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Contact: David Clarke, Society for Risk Analysis, 301-467-2752
davidpaulclarke@gmail.com
Dr. Sara Grineski, University of Texas at El Paso, 915-747-8471
segrineski@utep.edu
UTEP Communications Contact, Elizabeth Ashby, 915-747-5526,
news@utep.edu

Study: Miami Hispanic Immigrants Face Higher Toxic Chemical Risks Than U.S.-Born Hispanics

Toxic chemical and other environmental risks that immigrant Miami area Hispanics face are higher than those faced by the area’s U.S.-born Hispanic and white residents, but are almost identical to risks faced by the area’s black population.

McLean, VA—Immigrant Hispanic residents living in the Miami area face disproportionately higher exposures than their U.S.-born Hispanic and white counterparts to cancer-causing air pollution and other environmental risks, according to a recent study that sheds new light on long-unsettled national concerns about environmental injustice. Immigrant Hispanics face about the same level of these environmental risks as Miami’s black population.

The findings underscore that diverse Hispanic populations cannot be lumped together when studying risks. In addition, elderly study participants were much likelier to live in areas more prone to chemical spills, fires, explosions, and other such hazards.

The study, “Hazard Characteristics and Patterns of Environmental Injustice: Household-level Determinants of Environmental Risk in Miami, Florida,” was based on a random sample survey of 602 residents in the tri-county Miami Metropolitan Statistical Area.

“One of the novel elements of the study was that we disaggregated Hispanic participants based on whether they were born in the U.S. or whether they had immigrated here,” says Sara Grineski, a Professor of Sociology at University of Texas at El Paso. “Doing this made a lot of sense given the demographics of the Miami study area—40% of residents are Hispanic."

Professor Grineski adds: “Had we not divided the Hispanic residents into two groups, we would not have realized this difference.”

The study, published in the online version of Risk Analysis, a publication of the Society for Risk Analysis, was conducted with University of Texas colleagues Timothy Collins and Jayajit Chakraborty and Marilyn Montgomery of University of Pennsylvania.
The findings highlight the need to provide risk communications and information about relevant environmental hazards in both Spanish and English, says Professor Grinkesi. The research also suggests that some Miami residents most exposed to environmental health hazards may lack access to health insurance and regular health care because some Hispanic immigrants are not legal permanent residents and therefore, unlike legal permanent residents, are ineligible to purchase coverage under the Affordable Care Act.

“Immigrants struggle to get access to health care and we know from this study that they also face disproportionate exposure to cancer-causing chemicals based on where they live,” Professor Grineski says. “This is a serious problem.”

To measure hazard exposure, the researchers used spatial data from the Federal Emergency Management Agency, the National Air Toxics Assessment, and the Emergency Response Notification System. Results demonstrated the complexities found in human-hazard associations and the roles of hazard characteristics (such as how often a hazard occurs and its magnitude) in shaping disparate risk patterns.

The finding by Professor Grineski and colleagues that immigrant Hispanics and black participants basically had the same risk profile means that these groups are disproportionately exposed to environmental hazards. U.S.-born Hispanics and white participants had much lower levels of exposure to those hazards.

In addition, study participants over 65 were notably more likely to live in areas with more accidental releases of hazardous chemicals through chemical spills, explosions, or fires involving chemicals, and the illegal dumping of chemicals. “Because of the catastrophic potential of these types of accidents, this is an important finding,” Professor Grineski says. Older adults are more likely to have mobility restrictions that make evacuations more difficult, and so emergency responders should be aware of the increased potential need for evacuation assistance.

The study also revealed that higher-income people were more likely than lower-income people to live within the 100-year flood zone because it offers such amenities as ready access to water and beach views. Their flood risk is thus disproportionately higher. However, affluent residents living in flood zones have the opportunity under the National Flood Insurance Program to get federally subsidized flood insurance, which is also available to lower-income people living in Miami flood zones.

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