

**Achieving Health Equity Through Accessibility:**

An Examination of FQHC Placements and Patient Populations

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## **Abstract**

Despite being the world's wealthiest nation, many Americans have little to no access to healthcare, a disproportionate amount being Black and Hispanic. Though a 2019 study reveals that Blacks and Hispanics compose a small segment of the US population, they conversely lead the nation in poverty rates. This contrast that we see can be attributed to systemic barriers, negatively affecting these major racial groups. The debilitating effects of poverty extend to all aspects of one's life, including healthcare. In an effort to combat the negative health outcomes experienced by communities in poverty, Federally Qualified Health Centers (FQHCs) were introduced to alleviate the burden of paying for healthcare.

The following study explores the strategic placement of FQHCs in Harris and Nueces counties, and whether they are located in their intended communities. This analysis also seeks to identify additional areas of research, related to the five As of access to care.

The results of this study reveal that though Harris and Nueces counties have strategically placed FQHCs, other matters warranting examination have emerged. Though the answers to the fresh inquiries are beyond the scope of this study, it is with great hope that future studies will explore these queries.

## **Background**

Federally Qualified Health Centers, also known as FQHCs, are primary care clinics, first established in 1965, as part of Lyndon B. Johnson's war on poverty. These federally-funded primary care clinics serve as "entry point[s] into the healthcare system" (AAFP, 2023), and provide primary and preventative services to underserved patients. Services vary from clinic-to-clinic, however, patients can expect a range of comprehensive health services existing to reduce the poor health outcomes of a community, regardless of ability to pay.

## **Problem Statement**

For over 60 years, Blacks and Hispanics continue to be overrepresented in the impoverished population, despite their underrepresentation in the total population (Bureau, 2019; see figure 3). For context, the poverty threshold for a family of four (with two children) is \$25,926 (Bureau, 2019; see figure 4).

Contrastly, their Asian and White counterparts are consistently underrepresented in the total population in poverty, earning a combined average of \$174,231, versus \$101,551 for Blacks and Hispanics combined (Bureau, 2019; see figure 5).

Despite 2019 marking an all-time low in poverty for Blacks and Hispanics, the economic disparities persist between these major racial groups and their White and Asian counterparts (Bureau 2019). Being that poverty is directly correlated with poor health outcomes, Blacks and Hispanics are the most vulnerable to suffering poor outcomes and experiencing decreased access to quality health services (Moore, B., 2023).

As defined by the National Library of Medicine, quality access to healthcare is characterized by the presence of affordability, availability, accessibility, accommodation, and acceptability (Wyszewianski, L., 2002), also known as the “five As”. These characteristics are interconnected, therefore, the absence of one affects the others.

## **Methods**

The table was created using data from [www.census.gov](http://www.census.gov), which provided variables related to Harris County, Texas, and Nueces County, Texas. These variables included population information, median household income, and racial demographics, including details for Black or African-American, Hispanic or Latino, and white only, not Hispanic or Latino. The website also offered the option to view and download these variables in map format ([Census.Gov](http://Census.Gov), n.d.).

Subsequently, the Google Earth Pro desktop application was acquired. The maps obtained from [www.census.gov](http://www.census.gov) were uploaded as map overlays into Google Earth Pro. This overlaying of county maps within Google Earth Pro allowed for a distinctive visual analysis to identify potential correlations between the Census maps and the Google Earth map.

The FQHC site information for Harris and Nueces counties was collected from [www.findahealthcenter.hrsa.gov](http://www.findahealthcenter.hrsa.gov) (*Find a Health Center*, n.d.). The FQHC site addresses were imported into Google Earth Pro, showing the precise locations of each FQHC site. The next section provides results of FQHC sites, census information, and county map analysis.

## Results

The table in Figure 1 provides a side-by-side comparison of the two counties. Included are the census population data, persons in poverty (numerical and by percentage), a breakdown of the composition of major race groups (numerical and by percentage), and the median household income.

Figures 2 and 3 demonstrate strategic placement of FQHCs in underserved areas, in both Harris and Nueces counties. Figure 2 depicts the Harris County population in the 2020 census, with its 152 FQHC sites. The darker the shade of blue displayed indicates a higher concentration of residents. The population is most densely populated in the inner city (with a population between 41,724 - 8,335,897 (*U. S. Census bureau, 2023*)). Similarly, the inner city contains the county's highest poverty rates.

In Figure 3, Nueces County is shown with its 5 FQHC sites, one being a mobile unit. Of the five sites, one is located in Robstown, with the others in downtown/west Corpus Christi. The placements align with the location of impoverished communities.

US Census data reveals higher rates of poverty in Nueces County (18.20% versus 16.40%), despite its size being significantly smaller. Additionally, Nueces County maintains a higher ratio of persons in poverty to FQHC sites. For every FQHC site, there are 12,855 people in poverty, versus Houston's 5,104 people in poverty per site.

## **Discussion**

The results of this analysis reveal that the FQHCs in Harris and Nueces counties are strategically placed in underserved areas. However, this examination has raised pertinent questions regarding the five As of access to care. Future research aims to explore these queries to contextualize the quantitative and qualitative patterns demonstrated within the figures. Displayed below are the identified queries:

- **What factors influence the prevalence of FQHCs in a county?**

Are the placements of FQHCs contingent on the resident's expressed need or do county/federal officials determine the threshold for FQHCs per geographical area or population size? Knowing this would help explain why certain areas with expressed need do not contain the same prevalence of FQHCs as other areas.

- **What is known about the relationship between a city's size and its poverty rates?**

If county size is directly proportional with poverty rates then it is crucial that the reason for this be understood. Large cities are highly prevalent and widespread in the US, therefore, interventions need to be designed to address the pattern. However, if city size is not directly correlated with poverty rates, then understanding the primary contributors to it, and learning how they can be combated, are important.

- **Has literature on FQHCs explored the relationship between FQHC prevalence and the population's racial demographic makeup?**

If statistically significant, this relationship could help explain how to improve the prevalence of FQHCs in other areas, not as highly populated by the same race.

- **Has a standard been established by local or federal authorities pinpointing the ideal ratio of patients per site?**

A standard ratio will contextualize whether a site is overwhelmed with or notably lacking patient flow. Further, a ratio will indicate either a need to redistribute patient loads or reveal a need for increased outreach.

- **What reputable public databases provide outlooks on population characteristics per zip code?**

A more detailed dataset will provide a better visual of the characteristics of each zip code: the areas that are faring well versus the areas that are overwhelmed. A more detailed dataset will additionally help pinpoint under-targeted/overlooked zip codes, in need of further attention.

## **Final Statements**

As aforementioned, the findings gathered generated more questions that need exploring. As more answers are uncovered, Public Health workers will have an improved understanding of FQHCs and the legal and social forces affecting them. With this new knowledge, effective interventions can be designed to expand free healthcare access to poorer communities, and ensure that the 5 As of care are completely satisfied. This will maximize clinic effectiveness and eliminate preventable waste.

## Tables & Figures

Figure 1

**Figure 1**

	Harris County, Texas		Nueces County, Texas	
Count of FQHC sites	152		5	
Population, Census, April 1, 2020	4,731,145		353,178	
Persons in poverty	775,908	16.40%	64,278	18.20%
Race - Black or African American Alone	974,616	20.60%	15,187	4.30%
Race - Hispanic or Latino	2,110,091	44.60%	230,978	65.40%
Race - White alone, not Hispanic or Latino	1,282,140	27.10%	97,477	27.60%
Median household income (in 2021 dollars), 2017-2021	\$65,788		\$59,477	

### Intext citations

([Census.Gov](https://www.census.gov), n.d.)

### References

Census.gov. (n.d.). Retrieved October 30, 2023, from <https://www.census.gov/>

Figure 2

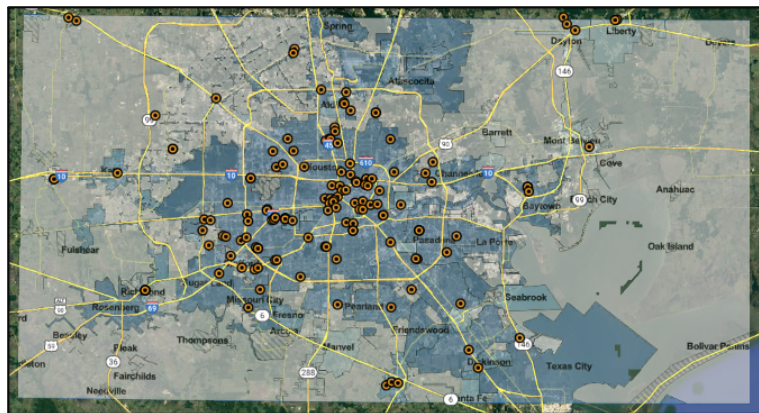


Figure 2: Houston + Harris County Population 2020 + Health Center FQHC Sites

Figure 3

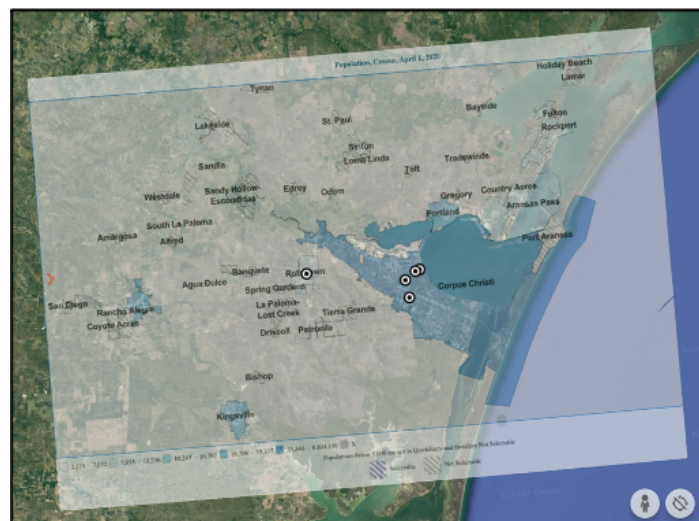


Figure 2: Corpus Christi + Nueces County Population 2020 + Health Center FQHC Sites

Figure 3

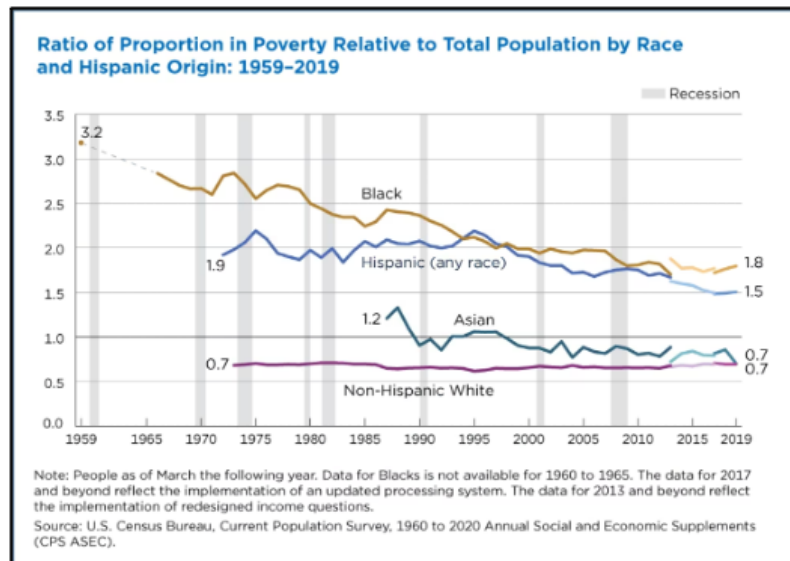


Figure 4

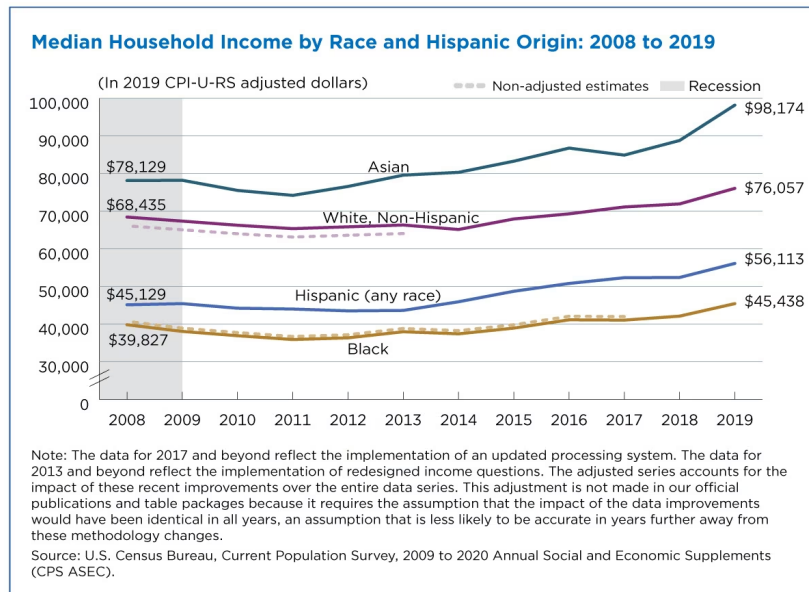
Poverty Thresholds for 2019 by Size of Family and Number of Related Children Under 18 Years (In dollars)										
Size of family unit	Weighted average thresholds	Related children under 18 years								Eight or more
		None	One	Two	Three	Four	Five	Six	Seven	
One person (unrelated individual):	13,011									
Under 65 years.....	13,300	13,300								
65 years and over.....	12,261	12,261								
Two people:	16,521									
Householder under 65 years.....	17,196	17,120	17,622							
Householder 65 years and over.....	15,468	15,453	17,555							
Three people.....	20,335	19,998	20,578	20,598						
Four people.....	26,172	26,370	26,801	25,926	26,017					
Five people.....	31,021	31,800	32,263	31,275	30,510	30,044				
Six people.....	35,129	36,576	36,721	35,965	35,239	34,161	33,522			
Seven people.....	40,016	42,085	42,348	41,442	40,811	39,635	38,262	36,757		
Eight people.....	44,461	47,069	47,485	46,630	45,881	44,818	43,470	42,066	41,709	
Nine people or more.....	52,875	56,621	56,895	56,139	55,503	54,460	53,025	51,727	51,406	49,426

Source: U.S. Census Bureau, 2020.

Note: The source of the weighted average thresholds is the 2020 Current Population Survey Annual Social and Economic Supplement (CPS ASEC).



Figure 5



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