

## **Missouri Healthcare at Risk: Mapping Accessibility in a Changing Medicaid Landscape**

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On July 4th, 2025, policymakers passed the Big Beautiful Bill, reducing Medicaid spending by 15%. This change is expected to result in 4.8 million Americans losing healthcare coverage, including an estimated 170,000 Missourians, and may force several hospitals to close. Over the past few decades, hospital closures have grown more common, especially in rural areas. This has resulted in healthcare deserts around the country, with less people being able to afford hospital visits or being too far away from viable hospitals. Currently, Missouri faces several rural healthcare disparities, and this bill is expected to worsen that gap even further. However, the specific populations affected by this change is unknown. Given the pressing matter of the Bill, policy makers and other affiliated parties should be aware of the changes coming to hospitals and their service range around Missouri.

To solve this issue, we will develop a comprehensive assessment of healthcare in Missouri and the populations affected by completing a descriptive analysis of distance to the nearest healthcare facility and transportation availability. We will also use geospatial analysis to identify regions with limited access to care, and with predictive modeling, we will estimate which facility may close due to Medicaid cuts and how many residents will be newly impacted. The feasibility of our proposed approach is supported by the availability of statewide hospital discharge, Medicaid data and distance-based and transportation research. With our newly created modeling and geospatial analysis, we will be able to determine which groups of people will be affected by these hospital closures and turn that into actionable insights to guide interventions and resource allocation.

**Aim 1 will examine which populations in Missouri currently experience limited access to healthcare facilities.** This will utilize the descriptive and geospatial analysis of distance to the nearest healthcare facility and availability of transportation across the state. This will identify baseline disparities in healthcare accessibility and establish which groups are most affected. The results will provide a foundational map of current inequities in healthcare access.

**Aim 2 will inspect which hospitals in Missouri are most vulnerable to closure due to Medicaid funding cuts.** Predictive modeling informed by financial and Medicaid data will help estimate the likelihood of these hospital closures. This approach will highlight facilities most at risk. The results will identify critical institutions whose loss could destabilize access to care.

**Aim 3 will investigate which population would experience newly constrained access to healthcare given a hospital closure.** By integrating results from Aims 1 and 2, we will model the projected impacts of potential closures on surrounding populations. Geospatial analysis will quantify changes in travel distance and accessibility, and demographic overlays will reveal which groups are disproportionately affected. This will provide actionable insight into how hospital closures translate into reduced access to care for vulnerable communities.

This proposed study will utilize predictive modeling and geospatial analysis to provide insight into hospital closures and the affected populations after the recent bill cut Medicaid funding. The results of this study will create a valuable resource for policy makers to gauge the importance of these hospital closures and to guide evidence-based decision making around resource allocation, funding priorities, and health equity initiatives.