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Counties with persistent poverty rates experience higher rates of cancer deaths

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Residents of counties that experience persistent poverty face a disproportionately high risk of cancer mortality, according to a study published in *Cancer Epidemiology, Biomarkers & Prevention*, a journal of the American Association for Cancer Research.

Persistent poverty means that a county has had poverty rates of 20 percent or more in U.S. Census data from 1980, 1990, and 2000. These areas, representing about 10 percent of all U.S. counties, are primarily located in the rural South, said the study's lead author, Jennifer L. Moss, Ph.D., assistant professor in the Department of Family and Community Medicine at Penn State College of Medicine in Hershey, Pennsylvania.

Persistent-poverty counties typically have larger populations of racial and ethnic minorities; more children under age 18; less formal education; and greater unemployment. They are also more likely to have high rates of cancer risk factors such as obesity or cigarette smoking, Moss added. She drew a distinction between counties with persistent poverty and those with current poverty, which is defined as 20 percent or more of the population living in poverty according to the 2007-2011 American Community Survey.

"Counties that have experienced persistent poverty face health risks that have accumulated for decades, and they have fewer current or past resources to protect public health," she said.

In this study, Moss and colleagues examined cancer mortality rates in

persistently poor counties compared with other counties. The median income in the persistently poor counties was $32,156, compared with $47,154 in the counties not experiencing persistent poverty.

The researchers calculated 2007-2011 county-level, age-adjusted, overall, and type-specific cancer mortality rates. They found that the overall cancer mortality rate in persistent-poverty counties was 201.3 deaths per 100,000 people, compared with 179.3 per 100,000 people in counties not experiencing persistent poverty.

For each cancer type studied, mortality was between 11 and 50 percent higher in the counties with persistent poverty. For example, the mortality rate from lung/bronchus cancer was 16.5 percent higher; from colorectal cancer, 17.7 percent higher; from stomach cancer, 43.2 percent higher; and from liver and intrahepatic bile duct cancer, 27.6 percent higher in the persistent-poverty counties than in the counties not experiencing persistent poverty.

Moss said the disparities in various cancer types reflected a number of persistent risk factors that are more common in poorer communities, such as smoking, excess weight, and higher rates of infections. These factors, in turn, are likely related to fewer systemic opportunities for accessing good health, for example, fewer job prospects, inadequate health care facilities, and less safe housing and occupational environments. However, Moss said further research should examine other potential causes of the disparities. For example, it is possible that chronic stress associated with less access to health care, more chronic unemployment, and other financial factors may lead to inflammation that gives rise to some cancers, she said.

In general, the counties experiencing current but not persistent poverty had higher cancer mortality rates than the overall U.S. population, but lower rates than the persistently poor counties. Moss said the results of

this study indicate that researchers should distinguish between persistent poverty and current poverty, since persistent poverty is associated with the strongest risk of cancer mortality. She said the long-entrenched societal problems surrounding persistent poverty merit local and national interventions to improve health outcomes.

"To prevent health disparities, we need tools, people, and systems to ensure that everyone in this country has access to the tools they need to thrive, including socioeconomic opportunities, equity, and respect, as well as prevention resources and health care services," Moss said.

"We need interventions in these communities to change cancer-causing behaviors, to make cancer screening more accessible, to improve treatment, and to promote quality of life and survivorship," she continued. "Efforts to reduce the risk of cancer in these counties will require strategic coordination, collaboration, and funding, with input from community members every step of the way."

The study's chief limitation is that it did not account for residential history, so the researchers could not determine whether the amount of time spent in a persistently poor county affected cancer mortality risk. This study was funded by the National Cancer Institute. Moss declares no conflicts of interest.

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