Abstract: Previous studies concerning family homelessness have found that homelessness is caused by multiple factors that appear to reoccur between different families. Taking census data from the three most populous counties in Washington, this data analysis was able to take the qualities associated with homelessness and convert them into a qualitative figure that was mapped alongside shelter locations to allow for clear patterns between the shelter and demographics to be noted. The mapping of the census data will be used to improve decision making and change the distribution of resources based on the factors of homelessness.

Introduction

A homeless family is a family who lacks housing and whose primary residence during the night is supervised by a public or private facility that provides temporary living accommodations. The duration of time that an individual remains homeless depends on a variety of demographics such as access to public health facilities, household income, and population.

To assess the relevance of each of these determining factors, data were collected from the most populous counties in Washington state: King, Pierce, and Snohomish. These data sets were formatted and formatted into a visual map to relate the shelter location to the counties’ demographics. With this analysis, we plan to find patterns and correlations between the counties and their shelters, to provide policy makers with sufficient data to improve the policies and regulations regarding family homelessness.

Methods

Data Acquisition: Modified Excel data was mapped over census demographics to allow for a more simple analysis of factors that relate to long-term family homelessness.

Cleaning and Formatting the Data: The Excel file was filtered manually to remove any missing information, and inconsistent formatting. Once cleaned, the addresses were changed into latitude and longitude coordinate points through the U.S. Geocoder.

Mapping the Data: The latitude and longitude points were plotted onto ArcGIS alongside the census data to produce color-coded maps that symbolize the data.

Conclusions

The map concerning the percentage of tracts that have access to public health facilities, suggests that a large number of homeless shelters are in close proximity to public health facilities.

The map regarding income suggests that the majority of the homeless shelters are located in the least wealthy and most racially diverse tracts.

The map concerning the population of the county shows that shelters are well dispersed throughout the area, and no real correlation exists between the location and total population.

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