-based studies, as well as the nationally representative Residential Energy Consumption Survey and an original survey designed by Hernández, the researchers developed a ten-[indicator](#) instrument to examine sociodemographic and health associations of energy insecurity in a representative sample of 1,950 New York City residents.

The researchers compared respondents who experienced three or more energy insecurity indicators with those who experienced two, one, or no indicators. Thirty-one percent of New York City residents experienced none of the ten energy insecurity indicators, 22% experienced one indicator, 18% experienced two indicators, and 28% experienced three or more indicators. The prevalence of three or more indicators was significantly higher among Black non-Latino and Latino residents (40% and 33%, respectively) compared with white non-Latino residents (18%).

More than one in four New York City residents experienced thermal discomfort at indoor temperatures that were too cold (30%) or too hot (28%). Twenty-one percent had difficulty paying utility bills. Of those, a majority were in debt for energy costs. Receipt of a service disconnection notice for electricity or gas because of debt or nonpayment and any service shutoffs for heat, electricity, and gas were

experienced by 8% and 3% of residents, respectively.

"This first citywide survey to characterize energy insecurity and its correlates with health and social vulnerability in New York City lays the groundwork for new avenues of exploration connecting energy insecurity and health," said Kathryn Lane of the NYC Health Department.

"Our study demonstrates that broadening the understanding of energy insecurity with context-specific metrics can help guide interventions and policies that address health inequities and improve health-related outcomes," added study co-author Ariel Yuan of the NYC Health Department.

Energy insecurity in New York City is distinctive, according to Hernández, as it's a complex and dynamic phenomenon. "Our aim was to demonstrate the use of a broader set of energy insecurity indicators that reflects both qualitative and quantitative emerging evidence and deep ties to the local context."

This line of inquiry and collaborative model is applicable beyond NYC. "Our joint endeavor demonstrates the role of health departments in measuring energy [insecurity](#) and related health impacts and the value of academic-government partnerships in expanding climate health research to inform policy development," said Carolyn Olson of NYC DOHMH.

"The main takeaway," added Olson, "is that access to affordable energy is a key to achieving health equity in climate change adaptation."

Other co-authors are Lauren A. Smalls-Mantey, NYC Health Department; and Jennifer Laird, Lehman College, CUNY.

More information: Eva Laura Siegel et al, Energy Insecurity Indicators Associated With Increased Odds Of Respiratory, Mental

Health, And Cardiovascular Conditions, *Health Affairs* (2024). [DOI: 10.1377/hlthaff.2023.01052](https://doi.org/10.1377/hlthaff.2023.01052)

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