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Vascular

Regional Disparities in Amputations Not Lonely to the Lone Star State



The federal government now designates nearly 80% of rural America as “medically underserved.” Although these regions of the country are home to nearly 20% of the United States population, it is currently staffed by <10% of its doctors. In a recent article, in *The Washington Post*, it is reported that in Texas alone, 159 of the state’s 254 counties have no general surgeons and 121 counties have no medical specialists such as vascular surgeons who can manage peripheral arterial disease and help mitigate the risk of lower extremity amputations. In 35 counties, there are actually no doctors at all, and in 30 counties, the residents are forced to rely on just a single available doctor.¹

Recently there has been a growing body of evidence in recent years demonstrating socioeconomic and regional disparities in the rates of major lower extremity amputations. We previously demonstrated using the National Inpatient Sample that a patient’s race, insurance type, and geographic region can impact risk of receiving a major below or above knee amputation. Quite strikingly, patients in low-volume hospitals were less likely to receive limb salvage vascular interventions and more likely to receive a major lower extremity amputation.²

Barshes et al³ further investigate potential disparities in lower-extremity amputation rates in remote versus nonremote parts of Texas. Using publicly available Texas hospitalization data from 2004 to 2009, the authors were able to evaluate amputation rates using a Google maps geocoding function and a patient’s zip code of residence. The study found that among patients who received an amputation, those who received care at low-volume centers were more likely to be elderly, receiving Medicaid, have a foot infection, and were admitted to the hospital via the emergency department.

While this study does not include data from the Veteran’s Affairs Healthcare System, does not incorporate census data regarding racial breakdown of the Texan counties analyzed, and assumes linear distances between hospital centers and patient residence, it provides unique insights in how geospatial analysis can be used to view differences in regional care. In this study, five specific geographic areas in Texas were identified as regions that need additional attention and perhaps resources to help decrease lower extremity amputations.

It is likely that similar disparities in amputation prevention may be observed when similar geospatial analyses are applied to other rural and remote regions across the United States. The AAMC reports that rural communities from Appalachia, Midwest, Deep South, and areas of Alaska and Hawaii share common risks of limited access to care.³ In these areas, rural doctors are on average 3 y older than urban doctors, with half >50 y old and more than a quarter >60 y old. Health officials are estimating that over the next decade, this aging effect will lead to a 23% decline in the number of rural doctors, leading to a growing chiasm in health disparities.⁴ More must be urgently done to prevent such chiasms, otherwise we will continue to observe issues with the quality of care and outcomes of surgical patients from rural and remote areas of the United States.

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