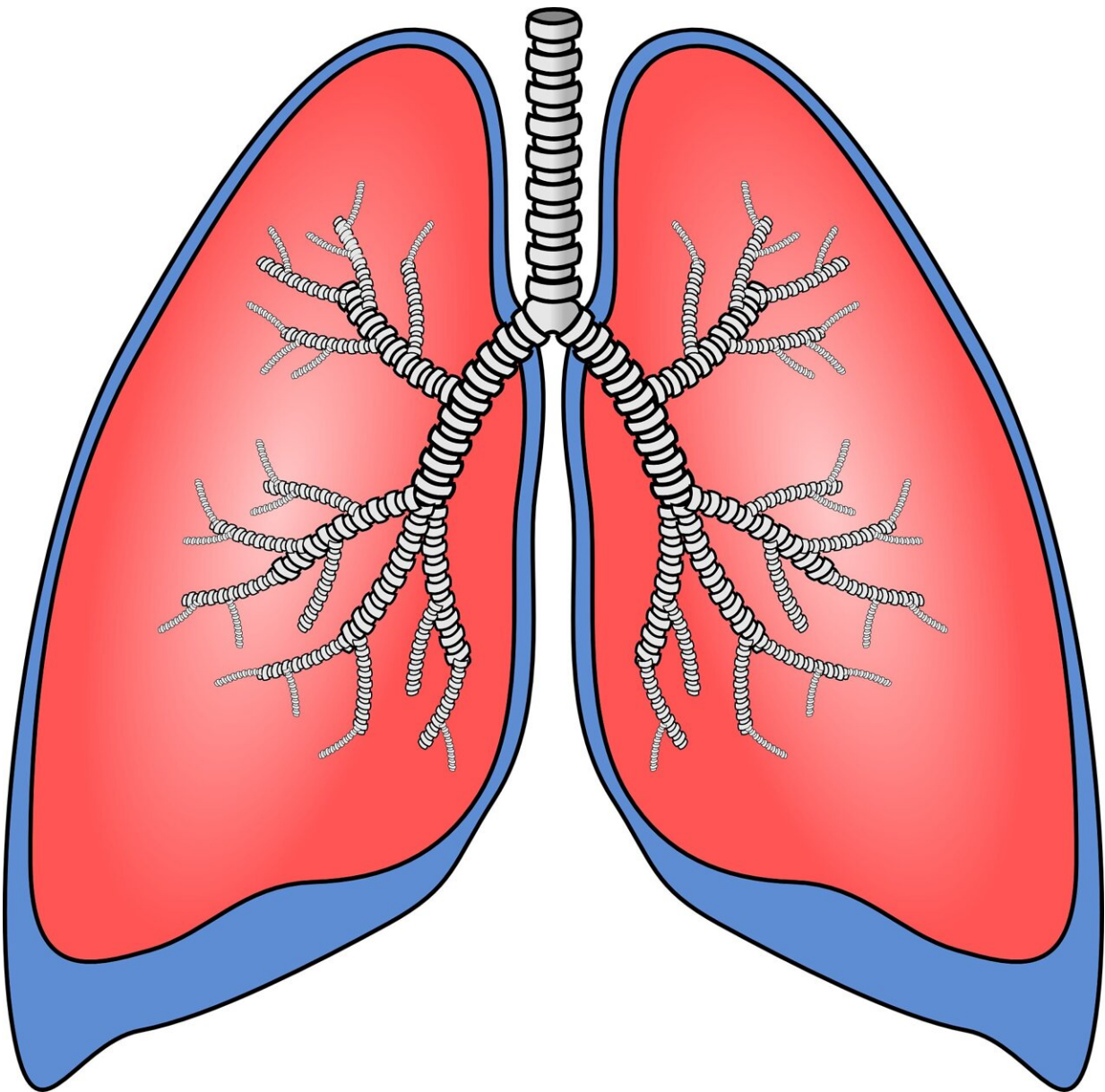


# Pulmonary embolism deaths, disparities high despite advancements in care

August 31 2023, by Noah Fromson

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Over the last 20 years, treatments for pulmonary embolism have advanced greatly. Several new therapies were developed alongside widespread adoption of emergency response teams for the condition, which is marked by a blockage of the arteries in the lungs often caused by a blood clot.

Despite these innovations, a Michigan Medicine study finds that the death rate for [pulmonary embolism](#) remains high and unchanged in recent years—more often killing men, Black patients and those from [rural areas](#).

The results are published in the *Annals of the American Thoracic Society*.

"These findings are surprising and counterintuitive to the advancement in care for patients with pulmonary [embolism](#) over the last decade, as well as other studies suggesting a downward trajectory in mortality from other major causes of cardiovascular death," said lead author Mohamed Zghouzi, M.D., who was a vascular medicine fellow at the University of Michigan Health Frankel Cardiovascular Center at the time the work was done.

Researchers analyzed over 100,000 deaths related to pulmonary embolism between 2006 and 2019 using national data from the Centers for Disease Control and Prevention.

They found that the [death](#) rate due to pulmonary embolism did not change significantly from 2.8 deaths per 100,000 people over the course of the decade. However, the mortality rate increased significantly among men, as well Black patients, who were nearly two times more likely to

die from the condition compared to white patients.

In rural areas, 4 patients per 100,000 died of pulmonary embolism, which is nearly double that of large metropolitan areas.

"Seeing a higher incidence of blood clots, including pulmonary embolism, in Black populations, patients in rural areas and those with lower socioeconomic status suggests that social determinants of health play a role in the incidence and outcomes of venous thromboembolism," said Geoffrey Barnes, M.D., M.Sc., co-author and associate professor of cardiology-internal medicine at U-M Medical School.

Pulmonary embolism is most often caused by a blood clot in the legs, called [deep vein thrombosis](#), that travels through the body up to the lungs. It affects around 900,000 people in the U.S. each year, with 10–30% of people dying within one month of diagnosis, according to the American Lung Association.

"These findings highlight a need for both increased funding for research focused on the underlying causes of these [mortality](#) rates and disparities, as well as targeted interventions and programs aimed at improving outcomes for pulmonary embolism in all patients," Barnes said.

**More information:** Mohamed Zghouzi et al, Gender, Racial, and Geographic Disparities in Pulmonary Embolism-related Mortality Nationwide, *Annals of the American Thoracic Society* (2023). [DOI: 10.1513/AnnalsATS.202302-091OC](https://doi.org/10.1513/AnnalsATS.202302-091OC)

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