Mapping the Absence of Physical Access to Healthcare within Communities of High Poverty in Los Angeles County

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Introduction

Healthcare coverage in the form of insurance has become more affordable within the last decade, with an estimated 20 million previously uninsured gaining coverage (Kominski et al 2016); but the care people need is still, and may be becoming distant or unavailable for those living under their means. Hospitals/medical centers, clinics, and doctors, including specialists, are withdrawing from low-income neighborhoods/regions. Areas where people need the most medical attention. This is due to new hospitals/medical centers opening in more wealthy areas while medical facilities located in low-income areas closing or relocating to wealthier areas. About two thirds of the roughly 230 hospitals in which have opened since the year 2000 are in wealthier areas (Thomas 2015). Consequently, hospitals in low-income areas have drastically been closing by 46% between 1970 and 2001, in 52 major U.S cities (Thomas 2015). Individuals living within these areas cannot get to a healthcare facility, due to a lack of feasible income, transportation, time, and other rational.

Individuals living in poverty may not have a car or even be able to afford a public transportation pass, nor do they have the time to navigate public transportation. Medical centers that may seem nearby to a neighborhood on a map may not appear so close when an individual must walk miles or wait hours for public transportation. Walking to a doctor/medical center may also not be safe depending on statistical crime in which is prevalent within low-income communities. Pre-existing conditions, such as disabilities, obesity, and chronic illness may reduce one's ability to be seen by a healthcare provider, and may in turn exacerbate their unmet health needs (Cronk 2015). Being seen by a physician may not be a guarantee during each appointment due to patient time restraints and time it takes to travel to their appointment. This makes it more difficult to treat chronic illnesses because patient cooperation (how the patient responds to treatments) is decreased, thus decreasing the patient's quality of life. A survey of 593 cancer patients found that the lack of transportation was such an issue, they had to skip care/treatments (Cronk 2015). Missing medical appointments because of this is prevalent in low-income

communities. In 2013, 25% of missed appointments from low-income patients were due to the lack of transportation (Cronk 2015). In this study, I wanted to map how far communities of high poverty are located from hospitals/medical centers and clinics in the greater Los Angeles County. I wanted to make a composite of the population of Los Angeles and find the areas within that layer of data in which are experiencing high levels of poverty.

Methods

I utilized the most recent data obtained from the National Historical Geographic Information System (NHGIS) pertaining to county and Census tract, Household and family income, and the 2012_2016 ACS5b 5-Year Data track. Utilizing data from the most recent year (2016) best coincides with the separately obtained data pertaining to hospital/medical center in Los Angeles data, released a year after. Once the data was obtained, a join operation was ran to relate household income and total population. In this analysis, I was interested in running a Boolean operation on areas in Los Angeles where poverty rate reached or was greater than 25%. A poverty rate threshold of 25% was chosen because: 1. It is one way to describe aspects of economic wellbeing (Semega et al. 2017), and 2. Shows the proportion of people with income below the relevant poverty threshold (Semega et al. 2017). Attribute queries were ran to create specific exported shape files for the county of Los Angeles and for communities experiencing high incidences of poverty. Once these areas of interest/concern have been isolated from the population tract, updated datasets maintained through the County of Los Angeles Location Management System containing the locations of hospitals/medical centers and health clinics locations within the county were inserted on the map via a shapefile. The goal of these operations was to distinguish a displacement of hospitals and visualize the disconnect between communities experiencing heavy poverty and institutions in which should be galvanizing their health and quality of life.

Results

Figure 1 shows a map of Los Angeles County illustrating the locations of hospitals/medical centers, clinics, and communities experiencing high poverty incidence rates. As expected, most hospitals/medical centers in Los Angeles County are located away from areas of high poverty. Some of these neighborhoods are as far as 10 miles from the nearest hospital. This is due to hospitals/medical centers being established and diverted away from areas of high poverty in Los Angeles due to fears of profit loss from treating patients with low-income (Thomas 2015). An interesting find is that many hospitals in the Los Angeles area are established around the borders of these low-income neighborhoods. Although these bordering hospitals may seem close, they still equate to a 30 min to a 2-hour walk/ bus rides (depending on location) for most residents. The findings overall support the claim that individuals living below their means lack the ability to seek proper care due to the distance hospitals/medical centers and clinics are, or are being established, away from people living in poverty. Within the Health Clinic shapefile's attribute table, the metadata shows information about each clinic, such as hours of operation, types of care offered, websites, ect. A clinic of interest was one located in the middle of Culver City. Once inspected via their website, it was found that the clinic is a nonprofit/volunteer driven agency that provides early childhood education, health services, health insurance, and weight management programs for people of all ages in the County of Los Angeles (Venice Family Clinic). It is projects like these that may establish a framework to healthcare in areas of high poverty.

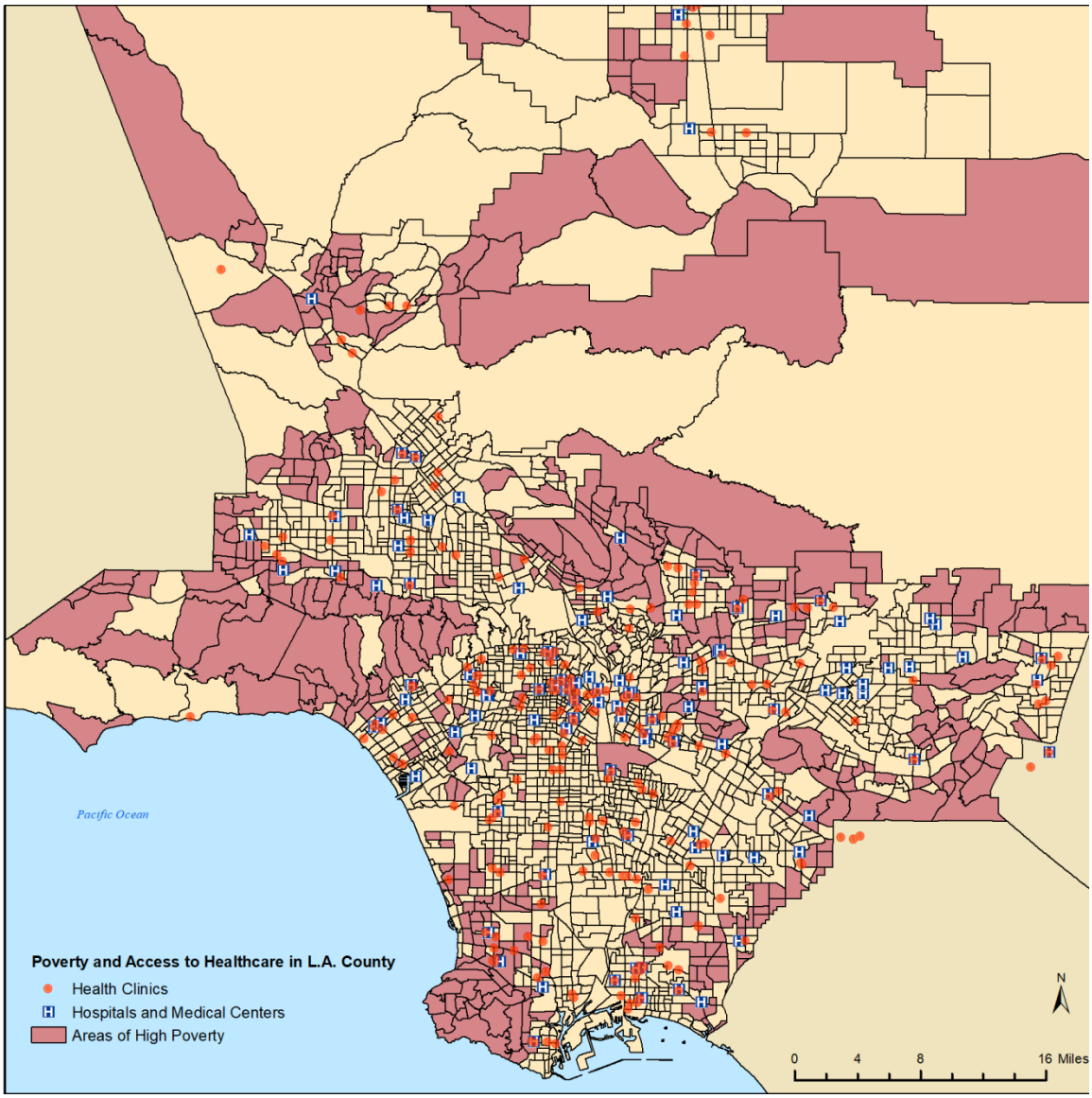

Figure 1. *Hospitals/Medical Centers & Clinics and Health Insecurity in L.A. County*

Discussion

From personal experience, I know firsthand how difficult it can be to be seen a doctor in the greater Los Angeles area. Drives to a medical center from a residential area can take anywhere from 30 minutes to an hour, due to traffic. Hence why I chose Los Angeles as my area of study. Health disparities continue to increase in the region and the increase access to health coverage is, although a great start, not enough. Hospitals/medical centers are in areas not accessible to people whom do not have the means to transportation. More data analysis will have to be done to decipher the demographics of the individuals living in poverty, existing conditions, road infrastructure, public transit routes, ect to find resolutions to this disparity.

The city of Los Angeles and other cities within the county also need to conduct an audit regarding the trends in hospital/medical center establishment locations and begin encouraging healthcare institutions to locate in low-income areas. With the rise of profit driven healthcare, the city needs to hold institutions, whom duties are to serve and heal, accountable for abandoning the people who need care the most and begging adopting patient centered health care; while focusing less on profit motive activities and stop fearing the conducting operation within low incomed/uninsured communities.

Conclusion

Lack of healthcare access is multifactorial, and there are many variables in which affect a person's ability to receive medical attention. Institutions that are erected to preserve life and encourage wellbeing are constructed in areas that shadow those that are most in need. An intersectional analysis of normative social constructs that exert power and privilege within society was illustrated by mapping the lack hospitals/medical centers and clinics in Los Angele's most vulnerable communities. This project must not be archived because it will have to be continued to add public transportation routes, safe

walking routes, pharmacies, etc. An in-depth analysis of the populations experiencing poverty will have to conducted.

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