

Healthcare Quality & Development

Kayla Nicholas, Gavin Zheng, Rahib Taher, Elijah Qin

Principal Investigator: Aditi Verma

Affiliation: International Socioeconomics Laboratory™, University of Delhi, Indira Gandhi Open University

Abstract

This paper is aimed to suggest a model investigation on the presence of healthcare inequalities within Jamaica, Queens and the potential effectiveness of a specialized healthcare system. For many years, many minorities have been suffering from socioeconomic inequalities despite the efforts made in various movements. Therefore, it is hypothesized that a specialized healthcare system will best resolve the many healthcare disparities that minorities face. In our proposed model, participants of all genders and age within Jamaica, Queens are to be asked to complete a survey with questions pertaining to, but not limited to, the quality and accessibility of their healthcare. Survey results are then to be organized in cross-tabulation analysis tables, compared with archival research, and used in 1-tailed t-test for statistical significance. The results gained from such resources will be sufficient to prove whether or not the healthcare system is disproportionately inefficient towards minorities and therefore prove the necessity of a specialized healthcare system.

Categories: Healthcare, Minorities

Keywords: New York, Healthcare Inequality, Healthcare Quality, Healthcare Development

Introduction

Minorities are suffering under severe economic inequalities that are presented within the United States today. For instance, according to Eileen Patten, a Former Research Analyst at Pew Research Center, an average African American earns 73% of what a white man would normally earn hourly, while an average Hispanic man would earn 69% share of a white man's earnings (Patten, 2020). Although the data depicted pertains only to black and Hispanic individuals, it still provides an example of how minority groups generally do earn less money. This lack of income makes life incredibly difficult for the average minority family since they have less income to spend on necessities like food and healthcare as opposed to their white counterparts. Moreover, these critical financial problems often exacerbate the current issues for minority groups living near Urban areas. One instance would be the population in Jamaica, Queens, which consists of 13.3% Asian, 62.3% black, 14.7% Hispanic, and 2.2% white (Jamaica/Hollis, 2021). The majority of the population in Jamaica queens are minorities suffering under unemployment rates as high as 20% as well as poverty rates as high as 10% (Northwell, 2019). High unemployment rates combined with poverty displaces these minority groups and pushed them further into the low-income category. These financial obstacles would mean that the necessity of vital services like health care in Jamaica would be weighed against other necessities as the minority families struggle to sustain basic needs.

Moreover, minority residences of Jamaica, Queens are also found to be served currently by a healthcare system that is overcrowded, underfunded, and lacking in overall accessibility for its residents. The number of available hospitals in the borough highlights this point. The Queens Borough Board explains how 9 hospitals serve the entirety of the borough of Queens. In addition, they explain how Queens is both underbedded while still facing a high demand for healthcare. This study accurately addresses an issue in high wait times, lack of beds and increased demand of healthcare services that is occurring in Queens and subsequently in Jamaica. In addition, the community lacks funding and the resources needed to expand. This is evident from the lack of funding to the area to even build necessary infrastructure for public safety and sanitation service (Katz, 2019). Even in recent times, \$137,493,647 USD in funding has been cut from the New York City Health and Hospitals Corporation due to the COVID-19 pandemic (The Official Website of New York State, 2020). This is extremely significant because one of the public health centers that the organization heads is located within Jamaica, Queens.

In addition, accessibility to health resources are lacking as a whole in the Jamiaca community. This is supported in the 2021 Jamaica/Hollis Community Health Report where the study elaboartescites, “Queens service area encompasses many neighborhoods that the federal Health Resources and Services Administration (HRSA) has identified as being medically underserved and/or having a shortage of health providers (HPSA)” (Jamaica/Hollis, 2021). This shows that the community of Jamaica is directly underserved in terms of healthcare accessibility. This ultimately is a major contributor to the reason why the Queens Borough Board in 2018 asserted that funds needed to be allocated to the Queens Health and Hospital Corporation. One can infer that these funds will be used to strengthen the HHC which implicates expanding its services and extending accessibilities to more residences in the Queens communitiy.

Background Research

Lack of Healthcare Funding

Healthcare inefficiencies stem from a wide array of issues that are both systemic and consequential to the choices politicians and government officials make. For the most part, systemic issues go unsolved as modern political change has the tendency to steer clear from tackling these healthcare reform and funding in a straightforward way in which they are forced to address the problem at hand. This is exemplified by Manmore and Brent, 2012, when they explain, “Healthcare arrangements can be read as the programmatic results of policy decision-making...That means we should attend to the outcomes of healthcare systems for patients, the insured, and citizens. Without performance information, there is no strong evidence with which to design healthcare reform” (Patel & Rushefsky, 2015). The study solidifies that the problem with the healthcare system is that the policies being made do not reflect the needs of the citizens in that system. This is what leads to inefficient healthcare systems, but most importantly, the reasoning behind the embedded lack of funding and general inaccessibility in Jamaica, Queens, and its healthcare system.

Looking first at lack of funding in Jamaica, Queens, we can see that this issue stems from the government's willingness to divert resources from the community during times they deem are necessary. Look first to the New York City Health and Hospitals Corporation and their treatment during the coronavirus pandemic. When viewing data recently pulled from the Official Website of New York State, 2021, we can see that up to \$137,493,647 USD was cut from the corporation (The Official Website of New York State, 2020). This is extremely important because the New York City Health and Hospitals corporation is responsible for establishing health centers throughout the city, including in Jamaica. Without the funding, Jamaica would only experience even more ineffective care and treatment to their minority residents. The New York State Department of Health, 2009 concluded that over half the cases faced by patients were surgical. This indicated that the treatment many of the patients required was critical and they needed long term care and rehabilitation. With patients requiring this level of intensive care, budget cuts and lack of funding in Jamaica Queen's health facilities complicate their ability to get the medical support they need.

In addition, despite the fact that budget cuts were made in many sectors due to the pandemic, this is not the first time Queens and its health care facilities were cut or forced to downsize. Acevedo highlighted in her report that St. John's Episcopal Hospital status was briefly being relieved from the possibilities that it too would face budget cuts and reducing the variety of its services. (Acevedo, 2021) Overall, a reduction in health facilities has been an unfortunately common theme through its history and only services to perpetuate similar struggles to the ones faced by the Jamaica, Queens community regarding healthcare accessibility in general.

Accessibility

The access to healthcare in Jamaica, Queens is significantly lacking as compared to other communities in the borough and in the city as a whole. A study done by the Queens Borough Board, 2019 cites that only 9 hospitals serve the entire borough of Queens. As a result, the borough and its communities face rampant underbeddedness. Most notably, they highlight that only 1.62 beds are readily available per every 1000 patients (Northwell, 2019). That clearly shows when the residents of Jamaica and Queens as a whole need medical assistance, it will not be as readily available for them in a timely manner. Northwell Health, 2019 also highlights that chronic disease is also a major factor when it comes to the healthcare system in Jamaica, Queens. All in all this can be accredited to the general lack of access to proper care and hospitals that are in the Queens community and how this impacts the ability of the community to face prevalent healthcare issues.

Population growth/ Unemployment growth/ poverty

Socioeconomic factors such as population growth, unemployment, and poverty majorly affect the availability of quality health care for the residents of Hollis and Jamaica. Unemployment results in a loss of a steady source of income as well as benefits that may come with the job that individuals have, such as those that cover healthcare for the employee. A loss of income prevents the individual from affording quality healthcare for themselves in the event that they do need it. Individuals also risk medical debt as they have no certain way to pay for it, further supplementing their positions in poverty. Healthcare for the poor and unemployed becomes an economic risk that could lead them to fall into further troubles. People have to tend to various basic needs if they want to survive. This includes expenditure on essentials like food, water, clothing, and shelter. For those in poverty, these items are the only thing they can afford- the surplus that many have saved for emergencies is not available to them. This is a huge problem in Jamaica as the area has an unemployment rate as high as 12 percent with poverty even higher at 20 percent (Jamaica/Hollis, 2021). Other studies also conclude that 56 percent of residents of the area feel stress from the burden that the rent they have to pay puts on them (Jamaica/Hollis, 2021). As discussed before, poverty-stricken individuals are hanging on by a thread; their basic life needs are barely in reach, and in the event that they require emergency medical attention, they will have even fewer resources to work with in order to sustain their daily lives. This manifests in individuals going uninsured and/or going without medical care. It is reported that 13 percent of adults have been going without healthcare for at least 12 months (Jamaica/Hollis, 2021). If

healthcare is made to be more affordable, or poverty and unemployment are directly combatted, then these numbers would drastically decrease. Proposing a solution that provides government-funded healthcare for even more individuals would also help alleviate the financial burden that healthcare places on individuals. The problem of healthcare for poverty-stricken individuals is forever stuck in a feedback loop where the buying power for the individual becomes smaller and smaller and the health risks they face as a result of not being able to afford adequate nutrition and shelter become larger and larger.

Employment rate and education

Employment and education are directly correlated; in order to attain some sort of specialized job you must have training or education. Those without degrees or training are less desired for jobs, leading to them having to take jobs that provide them less for their labor. With the costs of various necessities such as housing and food to cover, their buying power becomes reduced. Additionally, such jobs without training are few and far between leading to unemployment for individuals in a community. Another issue that rises is a lack of health literacy as a result of a lack of education. According to recent studies, only 3 out of 10 adults in Jamaica Hollis have a college degree and 19 percent have not attained a high school diploma (Jamaica/Hollis, 2021). A lack of education results in a lack of understanding of the way in which the bureaucratic systems in our society, such as government and healthcare, work. Since these individuals are not well informed and do not have the tools to do so while they are undergoing other stresses set by their financial burdens, they will have a poor understanding of the options they have. Although many services exist to combat this, the simple fact is that a more informed population is a much more efficient and surviving population. Informing people of how to manage their money and the various options that are open to them in terms of healthcare will allow them to utilize their resources in a way that mitigates any unnecessary cost and prevents them from sinking deeper into financial burden.

Decreased proximity to supermarkets on fresh foods

The lack of fresh foods directly impacts the quality of health that the people within Jamaica, Queens face. The minority communities that live in Queens would also be impacted more harshly as their status as minorities often correlates with the existing dire financial situations that they need to overcome. According to the study by Public Health Solutions, a public health nonprofit serving New York City, Jamaica, Queens has been categorized as a place filled with food swamps. Food swamps are places that, despite having numerous sites with ample amounts of food, do not provide enough healthy food options. This would heavily impact the minorities communities as their financial struggles are being amplified and worsened as they are being put into a choice of choosing the healthier food, which consists of going to supermarkets that are outnumbered corner stores by 1 to 6, or choosing fast food restaurants that are cheaper and more abundant. Moreover, according to a recent study, fast foods correlate immensely with high cholesterol and Low-density lipoprotein that could potentially increase one's chance of getting diagnosed with an cardiovascular disease. Another study entails that fast foods containing large

amounts of salt could impact the proper functioning of the blood vessels of an individual that highly correlates to fluid retention, which serves as a symptom to numerous other diseases such as Congestive heart failure, cirrhosis of the liver, and lymphedema. The lack of fresh food, options combined with their scarcity, pose a threat to the health of people living in Jamaica, especially when compared to the large number of fast food restaurants in Jamaica. This could potentially cause the people within Jamaica queens to be more inclined to hospital visits due to health-related issues; this is a critical situation to the minority communities living in Jamaica, since study confirms that they are already unequally treated within the healthcare facilities that they go to. Subsequently, this potential rise in health issues that resulted from mass consumption of fast food immensely decreases their quality of health and increases their need to go to healthcare facilities, where other factors like the cost might sway their choice on whether or not to cure their health conditions.

Funding plans/ interventions/ improvements already done for the communities

With its vibrant diversity in its increasing amount of small business, Jamaica serves as one of the rising economic and cultural hotspots in queens. However, with its lack of funding, the problems with development of Jamaica as a clean, financial, and cultural center still seems far fetched. This issue is outlined and proposed in the New York State's Downtown Revitalization Initiative or DRI, which allocated \$10 million to revitalize downtown Jamaica. The plan entails the development of investment projects in downtown Jamaica that aims to attract public and private investment that will serve as further support for the revitalization. This plan also aims to promote local industry growth, create more promising careers, improve the present/create a more inviting transportation gateway, and draw visitors as well as residents to the area. Furthermore, in the Jamaica Now Action plan, it conveyed how high unemployment, inadequate infrastructure, and limited supportive programs have immensely lowered opportunity for job growth and real estate activity. Thus, the plan aims to increase housing options for the diverse income levels, improve the outerappearance by improving the public spaces and streetscapes as well as the transportation gateways, and provide more quality jobs for residents and entrepreneurs. The improvements called for by these action plans highlight some of the major problems that plague Jamaica today. The majority of these reforms target what is preventing major economic growth within Jamaica, Queens, which subsequently show the dire situation of how economic growth has been hindered due to the lack of reform in the past years.

Racial Bias in the Medical Field

In addition to the lack of fundings in hospitals and communities, racial bias has been commonly associated with decreased quality in healthcare, particularly for people of color. The relationship between racial bias and healthcare quality is well-established; in cross-section study conducted by Wisniewski and Walker (2019) a clear association was found between race and appointment wait times—callers of color were given appointments further in the future despite holding the same insurance as their white counterparts. However, the racial bias in healthcare is not only limited to longer wait times for appointments, it is also present in emergency room wait times. In a study

conducted by James, Bourgeois, and Shannon, it was concluded that non hispanic whites waited less than non hispanic blacks and hispanic whites, showing a clear racial bias. This study is only strengthened by several comments on a blog regarding hospitals in Jamaica, Queens, a city with many minorities and people of color, where many patients complained about the wait times and quality of care received. Additionally, in a linear regression study conducted by Park, Lee, and Epstein, it was concluded that there was a significant difference in emergency room wait times for children of color in comparison to white children. In the same study, it was found that wait times did not vary significantly by insurance. The correlations between each study is clear: racial bias is present in healthcare in the form of increased wait times in several different ways. First, one study concluded that people of color often had appointments scheduled further in the future. Another suggested increased waiting times in the emergency room. However, both of these studies indicated that insurance type was not a significant factor that determined the wait times. It is possible, however, given the recent movements and events, many of which attempted to resolve such biases that are commonly found throughout multiple aspects of life, that the data may possibly be somewhat dated and irrelevant in today's society. In light of this change, further research becomes ever-crucial in order to assess the presence or absence of continued racial bias in healthcare, and therefore indicate the next lines of action. The approaches that each study took were effective; many studies utilized cross-sectional studies, where many participants were assessed worldwide. However, in one study conducted by Wisniewski and Walker, although it was indicated that the callers requested primary care appointments at 804 randomized healthcare locations, the locations of these healthcare locations as well as the type of community (e.g urban, rural) was not indicated. The failure to indicate the general statistics of these locations may cause confusion, as there is a possibility of a lurking variable. Additionally, the comments regarding the quality of care of hospitals in Jamaica, Queens is to be taken with a grain of salt at best, as the provided data is based on a comment system, where no formal study was conducted. Also, most often patients with negative views are more likely to comment than those with positive reviews. Regardless of the gaps observed, much of the data pointed to the presence of racial bias in the medical field, with insurance having little to no significance, which may be contrary to what one may have thought.

Healthcare insurance plans

Currently within the United States, there are several forms of paid insurance which citizens can pay for: Exclusive Provider Organization (EPO), Health Maintenance Organization (HMO), and Preferred Provider Organization (PPO). For those unable to afford paid healthcare insurance, individuals may benefit from Medicaid (for those under 65), or Medicare (for those over 65). However, all of these forms of insurance require an individual to be a citizen, leaving the undocumented- particularly those with low income- often uninsured. The population of individuals in Queens, New York is considerable; a study conducted by New York Hospital Queens concludes that around 1.6M people live within the city, with nearly a quarter of the population living in poverty, the highest rates of which are found in neighborhoods like Jamaica.

In Queens, it was estimated that nearly 1.9M persons are either uninsured or are Medicare/Medicaid beneficiaries. In the same study, however, it was found that mortality rates were relatively low despite the significant presence of poverty in the area, suggesting no significant ties between poverty and mortality rates. However, in another study conducted by the Institute of Medicine (US) Committee on the Consequences of Uninsurance (2002), it was generally found that the uninsured received less than ideal care for their conditions, faced poorer outcomes in cancer treatment, and were less likely to receive highly effective medication for those with HIV infection, among many others. In a different study conducted by Woolhandler and Himmelstein (2017), a similar conclusion was made—those that are uninsured are associated with higher rates of mortality under specific conditions, where the rate of the odds of dying for the insured to the uninsured is 0.71 to 0.97. In essence, these studies concluded with opposing viewpoints; one argued there were no significant ties between poverty (or those that are uninsured) and mortality rates, while the other, although under specific circumstances, argued that there is in fact a relationship between the uninsured and mortality rates. However, it must be noted that the study conducted by New York Hospital Queens focused strictly on the community within New York, making all participants of the study from one area. On the other hand, the study conducted by the Institute of Medicine (US) Committee on the Consequences of Uninsurance relied on observational studies as well as past studies, as did Woolhandler and Himmelstein. Otherwise, all studies explained their methods and reasonings thoroughly. Additionally, all studies provided some linkage and statistical data exemplifying either the lack of or the link between the uninsured and mortality rates. In some studies, further links were also made between insurance and other factors, such as socioeconomic status and race/ethnicity, ultimately creating a potential lurking variable in the studies where such factors were not mentioned. In light of these differences, further research becomes necessary to further understand the link between insurance and mortality rates, and ultimately quality of care and of life.

Methods

The population of African Americans within Jamaica, Queens is considerable; over 60% of the community is African American. With the ever-present variety of adversities, such as those pertaining to poverty and unemployment rates, present within Jamaica, Queens, the link between such adversities to difficulties in, but not limited to, the accessibility and quality of healthcare is highly probable. In the presence of such a correlation, incorporating a specialized healthcare plan to accommodate for minority populations is ever crucial- one that does not discriminate or require an individual to wait months to a year in order to receive the help they need, ultimately one that elevates the quality of life for such individuals.

In order to prove the presence as well as the necessity of a specialized healthcare plan for minorities, general guidelines have been developed to determine whether individuals qualify for the plan, with such qualifiers pertaining to household income and others, in addition to the benefits that they may receive. Therefore, the following questions will be ask in order to prepare for such guidelines:

How accessible is healthcare?

- What is your yearly income?
- Where do you live?
- What is your race/ethnicity?
- What is your age?
- How confident are you in the ability of your income level to afford you proper care?
- How much confidence do you have in the healthcare system?
- How much confidence is there that adequate support will be provided?
- Would the addition of healthcare literacy improve the issues?
- Would additional funding help alleviate the situation?
- Would additional accessibility to healthcare help alleviate the situation?
- Would further legislation to reform the healthcare system help alleviate the situation?
- How would you describe the general condition of your health?

Currently, the United States healthcare system relies heavily on insurance, which indicates the necessity of premiums, which may be difficult especially for those with a low household income. Additionally, a lower premium may not even adequately provide healthcare, as different premiums contain different benefits (Stanford, 2021). However, there are healthcare insurances provided by the government, some of which are popular and include Medicare and Medicaid. However such insurance may not adequately provide the support that many individuals require, particularly those with specialized needs.

In addition to addressing such issues pertaining to the type of insurance, other factors may also contribute to the lack of care felt and observed within the communities where minorities reside. This includes, but is not limited to, healthcare literacy, funding, race/ethnicity, and healthcare legislation. Therefore, the effects of such factors must be thoroughly considered throughout the study as well as through a comprehensive literature review to establish the effects of such factors.

Discussion

According to the archival data and the trends observed in the literature review, we would expect to observe lower numbers in the lower range for questions like “how confident are you in the ability of your income level to afford you proper care?” and “how much confidence do you have in the healthcare system?”. This signifies that the general population of Jamaica Queens, on average, feel that their incomes are not sufficient enough to guarantee them proper care as well as a general skepticism of the healthcare system to provide for them. This skepticism may be drawn from a variety of sources including but not limited to poverty, race and accessibility. Poverty and other income-related factors may have generated insecurity due to the expenses associated with medical procedures and the toll that it could have on other aspects of their lives. Race, being linked to poverty, may generate insecurity due to the historic treatment of certain racial groups in medical care as well as generational poverty. Accessibility in the form of low healthcare literacy

as well as location may cause insecurity because of a general inability to understand the healthcare system.

Furthermore for questions such as “Would additional funding help alleviate the situation?” and “Would further legislation to reform the healthcare system help alleviate the situation?” positive responses would be expected. This signifies that the main problems that the individuals living in Jamaica are able to identify in their areas is a lack of funding as well as problems with healthcare legislation as well as government healthcare that they are provided with. The benefits of pursuing either path can greatly impact the struggles of individuals in Jamaica. An increase in funding for the area can bolster economic growth and help individuals maintain stability so that they feel secure in their healthcare. Additionally reforms to government insurance and other government programs can offer individuals better plans than their existing ones.

Data Analysis

Despite the fact that we have carried out research on the topic of Healthcare in Jamaica, Queens, we faced limitations due to our ability to outreach to that specific community. Overall, this led us to developing a small sample size on the impact on targeted healthcare improvement for minorities in Jamaica, Queens leaving us unable to perform accurate statistical analysis. However, we can look to past research and plan out a model scenario of the usage of our results given that they were significant. Firstly, we can clearly establish that they have been disproportionately impacted by a healthcare system that is underfunded, overcrowded and costly. We can also reassert that the general health literacy rates in the community are lacking as well. Using this context, we can create a hypothesis as to the potential responses to the questions we will be posing in the survey. We can then represent their responses using a cross-tabulation analysis as shown below.

| Correlations | | | | | | | | |
|--------------------------------------|---------------------|-----------------------|------------------------------|------------------------|----------------|------------------|--------------------------------------|----------------|
| | | Commute Time to Class | Average Tardiness in Minutes | Frequency of Tardiness | Subject Number | Living Situation | Grace Period for Off-Campus Students | Earliest Class |
| Commute Time to Class | Pearson Correlation | 1 | .459* | .329 | .413* | -.665** | -.014 | -.014 |
| | Sig. (2-tailed) | | .021 | .108 | .040 | .000 | .946 | .946 |
| | N | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Average Tardiness in Minutes | Pearson Correlation | .459* | 1 | .343 | .000 | -.606** | .028 | .028 |
| | Sig. (2-tailed) | .021 | | .094 | 1.000 | .001 | .894 | .894 |
| | N | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Frequency of Tardiness | Pearson Correlation | .329 | .343 | 1 | .428* | -.306 | -.089 | .097 |
| | Sig. (2-tailed) | .108 | .094 | | .033 | .137 | .672 | .646 |
| | N | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Subject Number | Pearson Correlation | .413* | .000 | .428* | 1 | .081 | .049 | .037 |
| | Sig. (2-tailed) | .040 | 1.000 | .033 | | .701 | .815 | .860 |
| | N | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Living Situation | Pearson Correlation | -.665** | -.606** | -.306 | .081 | 1 | -.097 | .089 |
| | Sig. (2-tailed) | .000 | .001 | .137 | .701 | | .646 | .672 |
| | N | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Grace Period for Off-Campus Students | Pearson Correlation | -.014 | .028 | -.089 | .049 | -.097 | 1 | .206 |
| | Sig. (2-tailed) | .946 | .894 | .672 | .815 | .646 | | .322 |
| | N | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Earliest Class | Pearson Correlation | -.014 | .028 | .097 | .037 | .089 | .206 | 1 |
| | Sig. (2-tailed) | .946 | .894 | .646 | .860 | .672 | .322 | |
| | N | 25 | 25 | 25 | 25 | 25 | 25 | 25 |

*, Correlation is significant at the 0.05 level (2-tailed).

**, Correlation is significant at the 0.01 level (2-tailed).

Source: *Hubspot*

As we are conducting surveys that will produce quantitative data, we believe that a cross tabulation table will be the best way to both record our overall results and evaluate it. To test the statistical significance, we will strive to use a random sample of survey participants to prevent response bias in our research. Additionally, we will be conducting a one-tailed t-test of our data. Using a t-test would be a more viable method of data analysis because we will not be able to find the population standard deviation or population mean of those who answered our different survey questions. As surveying the entire population is essentially impossible with the resources we currently have, t-tests are a more applicable option. To conduct the t-test we can use data analyzing programs, specifically the Statistical Package for the Social Sciences (SPSS). If SPSS is not available, Google Sheets can be an alternative. We can also calculate the 1-tailed t-test with the formula below:

$$T = \frac{\bar{x} - \mu}{\sqrt{s^2/n}}$$

In this equation, \bar{x} is the sample mean, s^2 is the sample variance, n is the sample size, μ is the population mean and T is our t-value. When finding the population, in our model, it is required

that you align your survey/ questionnaire to one that has previously been done on the population. This was a fault that was made when preparing the original survey, but is an essential aspect of forming a t test for significance. In this circumstance, we will be using the mean value of the total responses for each question (ex: from 1 to 5, the mean response value could be 3.456) as our sample mean. We would then proceed to perform the test with the expectation that our p value (which can be found through using a t-value table) would be less than our set alpha level of .05. This would ultimately allow our alternative hypothesis to be proven true and suggest that there is a significant difference between the quality of healthcare in Jamaica in comparison to the population's is significantly worse. This process would be carried out for the data received for every question given in the survey analyzing if there is a significant difference in various aspects of healthcare in the Jamaica community. Ultimately, if these results prove to be significant we then will be able to suggest that change needs to occur in the community. Additionally, additional data from our survey can be analyzed using a linear regression model to see the correlations between race, income and age in regards to the overall healthcare experience of the Jamaica, Queens community.

Conclusion

This study has some potential limitations. First, the collected sample size was much less than preferred, making the data difficult to interpret and develop a strong conclusion. On a similar point, the target reach of the survey was Jamaica Queens, which was done through social media posts, such as through Facebook. However, it cannot be assumed that everyone in Jamaica Queens, and more importantly, the target population, use social media. Additionally, the survey may have felt somewhat too personal to some individuals, therefore possibly making it difficult to collect a sufficient amount of data. Second, Jamaica Queens was found to be mainly populated by minorities, potentially making it difficult to compare minorities and those that are more privileged. Third, sufficient time was not provided for individuals to complete the survey, thereby making it difficult to collect sufficient data on time. Lastly, some of the resources used in the literature review were quite dated, which means potential changes in the system that were not documented in such resources.

References

- Acevedo, A. (2021, March 5). *State puts temporary hold on proposals to cut capacity and services at St. John's Episcopal Hospital*. Ultimate Queens Newsletter.
<https://qns.com/2021/03/state-puts-temporary-hold-on-proposals-to-cut-capacity-and-services-at-st-johns-episcopal-hospital/>
- ER Wait Times in Queens County Hospitals. (n.d.). Retrieved from
<https://www.hospitalstats.org/ER-Wait-Time/Queens-County-NY.htm>
- Jamaica/Hollis neighborhood profile. (n.d.). Retrieved March 13, 2021, from
<https://furmancenter.org/neighborhoods/view/jamaica-hollis>
- James, C. A., Bourgeois, F. T., & Shannon, M. W. (2005, March 01). Association of Race/Ethnicity with Emergency Department Wait Times. Retrieved from
<https://pediatrics.aappublications.org/content/115/3/e310/tab-figures-data>
- Janna M. Wisniewski, P. (2020, January 29). Simulated Patient Race/Ethnicity and Scheduling of Primary Care Appointments. Retrieved from
<https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2759761>
- Katz, M. (2019). Expense and Capital Priorities Fiscal Year 2019 [Pamphlet]. New York, NY: Queens Borough Board.
- Northwell Health 2019 Community Health Needs Assessment [Pamphlet]. (2019). New York, NY: Northwell Health.
- Park, C. Y., Lee, M. A., & Epstein, A. J. (2009, September 02). Variation in Emergency Department Wait Times for Children by Race/Ethnicity and Payment Source. Retrieved from
<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1475-6773.2009.01020.x>
- Patel, K., & Rushefsky, M. E. (2015, January 29). *Healthcare Politics and Policy in America (4th ed.)*. Taylor & Francis Online.
<https://www.tandfonline.com/doi/abs/10.2753/PIN1099-9922170107?journalCode=mpin20>
- Patten, E. (2020, August 14). Racial, gender wage Gaps persist in U.S. despite some progress. Retrieved March 13, 2021, from
<https://www.pewresearch.org/fact-tank/2016/07/01/racial-gender-wage-gap-persist-in-u-s-despite-some-progress/>