

## After years of decline, death rate from lung clots on the rise

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After nearly a decade of steady decline, the death rate for people with blood clots in the lungs reversed course and began rising over the past decade, new research finds.

The study, published Monday in the Journal of the American Heart Association, found death rates for pulmonary embolism (PE) dropped an average of 4.4% per year from 1999 to 2008, then began climbing an average of 0.6% per year. The biggest increases were for people under age 65.

"Death rates for PE are rising and seem to be doing so across age, race and geographic regions," said lead author Dr. Karlyn Martin. She is assistant professor of medicine in the division of hematology/oncology at Northwestern University's Feinberg School of Medicine in Chicago.

Pulmonary embolism is part of the broader disease called <u>venous thromboembolism</u> (VTE), or <u>blood clots</u> that start in the veins. VTE also includes <u>deep vein thrombosis</u> (DVT), a clot in a vein deep in the

body, usually the leg. If such a clot breaks free, it can travel to the lungs and cause a pulmonary embolism.

There were roughly 370,000 PE and 857,000 DVT events in the United States in 2016, the last year for which data are available, according to American Heart Association statistics. PE and DVT kill up to 100,000 Americans each year, says the Centers for Disease Control and Prevention.

"We know that (PE and DVT) are more common as people get older," Martin said. "So, we expected there to be higher rates in older people. But we found a significant number of younger people dying from PE as well. We don't know what's causing it, but it's a worrisome trend that needs dedicated study to find out why."

The researchers found premature and preventable deaths from pulmonary embolism increased 23% from 2008 to 2018 among people ages 25 to 64, a trend that mirrors a rise in deaths from all causes among this age group.

While white men showed the highest increase in PE mortality rates, the death rate for Black men and women was consistently higher than that of white people over the past two decades, the study found. As with the change in mortality rates, the study did not address why racial disparities existed.

"These data, for the first time, describe an alarming trend that is impacting Black Americans in particular," said Dr. Mary Cushman, medical director of the Thrombosis and Hemostasis Program at the University of Vermont Medical Center. She was not involved in the study.

"It is very hard to determine the cause, apart from speculation," said Cushman. She chaired the writing group for a recent scientific statement from the AHA and International Society on Thrombosis and Haemostasis that pinpointed future research



## priorities in VTE.

Cushman led prior research that found severe obesity to be a stronger risk factor for pulmonary embolism than DVT, suggesting "the continued rise in obesity may be playing a role. Other lifestyle factors like sedentary behavior, which is also on the rise, might be at play," she said. "But the rising rate in younger adults is a mystery to me and requires further study."

She called the study "a wake-up call that we are going in the wrong direction."

That means current efforts to prevent or treat pulmonary <a href="mailto:embolism">embolism</a> don't seem to be working to keep <a href="mailto:death rates">death rates</a> down, Martin said. "We need to know what's underlying the drivers to prevent this and stop it from rising further."

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