

Background: The geographic maldistribution of dermatologists results in significant access disparities, particularly among rural populations. National studies using county-level provider density and rurality metrics do not capture intra-county population distribution dynamics or the actual travel geographies patients navigate to receive care.

Objectives: To quantify U.S. dermatology access by integrating one-hour drive service areas (OHSAs) with fine-grained rural classification and determine the proportion of rural populations lacking timely access to dermatologic care.

Methods: We mapped the locations of 11,831 Medicare-participating dermatologists from the 2023 Medicare database. Using ArcGIS Pro, we generated OHSAs using existing road networks and speed limits. We overlaid Rural-Urban Commuting Area (RUCA) codes 4–10 to identify rural census tracts, and calculated the proportion of rural populations residing outside OHSAs.

Results: 38 states and the District of Columbia have total out-OHSA rates $\leq 10\%$. However, rural residence skews the distribution: 42 states have $>50\%$ of out-OHSA populations in RUCA-defined rural areas, and in 22 states $>85\%$ of out-OHSA residents are rural. Although the Atlantic Coast generally shows better rural access, New York, North Carolina, and New Hampshire each have $>69\%$ of rural out-OHSA populations. Some states with relatively large total out-OHSA populations (Wyoming, Montana, New Mexico) show nearly exclusively rural out-OHSA populations. Nationwide, 82.9% (9,480,993 individuals) of out-OHSA residents live in RUCA-defined rural areas.

Conclusions: Integrating OHSAs with RUCA codes offers a more precise analysis of rural dermatology access disparities. These findings highlight geographic areas where targeted interventions — such as rural clinic placement or teledermatology — could reduce access inequities.