

Introduction: One of the most significant barriers for Missourians is a lack of timely and quality access to health care services. It depends on many factors: social, economic, and demographic, but the main concern remains centered around the lack of a public transportation system in rural Missouri. The Show-Me ECHO (Extension for Community Health care Outcomes) Project, at the University of Missouri's Missouri Telehealth Network, was implemented to increase the capacity of providers in rural areas via telemedicine technologies.

Methods: Our first step was to compile a list of providers that had prescriber credentials in the state of Missouri. This included their addresses and the ECHOs they were participating in. Next, we used ESRI's ArcGIS StreetMap resource to create a road network dataset and address geolocator. We focused on Primary Roads to analyze common accessibility and efficiency. Once the time aspect was added to the roads and the network was ready, we geolocated the health center locations. Out of the 507 addresses, we successfully geocoded 414 addresses. Then, we used the Network Analyst tool to find routes from every health center to the University of Missouri hospital, the "Golden Standard."

Results: We mapped every route for all children related ECHOs: all Asthmas (Asthma, Asthma Care & Education, and Asthma Care Accelerator), Autism, and Child Psychology. The average time traveled was 112.71 minutes (1.89 hours). When we mapped every route for adult ECHOs, the average time was similar: 110.12 minutes (1.84 hours). The furthest location took 276.31 minutes (4.61 hours).

Discussions: By mapping the locations, the Missouri Telehealth Network is able to visualize the reach and identify areas that could use more outreach. It sheds light on the barrier for rural Missourians, who will not always choose traveling 4.61 hours to access proper health care.