**Objectives**

Define the relationship between physical proximity to burn care and access to critical telehealth infrastructure.

Assess the association of English language proficiency and distance to verified burn centers.

**Introduction**

- Many patients face challenges accessing ABA-verified burn centers, leading to significant time, travel, and financial burdens.
- Telehealth systems offer a promising solution to enhance equity in burn-care access, but disparities exist in utilization rates.
- Factors such as poverty, rurality, and geographical location impact both in-person burn care access and telehealth utilization rates.
- Challenges include poor internet access, speed, and audio/visual quality which may exacerbate healthcare inequalities.
- Patient-provider language incongruence, particularly for those with limited English proficiency, poses an additional barrier to telehealth accessibility.

**Methods**

**Distance Calculations:**
- Verified adult burn centers (n=59) from the American Burn Association’s directory.
- Calculated distances from county centroids to the nearest burn center using the Haversine formula.

**County-Level Data:**
- Telehealth-associated data from the AHRQ Social Determinants of Health Database.
- Income-stratified datasets from U.S. Census Data.
- USDA Rural-Urban Continuum Codes (urban=1-3, rural=4-9)

**Statistical Analysis:**
- Linear mixed models with F-tests for regression analysis.
- Unpaired t-tests to compare rural and urban counties.

**Results**

**Barriers to Remote Burn Care Delivery: An Analysis of Burn Center Proximity and Access to Critical Telehealth Infrastructure**

**Shelley Edwards, BS; Emily E Hecox, MD; Gabrielle Chamoun, MD; Peter Arnold MD PhD; Laura S Humphries, MD**

Division of Plastic Surgery, University of Mississippi Medical Center, Jackson, MS; Division of Plastic Surgery, Children’s of Mississippi, Jackson, MS

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**Results**

**Lack of Telehealth Infrastructure**

- **With a Computer Device**
  - Without Internet Access
  - With Internet Access

**Access to Telehealth Infrastructure**

- **With a Smartphone**
  - Broadband
  - Cell Phone Data Plan

**Lack of Internet Access and Income**

- **Without a Computer Device**
  - Without Internet Access
  - Internet Access

**Income and Broadband Access**

- **Without a Computer Device**
  - Without Broadband
  - Broadband

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**CONCLUSIONS**

- Counties further from burn centers exhibit lower access to telehealth infrastructure - a phenomenon that persists across income ranges.
- Language-associated access barriers decrease with proximity, likely explained by the preferential clustering of immigrant populations in metropolitan areas. However, with immigration to rural areas becoming more common, the need for this growing population must be considered in efforts to expand telehealth accessibility.
- Urban counties generally exhibit higher access to telehealth infrastructure compared to rural counties.
- Although efforts to increase rural internet access have helped make telehealth more accessible to the populations most in need of remote healthcare access, many vulnerable populations face additional barriers to telehealth access. Expansion efforts should prioritize equitable access to essential telehealth components beyond internet coverage.
- Creative solutions, like leveraging public infrastructure (e.g., public libraries, schools), may bridge gaps in access to burn care follow-up in remote areas. Future studies should evaluate the efficacy and feasibility of these strategies, specifically in the context of burn care.

**References**

