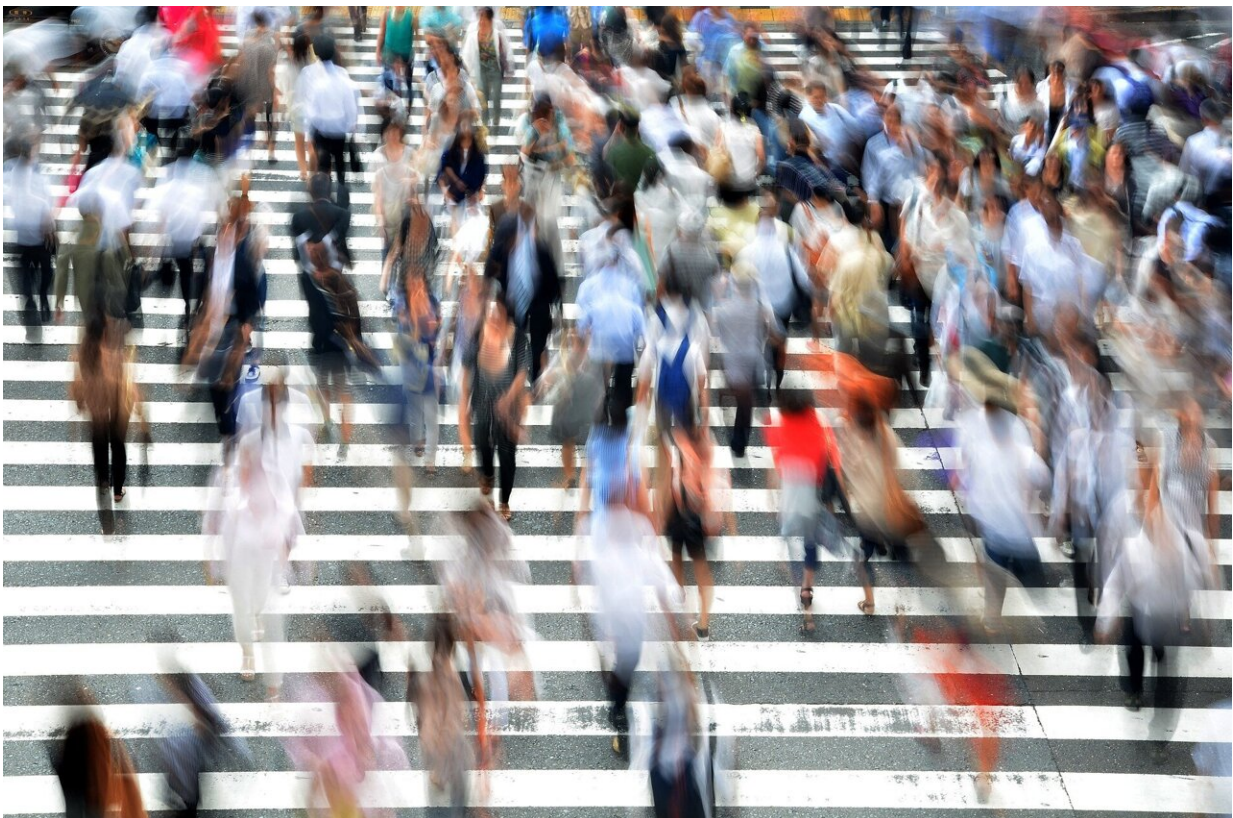


Chronic inflammation and poverty are a 'double whammy' for mortality risk, finds study

January 16 2024



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A new study finds that people with chronic inflammation living in poverty have more than double the risk of dying from heart disease and

nearly triple the risk of dying from cancer within the next 15 years. The findings of the study, led by a University of Florida College of Public Health and Health Professions researcher, are based on data representing 95 million Americans ages 40 and over.

While chronic inflammation and poverty are each known to increase mortality risk, when combined, the two factors appear to have a synergistic effect, producing a greater increase in risk than if the individual effects of the two factors were merely added together, the study authors say. Their [findings](#) appear in the journal *Frontiers in Medicine*.

"There is a lot of existing evidence that chronic inflammation can lead to disease," said lead author Arch Mainous III, Ph.D., a professor in the department of health services research, management and policy in the UF College of Public Health and Health Professions.

"We became interested in the potential interplay of chronic inflammation with poverty, which tends to increase inflammation in its own right through factors such as [chronic stress](#). We found that poverty and high levels of inflammation act synergistically, giving people with both factors basically a double whammy. It makes them far more likely to die and in a relatively short period of time, just 15 years."

Acute inflammation is part of the body's healthy short-term immune response to fighting infection, toxins or other foreign substances that may enter the body. Chronic inflammation, however, lasts for months or years and has been shown to increase the risk for developing conditions such as cancer, heart disease, type 2 diabetes and kidney disease. Another new study led by Mainous indicates that 34.6% of U.S. adults have systemic inflammation.

Chronic inflammation can be caused by a host of lifestyle, physiological

and [environmental factors](#), such as [poor diet](#), stress, lack of physical activity, smoking, aging, obesity, autoimmune disorders and exposure to toxins in the environment.

The findings from the UF study highlight the need for routine chronic inflammation screenings in vulnerable populations to limit what are, in many cases, preventable deaths, said Mainous, also the vice chair for research in the UF College of Medicine's department of community health and family medicine. Currently, there are no clinical guidelines for chronic inflammation screening.

"Investigators have been studying chronic inflammation for 25 years and we have a lot of data on its role in the disease pathway and mortality," Mainous said. "We know it's a problem, but we don't do anything about it. We need to translate the [basic science](#) on chronic inflammation to the doctor's office through the creation of screening guidelines so physicians can identify chronic inflammation in their patients and work to treat the underlying causes."

For the UF study, researchers evaluated data from the National Health and Nutrition Examination Survey, a nationally representative survey conducted by the National Center for Health Statistics that combines survey questions with laboratory testing.

The team analyzed data collected from adults ages 40 and older whose [household income](#) fell below the U.S. poverty line and whose lab tests showed elevated levels of C-reactive protein, an indicator of chronic inflammation. Records were linked to the National Death Index to track mortality over a 15-year period.

Those individuals living with both chronic inflammation and poverty had a 127% increased risk for dying from [heart disease](#) and a 196% increased risk for dying from cancer. People living with [chronic](#)

[inflammation](#) or [poverty](#), but not both factors, had about a 50% increase in mortality risk over the same period.

"It is time to move beyond documenting the health problems that [inflammation](#) can cause to trying to fix these problems," Mainous said.

More information: Arch Mainous III et al, Inflammation and Poverty as Individual and Combined Predictors of 15-year Mortality Risk in Middle Aged and Older Adults in the US, *Frontiers in Medicine* (2024). DOI: [10.3389/fmed.2023.1261083](https://doi.org/10.3389/fmed.2023.1261083). www.frontiersin.org/articles/10.3389/fmed.2023.1261083/full

Provided by University of Florida

Citation: Chronic inflammation and poverty are a 'double whammy' for mortality risk, finds study (2024, January 16) retrieved 13 May 2024 from <https://medicalxpress.com/news/2024-01-chronic-inflammation-poverty-whammy-mortality.html>

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