

UW Health: Diabetic foot ulcer outcomes point to racial and rural disparities

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MADISON, Wis. – Rural patients who identify as Black are at sharply increased risk of death or leg amputation due to diabetic foot ulcers, according to a new study from the University of Wisconsin School of Medicine and Public Health that analyzed national data on patient outcomes.

The study was published online today in the *Journal of the American Medical Association Network*. Dr. Meghan Brennan, an assistant professor of medicine who treats people with diabetic foot ulcers, led the study.

“We found yet another instance where a group of people are doing poorly due to disparities,” Brennan said. “They are undergoing major amputations at a rate that is much higher than it should be. Disparities happen in medicine and we need to recognize them before we can begin to address them.”

Brennan and her coauthors analyzed Medicare data for 124,487 patients with diabetic foot ulcers who were hospitalized in 2013 and 2014. People with diabetes can suffer foot ulcers, infections and tissue death (known as gangrene), which can place them at risk of limb loss.

Researchers found that while the overall group had a 17.6% rate of major amputation or death, people who identified as Black had a rate of 21.9%, a 4.3% disparity. Those living in rural areas had a 0.7% increase in death or amputation. The amplified effect for rural people who identify as Black was not the sum of the two (5%), but rather an increase of 10.4% in death and amputation.

“When you actually look, they have a more than 10% increased risk, doubling what we would have expected,” said Brennan, who said the data show how health disparities can amplify each other, a concept known as intersectionality.

Brennan said the results may indicate a failure of the ambulatory health care system and of triage, as specialists like vascular surgeons and infectious disease specialists who make up wound salvage teams are much less common in rural health care settings.

Brennan is currently working with the Rural Wisconsin Health Cooperative, which represents 43 different rural health systems in the state, to design better triage tools so that patients who need to be seen by specialists can more easily be referred to larger hospitals to have faster access to necessary limb- and life-saving care.

Brennan is a UW Health infectious disease physician whose research focuses on the management of patients with diabetic foot ulcers. She co-directs the diabetic foot ulcer clinic at the William S. Middleton Veterans Hospital in Madison.

Brennan’s co-authors from the University of Wisconsin School of Medicine and Public Health include Dr. Christie Bartels, Dr. Ryan Powell, Dr. Farah Kaiksow, Joseph Kramer, MA, Dr. Yao Liu, and Dr. Amy Kind.