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Econometrics

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GitHub link: <https://github.com/Adeel-Arshid/Econometric-Final-Project.git>

**Topic:** How Systemic Racism/Institutional Racism Against People of Color impact access to healthcare?

Institutional Racism has occurred in the United States throughout history creating disparities in many sectors. Institutional racism creates inequality among different groups of people where some are at advantage while others are at disadvantage. Different types of systemic racism can impact Americans in many ways by creating gaps in wealth, education, employment, and healthcare. The purpose of this paper is to prove that people of color are more likely to face disparities in healthcare limiting their access to obtaining proper care. Other factors such as citizenship can also impact their ability to have proper access to healthcare. Inequality in healthcare also be based on level of income. For example, people low income will be most likely to face disparities compared to people will high income. Some different variables what I’ve investigated during the research is citizenship status, employment and race. These variables are also important because depending of someone citizenship status it can impact them whether they have any sort of health coverage or not. In my research I’ve used NHIS 2020 dataset from Ipums which provides information regarding status of health coverage. Main variable that I’ve selected that would be useful towards by research analysis would be employment status, education, gender, and citizenship status.

In the United States, people of color such as black, Hispanic and Asians are more likely to live without having access to health care and are more vulnerable. In 2009 Affordable Care Act tackled this issue where people of color were able to have access to health care as well as undocumented immigrants. During the Trump administration, he wanted to go against what the Affordable Care Act was meant to do. According to the article “Immigration and Health Care Under the Trump Administration” by Wendy E. Parmet states, “It is therefore not surprising that the first year of the Trump administration, which has focused its domestic agenda on restricting immigration and repealing the ACA, has proven especially perilous for immigrants who need health care”. Getting rid of ACA that was implanted President Obama can impact many insured Americans who were not able to obtain healthcare before the ACA took effect. During the year of 2015, 42% of undocumented immigrants were living without health insurance relatively to 11% of U.S. citizens didn’t have health insurance. It has always been a challenge for immigrants to get access to proper health insurance. For example, Personal Responsibility and Work Opportunity Reconciliation Act, which was introduced in 1996, prohibited immigrants who were undocumented for getting any sort of programs that were federally funded such as Medicare and Medicaid. It eventually led to many undocumented immigrants from accessing health care and they must struggle with their illness since high cost of health services prevent them from seeing any sort of medical attention.

United States had the biggest socioeconomic disparities in health care among people which is associated with income, employment and education. People that are poor or living in poverty needs medical care the most, but they are unable to access proper healthcare due to the cost. Purpose of affordable care act was to lower the gap among minorities who doesn’t have access to healthcare. Medical cost is also a major reason why people without healtinsurance try to avoid seeking medical attention. According to Kevin Griffith in the article, “The Affordable Care Act Reduced Socioeconomic Disparities in Health Care Access” it states, “These key features of the law sought to increase federal subsidies to expand eligibility for Medicaid to all Americans with incomes of up to 138% of the federal poverty level and large premium subsides for people with income of 100-400% of poverty who purchase insurance on the newly created exchanges” (Pg.1503). This shows how Affordable Care Act closed the gap between people who will now have access to more affordable healthcare. Author of this article used people with age group of 18-64 from 2011-2015 BRFSS data. Over 90% of Americans household that has annual income of $75,000 or more were insured, while only 60% or American that has annual income of less than $25,000 were insured. From 2013 to 2015, in expansion states large sum of people were able to get access to health insurance under Affordable Care Act. Both expansion and non-expansion states has increase in health coverage, but expansion states were impacted the most. “In expansion states, the gap in insurance coverage between resident of poor households (with incomes less than $25,000) and higher-income households (income more than $75,00) fell by 46 percent between 2013 and 2015, from 31 percent points to 17 percentage points, while no expansion states the coverage gap fell by 23 percent form 36 percentage points to 28 percentage points.” (Pg. 1507). States that didn’t adapted Affordable Care Act, more than 22% of poor American were uninsured, compared to states that adapted to Affordable Care Act. Overall Affordable Care Act was able to improve healthcare access for poor Americans with low income.

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During the COVID-19 pandemic, many people were impacted because they didn’t have access to any sort to of healthcare. Minorities groups living in low-income neighborhood and living in poverty will see high rate of cases. According to Clare Bambra’s “The Covid-19 pandemic and health inequalities” it states, “People living in more socio-economically disadvantaged neighborhoods and minority ethnic groups have higher rate of almost all of the known underlying clinical risk factors that increase the severity and mortality of COVID-19” (Pg. 965). This shows that minority are most likely to impact by COVID-19 because they high disparity in health services. Some of the statistics that author provides is that in United States more that 33 million people are at disadvantage of having insufficient or no health insurance at also. Out of the 33 million people would mainly be people that are unemployed or living in low-income communities.

Both racism and capitalism can influence racial segregation. Low income family are mostly to live in neighborhood surrounded by waste and toxins chemical. These neighborhoods are near industrial infostructure. it can lead to many health risk because of pollution or even COVID-19. According to the article “Racial Capitalism: A Fundamental Cause of Novel Coronavirus (COVID -19) Pandemic Inequities in the United States” it states, “those with high socioeconomic status secure a superior set of knowledge, power, money, power, prestige, and beneficial social connection, all of which can alleviate the consequence of the disease” (Pg.505).

Covid-19 pandemic caused more than 500,000 deaths with more than 32 million cases in which people of color had the highest infection rates. People of color such as Blacks, Asians and Hispanics had the highest hospitalization rate compared to white population. Even in the past poor communities has seen disadvantage in terms of infrastructure and resources. Black communities saw the highest rate of covid infection. According to the article “Health care disparities during the Covid-19 pandemic” by Elizabeth Andraska, it states “Analysis of racial trends from the summer of 2020 suggest that infection and death rates in black counties were three to six times those in predominantly white counties” (pg. 83). This shows that how people of color would at disadvantage during the pandemic because they were less likely to have access to health services compared to whites. For example, in Louisiana 72% black residents died from covid-19. Inequality and disparities in healthcare contributes a lot towards a person’s health condition. Some disease that people of color faces include chronic respiratory disease, diabetes, autoimmune disease and liver disease. People living in low-income communities’ people are highly exposed to these types of diseases because they don’t have access to healthcare and unable to find treatment.

Covid-19 cases were also high among Asians and AAPI population. “Access to vaccinations is also hampered by language barriers that might put some of the less obvious essential workers at risk for developing COVID-19” (Pg. 84). At the time of pandemic, Asian experienced a lot of racism and caused of covid and therefore any delayed seeking medical attention due to fear. In Hispanic population inequality of healthcare is caused by language barriers and immigration status. Many immigrants who are undocumented it will cause them to not have any sort of health insurance. “Health care disparities among African American and Hispanics have cost the health care system an additional $5.1 billion, this numbers are expected to rise to an astounding $65 billion with a decade, as the number of Latinos and African Americans in the United States increase, and these disparities persist” (pg. 84). At the time of pandemic, 17% of LGBTQ didn’t have any health coverage while 12% non-LGBTQ+ has health coverage. Before the pandemic LGBTQ communities had faced disparities and inadequate care because of stigmatizing experience they have experienced.

Racism can also play a part when it comes to inequality in United States towards getting access to healthcare. People who are wealthy and are more educated tend to have higher rate of obtaining a healthcare than people who are less wealthy and less educated. Back in 2013, Pew Research Center Reported states that Caucasian household income was $144,200 which is 13x more than African Americans household income. There is an almost 66% of wealth gap between Caucasian and African American which is mainly caused by racism. Racial segregation is also impacted if they are being treated fairly in hospitals. According to the article Racial disparities in Health status and Access to healthcare: The continuation of Inequality in the United States Due to structural Racism” It states, “In racially segregated neighborhoods, African Americans are disproportionately likely to undergo surgery in low equality hospitals, whereas in areas with low degree of racial segregation, African American and Caucasians are like to undergo surgery at low-quality hospitals at the same rate” (Pg.1119). Low income neighborhood would have low government investment which will cause lack of facilities such as schools, public transportation and hospitals. Hospitals that were in poor neighborhood, many started to shut down. In 2010, more than 45% of hospital in African American neighborhood started to foreclose. “African Americans’ access to healthcare is also limited by structural racism in employment, wealth, and income which provide resources for individuals to purchase health insurance” (Pg.1121). In U.S. census bureau report, 25.8% of African American were living in poverty, while only 11.6% of Caucasians were living in poverty.

Immigrants pollution every year is increasing numerous rates. In many scenarios it can be difficult for immigrants to obtain proper health insurance. Poor immigrants faced barriers while trying to obtain healthcare. A lot of elder immigrants doesn’t have employment history in such they are denied any type of health insurance programs such as Medicare. Working in the agricultural sector can be very physically demanding as well as working conditions can be rough. In state of California, 50% of immigrants working on farms were covered with health insurance. If a worker is undocumented, then that worker is less likely to obtain any sort of healthcare and will face hardship to find any sort of medical attention.

Immigrants face many hardships especially undocumented immigrants when it comes to having health care. Mexican immigrants tend to have high rate of population to be uninsured. According to the article “Improving access to health care for undocumented immigrants in the United States” states, “in 2007, over half of all immigrants from Mexico in the US had no health insurance, compared with 19% of non-Latino immigrants and 12% of US-born non-Latino whites” (Pg.509). Immigrants who were undocumented tend to have higher uninsured rate. Many Mexican immigrant works in low wage industries that doesn’t offer them any health insurance. Majority of immigrants are based in California, where more than 10 million of the population were born outside America. 4 million of the population were Mexican and close to 2.7 million of them were undocumented. When American Care Act was in effect if mandated employers to offer health insurance to its employees. Many undocumented immigrants will not be able to receive health insurance from its employers because they mainly work cash only jobs. This creates disparities in healthcare because of their citizenship status, they are unable to apply for health insurance at risk of being deported.

Rising healthcare cost plays a huge role of disparities and inequality in the healthcare sector. Rise in healthcare cost will decrease in the rate of people who seek any sort of medical attention. From 2001 average annual rate of health cost rose from 14.1% to 20% in 2007. Some of the barriers that people face while obtaining health care includes lack of access to affordable health insurance coverage, patient provider relation and barriers to enrollment in public programs. Low health literacy can be seen mainly in poor neighborhood where poverty level in high because they have limited amount of education. Medicine cost can also impact people from getting access to health treatment.

Both racism and capitalism can influence racial segregation. Low income family are mostly to live in neighborhood surrounded by waste and toxins chemical. These neighborhoods are near industrial infostructure. it can lead to many health risk because of pollution or even COVID-19. According to the article “Racial Capitalism: A Fundamental Cause of Novel Coronavirus (COVID -19) Pandemic Inequities in the United States” it states, “those with high socioeconomic status secure a superior set of knowledge, power, money, power, prestige, and beneficial social connection, all of which can alleviate the consequence of the disease” (Pg.505).

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In this regression plot I chose to include health coverage as a dependent variable, while sexual orientation, sex, race, race, citizenship status, education and employment status as a independent variable. In the plot we see residuals which is close to 0, which means

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In this regression plot, I kept the same dependent variable while change the independent variable to only occupation and education. While in the beginning the residual is close to 0, but it kept moving further from the 0.

Chart

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In this repression keeping dependent variable constant and change independent variable to sex.

Chart, line chart, scatter chart

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Description automatically generatedThis plot model is a result from that regression that I’ve made from where health coverage is dependent variable and education, citizen, employment status as independent variable. We can see that most of the odd ratio are less or close to 1, which means that predictor is less likely to increase while some variable that are more the 1, predictor is more likely to increase. CI which is 95% confident interval, shows that lower the number more accurate is the precision and it provides precise representation of the population mean. Most of the predictors Educ, Citizen and Empstat are all close to 1.

Table

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Chart

Description automatically generatedIn the health insurance by USBORN shows that people who are born in U.S. has higher rate of health coverage compared to people who were not born the U.S. People who didn’t have any health insurance coverage that were not born in U.S were 15.9% while only 5.8% people who were born in U.S didn’t have any health insurance coverage.

Table

Description automatically generatedIn this graph we can see health insurance coverage by citizenship status. American citizen has the highest rate of health insurance coverage. 94% of US citizens are coverage with health insurance coverage, while 68.6% of non-US citizens were covered. Only 5.8% of US citizens didn’t have health coverage compared to 31.2% of non-American citizens that didn’t have any health insurance coverage.

Table

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Chart, bar chart

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Health Insurance By EDUC** | | | | |
| *EDUC* | *HINOTCOVE* | | | ***Total*** |
| has health insurance coverage | no health insurance coverage | dont know |
| NIU | 5510 95.2 % | 265 4.6 % | 15 0.3 % | 5790 100 % |
| no school | 41 69.5 % | 18 30.5 % | 0 0 % | 59 100 % |
| less than HS | 1610 81.3 % | 361 18.2 % | 10 0.5 % | 1981 100 % |
| 12th grade no diploma | 362 85.8 % | 59 14 % | 1 0.2 % | 422 100 % |
| HS diploma | 6092 89.3 % | 713 10.4 % | 18 0.3 % | 6823 100 % |
| GED | 575 86.7 % | 88 13.3 % | 0 0 % | 663 100 % |
| some college | 4545 91.4 % | 408 8.2 % | 18 0.4 % | 4971 100 % |
| Assoc deg in tech or occ | 1111 91.1 % | 106 8.7 % | 2 0.2 % | 1219 100 % |
| Assoc deg academic | 2736 93.8 % | 178 6.1 % | 2 0.1 % | 2916 100 % |
| bachelors | 7063 95.4 % | 335 4.5 % | 8 0.1 % | 7406 100 % |
| masters | 3625 97.4 % | 95 2.6 % | 3 0.1 % | 3723 100 % |
| professional degree | 502 96.9 % | 16 3.1 % | 0 0 % | 518 100 % |
| doctoral | 706 98.3 % | 12 1.7 % | 0 0 % | 718 100 % |
| refused | 39 86.7 % | 3 6.7 % | 3 6.7 % | 45 100 % |
| dont know | 78 75 % | 25 24 % | 1 1 % | 104 100 % |
| ***Total*** | 34595 92.6 % | 2682 7.2 % | 81 0.2 % | 37358 100 % |
| *χ2=1071.213 · df=28 · Cramer's V=0.120 · Fisher's p=0.000* | | | | |

In table shows the relationship between people who has health coverage based on their education level. Trends that we can observe is that as the education level increase, insurance coverage increase as well. People with no school only 69.5% of them are coverage, less than high school 81.3%, HS Diploma with 89.3%, Associate degree 91.1%, bachelor’s degree with 95.4%, master with 97.4% and doctoral with 98.3%. The graph also shows us that as people with highest level of education will has lower rate of not having health insurance coverage.

**Table

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In this theory my prediction is being proved wrong, because people who are not employed tend to have high percent of health insurance coverage at 95.2% while people who are employed only 90.8% of them are covered with health insurance. People who were not employed, 4.6% of them didn’t have any health insurance coverage while people who were employed, only 9.1% percent of them didn’t have any health coverage.

**Chart, bar chart

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**Conclusion**

Access to health insurance is necessary in order live healthy life for many individuals. Health insurance can prevent people from paying high cost for medical bill. There has been a lot of racial disparities in accessing health insurance. This can be caused by race, gender, income and citizenship. Depending on citizenship status, many undocumented immigrants are struggling to get health insurance through government program or even from their employers because many would only work cash paying jobs. After my research I was able to find out that people of color do have high rate of uninsured compared to white. One way government tried to lower the rate of uninsured by implanting American Care Rate. Education also have impact on health insurance since more educated people can get health insurance through their employers and have better job while people working low paying job are not able to get health insurance. It was successfully reduced the gap between white and people of color and provided them health insurance. After analyzing literature sources, quantitative analysis and my dataset, I was able to prove my hypothesis that systemic racism against can impact one’s ability to access healthcare, but after the dataset analysis one of my predictions was proven wrong because it seems like people who are not employed has higher rate of health coverage compared with people who are employed. This was kind of interesting to find out because in generally people without a job will have high rate of not having health insurance coverage. I was shocked by this finding. Overall, most of my research and results from analyzing my data were supported my argument that racism does take place in health insurance. People will more education are more likely to have high rate of health coverage compared with people with less education. Race also plays a role because blacks have high rate of not having health insurance coverage compared to whites. Lastly, most of the results that I found was not surprising because racism in health does exist which harms low income families and people of color.

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