"THE DECLINE IN U.S. LIFE EXPECTANCY IS UNLIKE ANYTHING WE'VE SEEN IN A CENTURY"

- SARA CHODOSH

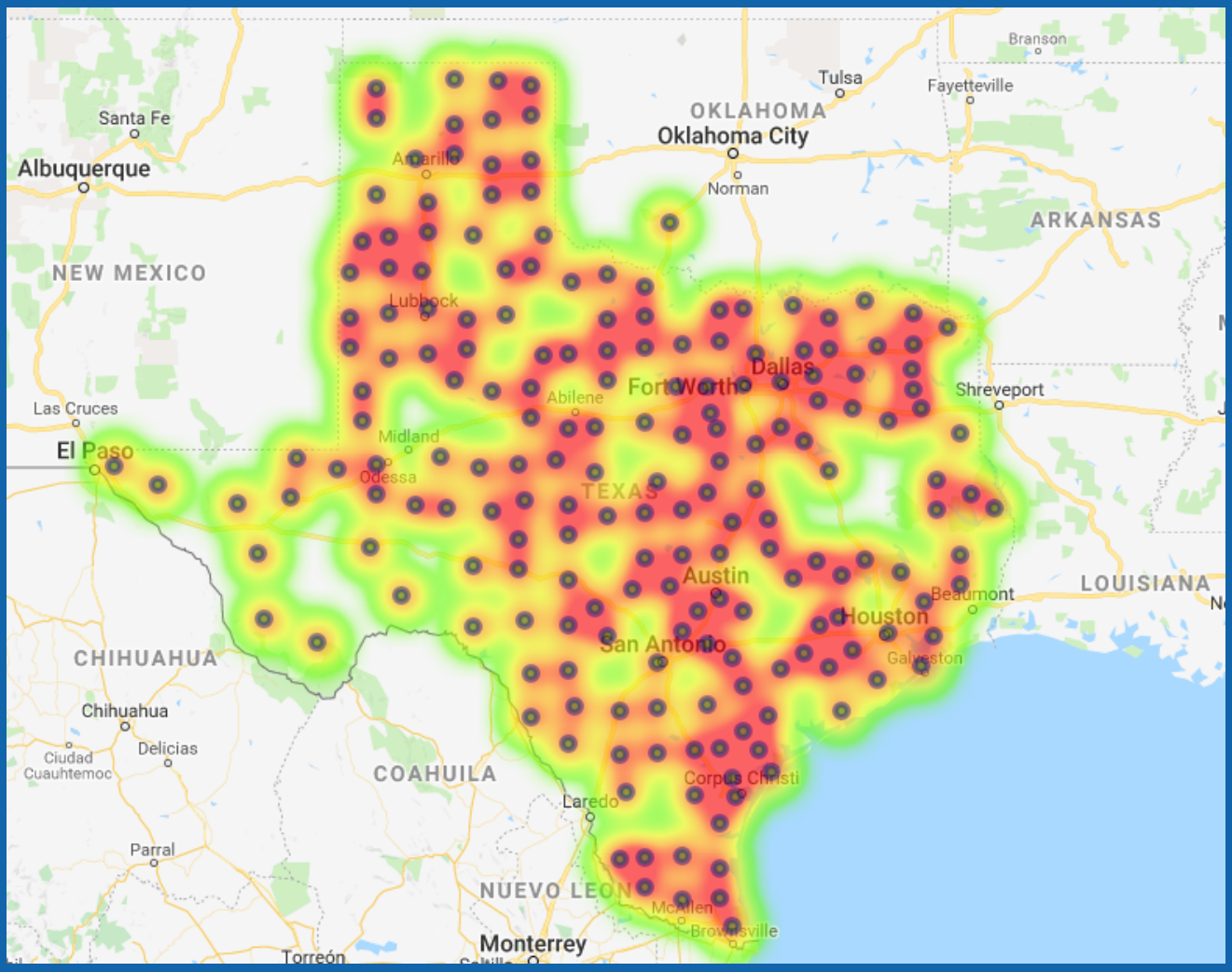
Access to healthcare has come under fire in the past decade as people are becoming more vocal in their demands for healthcare to be considered a right, not a privilege. But what good is increased health coverage without increased physical access to these services? Many

While chain pharmacies have seemingly proliferated urban and suburban cities, the truth is that for large regions in the country a trip to the pharmacy is a day trip rather than a quick errand. For individuals who are older or chronically ill and need constant refills of medications, this can be a substantial burden. Attention has been given to the small number of hospitals in rural America leaving these citizens underserved. This phenomenon has been identified as a medical desert.

The rise of the idea of medical deserts within the US caused us to pose the question: Does a reduction in the number of pharmacies available have a measurable impact on life expectancy?

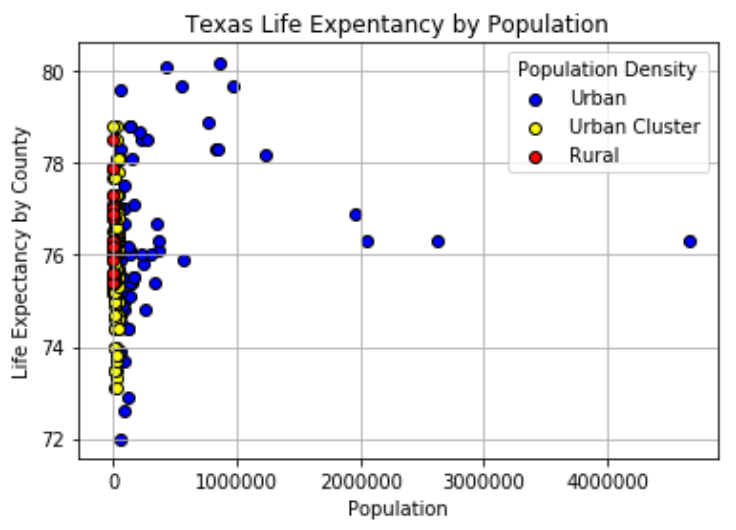
Using a dataset from the Texas Pharmacy Association, the Google Places API, and information from the US census, we analyzed this question further. We pulled on the county level, collecting the number of pharmacies, the population count, and the geographical area. We are also analyzing median income for each county, considering how this quality factors into the assessment.

OUR HYPOTHESIS: A HIGHER CONCENTRATION OF PHARMACIES WILL CORRELATE WITH A HIGHER LIFE EXPECTANCY.



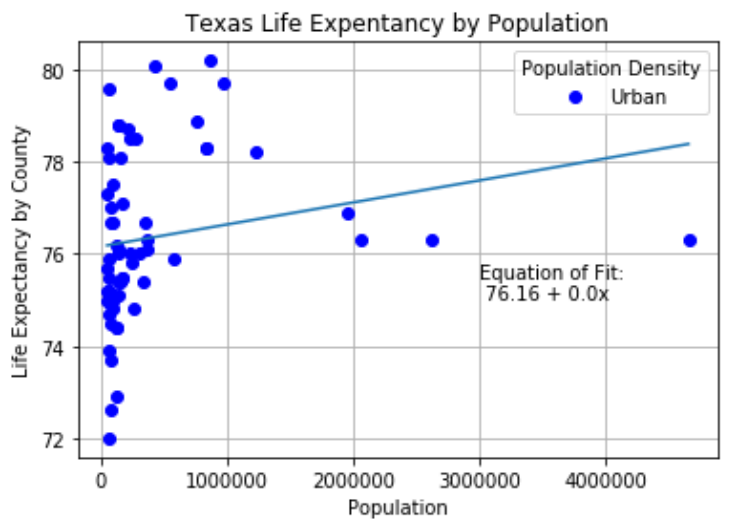
Texas offers a unique opportunity to analyze urban, urban cluster, and rural counties. The state also has diverse populations and city areas. This heat map, created from data sets and the Google Places API, shows the concentration of pharmacies across the state. The highest concentrations are near urban centers: DFW, Houston, Austin/SA. With the following visualizations we'll analyze the life expectancies for every county based on population and size. a

ANALYSIS

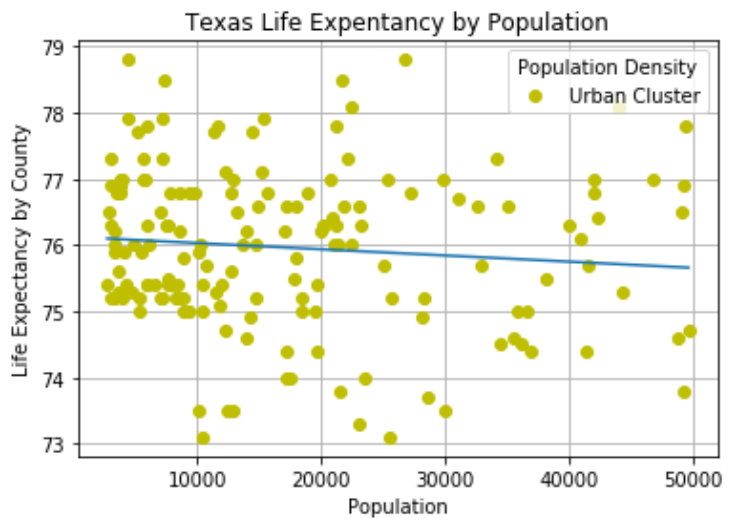


This overview shows the variance of life expectancy. We can see from this visualization that each of our segments has variance on the life expectancy scale, but the urban segment varies the most on the population scale.

We then began to analyze the data variable by variable

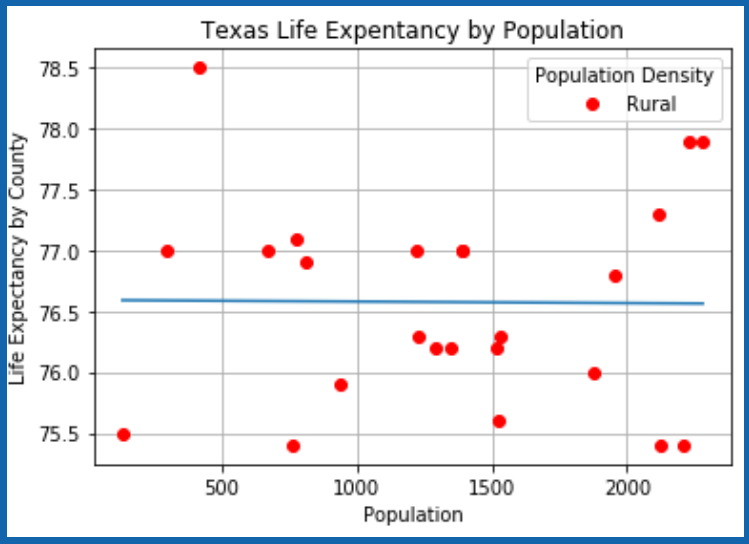


The first variable we looked at was life expectancy for urban counties. From this data, we can see a positive correlation between population and life expectancy. This indicates that epicenters such as Houston and Dallas could be better cities to live in for longevity.

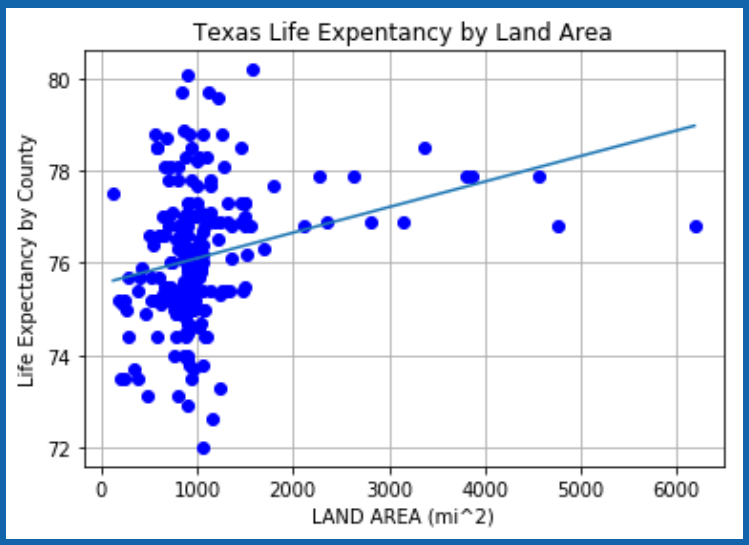


Moving on to urban clusters, the positive trend disappears. This population density segment is less congested to the left side of the graph.

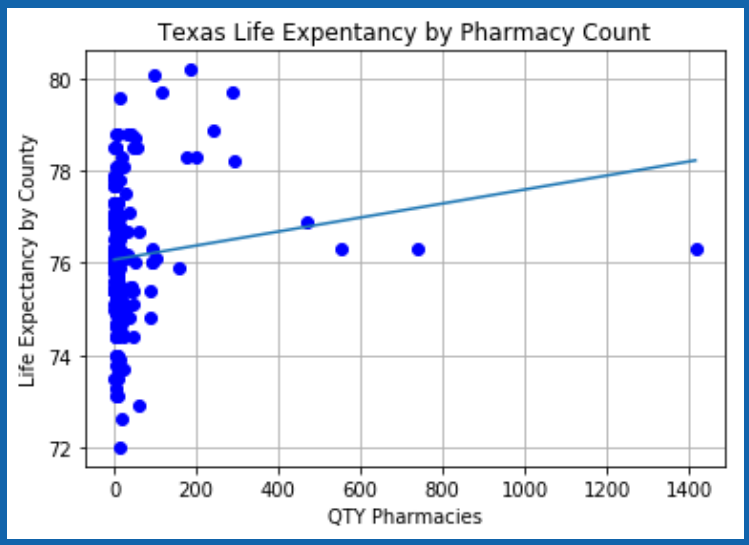
ANALYSIS



Rural counties presented essentially no correlation between population and life expectancy. An explanation of this could be due to the lack of technological difference between the lowest populated and the highest populated rural counties.



Moving on from population, we next analyzed life expectancy by land area of the county. This analysis shows a positive correlation. This trend does appear to be similar to population vs life expectancy.



The final correlation relationship we analyzed was that of pharmacy count and life expectancy. Evidence shows a positive relationship between the two, indicating that our hypothesis is true: a higher concentration of pharmacies leads to a higher life expectancy for the county