Spatial Distribution and Access to Healthcare in Greenville County

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Abstract

The goal of this project is to gain a better understanding of spatial distribution and access to healthcare in Greenville County. The project will go over the area of study and give drive time analyses throughout the area using GIS. After establishing the drive time areas throughout Greenville we will examine the accessibility for several groups. This will give us the extent of spatial equality in terms of distribution throughout Greenville County.

Introduction/Lit Review

As said by Dr. Ananya Mandal in an article for News Medical, "Health disparities are the inequalities that occur in the provision of healthcare and access to healthcare across different racial, ethnic and socioeconomic groups" (Mandal). From that definition of what healthcare disparities are it gives us an understanding of the kinds of groups that can experience inequalities. The goal of this project is to measure the accessibility and distribution of healthcare facilities. Accessibility will be measured through the use of spatial analysis of drive times and furthered by looking at demographic data. After viewing the drive time analysis and median household income, the project will then review education attainment and race distribution throughout Greenville County. "Differences in access to healthcare services and resulting adverse health outcomes when there is inadequate healthcare are major public health priorities" (Graves). This is from an article written by Dr. Ann Graves, it describes the need for a project that understands the accessibility of healthcare to different groups. We need to examine the accessibility to healthcare facilities because the areas that don't have proper healthcare access have adverse health outcomes as expressed in the quote.

Methods

The first thing that was done during the project was identify the information that was needed. It was decided that the needed healthcare points were urgent care facilities, hospitals, dental care, and specific physician practices. After establishing the types of healthcare facilities that were needed we geocoded those specific healthcare facilities in ArcMap. Then after that the GIS boundary for block group was then added pertaining to Greenville county. Another shapefile that was added was the municipal boundary for Greenville County. Then after all of that was completed then median household income was joined to the block group data. The data was then classified into four different classes. The first class was low income. This was defined by examining the poverty level. The low-mid income was defined by the median income for Greenville. Then the remaining two classes were defined by the median for those two different income levels. In this project it will use distance as the main way to...