The Effects of Income on One's Support of Government Funded Healthcare

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Abstract

It is important to see how income could have an impact on an individual's support for the government providing aid in paying for medical expenses. The understanding of how the level of income may influence an individual's beliefs is essential for to better understand how people may react to certain policies. Using data collected in the 2016 General Social Survey (GSS), this paper asks and analyzes whether individuals who make less than $75,000 annually are more likely to support the government providing aid for medical bills when compared with those who make $75,000 or more annually.

Introduction

Everyone needs healthcare at some point in their life. Everyone gets sick or hurt or needs to see a doctor. However, medical care in America is expensive. For at least 45 years, the United States healthcare system was ranked as the most expensive among nations, mediocre in quality and effectiveness, inadequate in that it left nearly 50 million people without health insurance, and substandard in core outcomes: all the while spending the most money (McDonough & Park, 2016). According to the United States Census Bureau, (2022), 49.9% of households made less than $75,000 annually between 2018 and 2022. With such high costs of healthcare, and with nearly half of the population of the United States making under $75,000, are Americans with lower incomes more supportive of the government paying for medical care as opposed to Americans with higher incomes?

History

In 2003, a meeting was held with members of labor, faith, and medical communities to discuss the American health crisis (Clement, 2007). In that meeting they found that the United States was, even at that time, spending far more on healthcare per capita than any other country in the world, but also that at least one third of American citizens were not getting adequate healthcare coverage (Clement, 2007). Furthermore, from 2008 to 2022, the cost of spending per enrollee of private insurance increased 61.6% (*How Has U.S. Spending on Healthcare Changed Over Time? - Peterson-KFF Health System Tracker*, 2023). During the same period, the cost of spending per enrollee of Medicare and Medicaid only increased a total of approximately 31.25% ((*How Has U.S. Spending on Healthcare Changed Over Time? - Peterson-KFF Health System Tracker*, 2023).

According to U.S. Census Bureau data, (2022), between 2018 and 2022, the median household income was $75,149. There are currently 7 states that have not expanded Medicaid. All 7 of those states, Florida, Georgia, Kansas, Mississippi, South Carolina, Wisconsin, and Wyoming, have median household incomes below the nation's median household income (U.S. Census Bureau, 2022).

Literature Review

There has been quite a bit of research done on the connection between healthcare and income. One study by Adams et al. finds that financial assistance increases healthcare utilization (Adams et al., 2022). The study also shows that financial assistance increases testing for and detection of health conditions (Adams et al., 2022). This study specifically focuses on charity financial assistance provided by hospitals to patients who are at or below certain poverty thresholds. Narrowing their scope, the study focuses mainly on a hospital by the name of Kaiser Permanente Northern California, which serves 4.5 million people. The authors provide their Regression Discontinuity Design that they used to estimate separate regressions (Adams et al., 2022). The authors provide the results of the regressions which indicate that there are "substantial increases in utilization in the quarter after receiving financial assistance." (Adams et al., 2022). The authors found that the "on-impact utilization effects of the financial assistance program we study are proportionally similar to the effects of Medicaid on healthcare utilization" (Adams et al., 2022). However, the authors also stated that hospitals have less incentive to get patients to sign up for their financial assistance programs relative to Medicaid, since Medicaid provides for both the patient and the provider, while financial assistance programs only help the patient. (Adams et al., 2022).

A second study by Carman et al., shows the burden of healthcare costs compared to income (2020). In the study, the authors provide two concepts; the payments to finance healthcare services, and the dollar value of the services received. (Carman et al., 2020). The authors state that by payments they mean the financial burden borne by each household for healthcare services, and by dollar value they mean the dollar amount paid for the services (Carman et al., 2020). The reason that they make the distinction between the two even though the total payments to finance health care equal the dollar value of health care services received is because oftentimes healthcare services are paid by others (Carman et al., 2020). The authors state that, the "divergence between payments and services received arises from redistribution that occurs through insurance and taxation. By considering both payments and the value of services received, this paper illustrates the burden of health care costs on households, and the degree of redistribution inherent in the American health care financing system" (Carman et al., 2020). The authors lament that since there is no one data set that contained all the elements needed for their study, they were forced to base their study on a synthetic population that they created using multiple data sets (Carman et al., 2020). The study finds that households in the bottom fifth of income groups pay the least amount towards healthcare, with a total of $3,093 paid per capita; and households in the top fifth of income groups pay the most amount towards healthcare, with a total of $22,161 paid per capita (Carman et al., 2020). However, this is not the full picture because, as the authors show, the low-income households, even though they only pay $3,093, that is 33.9% of their income; while the high-income households only pay 16% of their income (Carman et al., 2020). This makes the burden much heavier for low-income households. Furthermore, breaking down the percentage of income spent towards healthcare, out of pocket healthcare

expenses take up 11.9% of the income in low-income households, while in high income households only 0.7% is for out-of-pocket costs, and 11.3% goes toward healthcare from their tax payments (Carman et al., 2020).

A third study by Okunrintemi et al., found that lower income patients have poorer healthcare experiences in all aspects and quality of care (2019). The study sample consisted of over 68 thousand participants which, the authors state, is representative of approximately 176.8 million United States adults (Okunrintemi et al., 2019). They found that 32% of respondents had a high income and 23% had a very low income. The study found that "compared with participants with high income, respondents reporting very-low income were 1.63 times more likely to experience difficulties in accessing their healthcare providers" and that this discrepancy persisted when adjusting for covariates such as age, sex, race, health insurance, etc… (Okunrintemi et al., 2019). They also found that, even when adjusting for covariates, individuals with very-low income had higher odds of experiencing delay in healthcare delivery when compared to high-income respondents. (Okunrintemi et al., 2019). While the authors state that "overall, compared with the high-income group, individuals with very-low income had a 1.66 greater odds of reporting difficulties in getting necessary care and treatment […] and were more likely to report that their healthcare providers never showed respect for their opinion", they also state that "an understanding of factors underlying these differences remain elusive." (Okunrintemi et al., 2019). The authors hypothesize that it may be in part due to hospitals that serve low-income communities potentially having limited resources to invest in expanding the healthcare infrastructure to allow better access to patients. (Okunrintemi et al., 2019).

The aforementioned studies show that low-income households both spend a higher percentage of their income on healthcare, as well as receive inferior care. This is not fair or equitable to those households. As such, the question remains; what do lower income households want to be done about these issues?

As seen, there are financial assistance programs that low-income households can use to lighten their burden, but is relying on the charity of some medical providers enough? Considering how healthcare prices continue to rise, it stands to reason that households with lower incomes would desire the government to provide financial assistance towards healthcare costs. I hypothesize that in a comparison of people, those who have a total income of less than $75,000 per year are more likely to believe that the government should help pay for medical care than those who make more than or equal to $75,000 per year.

Methods

This study was conducted using data collected in the General Social Survey (GSS), which is a project of the independent research organization NORC at the University of Chicago, with principal funding from the National Science Foundation. The GSS dataset used is dated 2016 and downloaded from sagepub.com. A key independent variable that I will be using is a new variable that I created called income_2. Income_2 was created using the variable 'income16' from the GSS. Income_2 transformed that data into a binary variable that shows whether the respondent makes less than $75,000 a year or not. The variable is coded so that 0 means that the respondent has an annual salary of less than $75,000 and 1 means that the respondent makes equal to or more than $75,000 a year. One of the key dependent variables that I will be using is a new variable that I created and named

helpsick3. Helpsick3 was created using the variable helpsick from the GSS. The original helpsick variable from the GSS measured whether the respondent thought that the government should help pay for medical care. The results ranged from 1, which indicates that the respondent thinks that the government should help, to 5 which indicates that the respondent thinks that people should help themselves. Helpsick3 transformed the responses so that they fell into one of 3 categories. 1 and 2 from the original helpsick variable were recoded as 1, indicating that the respondent thought that the government should help more, 3 was recoded to 2, indicating that the respondent agrees with both sides, and 4 and 5 were recoded as 3, indicating that the respondent thought that people should help themselves.

Two independent control variables I will be using are hlthstrt and conmedic. Hlthstrt measures whether the respondent's health is Excellent, Good, Fair, or Poor. I will be using this variable as a control due to the possibility that a healthy person, regardless of income, may have less need of medical care, and as such may not think much of the government helping pay for medical care. Conmedic measures the respondent's confidence in medicine. The measures range from a great deal of confidence, some confidence, to hardly any confidence. The reason for this control variable is because someone with low confidence in medicine may not believe that it works and as such may disagree with the government helping to pay for something they believe does not work.

This paper utilizes crosstabulation, correlation, and regression, to test the hypothesis that people with an annual income of less than $75,000 are more likely to believe that the government should help pay for medical care as opposed to people who make $75,000 or more per year.

Results

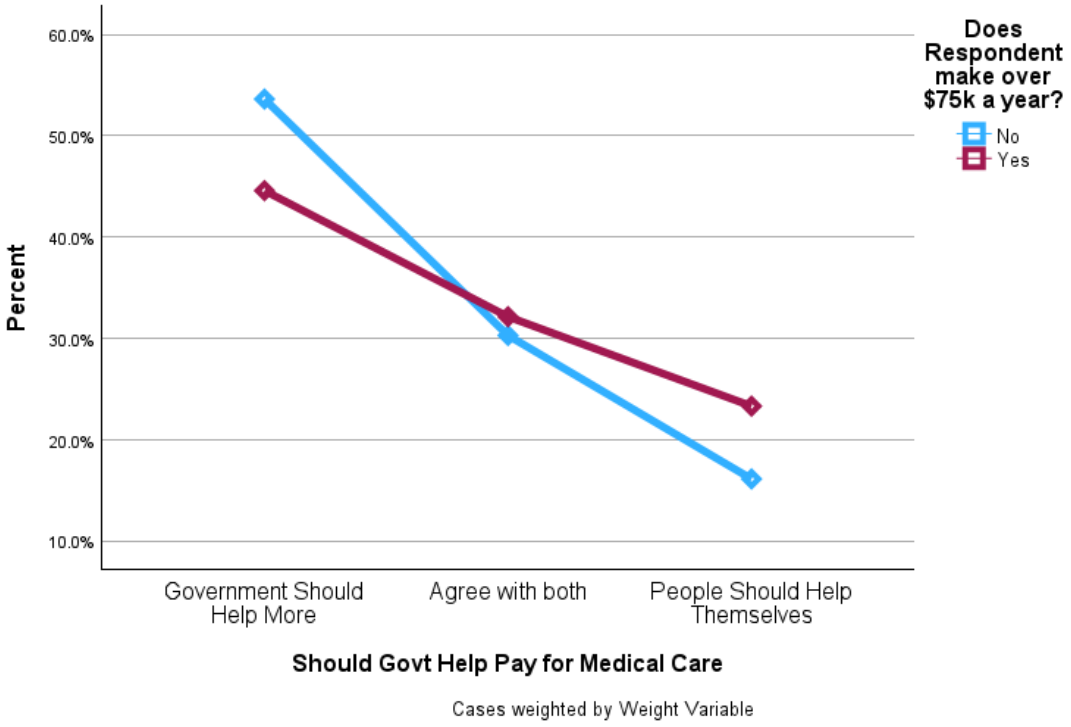
Should Govt Help Pay for Medical Care * Does Respondent make over $75k a year? Crosstabulation

% within Does Respondent make over $75k a year?

		Does Respondent make over $75k a year?		
		No	Yes	Total
Should Govt Help Pay for Medical Care	Government Should Help More	53.6%a	44.6%b	50.3%
	Agree with both	30.3%a	32.1%a	31.0%
	People Should Help Themselves	16.1%a	23.3%b	18.7%
Total		100.0%	100.0%	100.0%

Each subscript letter denotes a subset of Does Respondent make over $75k a year? categories whose column proportions do not differ significantly from each other at the .05 level.

The above crosstabulation comparison shows that when comparing individuals who make less than $75,000 a year with those who make more than $75,000 a year, those who make less than $75,000 a year are approximately 11% more likely to believe that the government should help to pay for medical care when compared to those who make over $75,000 a year. The data also shows that while the minority in both groups of individuals believe that people should help themselves, a higher percentage of those who made over $75,000 a year held this viewpoint.



The above table provides a visual representation of the crosstabulation.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.811[a]	2	<.001
Likelihood Ratio	17.633	2	<.001
Linear-by-Linear Association	17.659	1	<.001
N of Valid Cases	1702		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 118.45.

The Chi-Square test of the crosstabulation provides a chi-square test statistic equal to 17.811. The Asymptotic Significance (2-sided) value, which is the *P*-value, shows how often

the value of 17.811would occur by chance if the null hypothesis is correct. If the null hypothesis is correct, this value would be obtained less than .1 percent of the time. Since <.001 is less than the .05 standard, this indicates that the null hypothesis can be rejected, and it can be safely stated that there is a relationship between a person's level of income and their belief in the government helping to pay for medical care.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.102	<.001
	Cramer's V	.102	<.001
N of Valid Cases		1702	

Additionally, the Cramer's V value is .102 which indicates that there is a moderately strong relationship between the independent and dependent variables.

In order to analyze and better understand how the variables relate to each other, other variables that may affect the results must be identified and controlled for. I have identified two variables that I believe could affect the results of the tests. The two variables are conmedic and hlthstrt. Conmedic is a variable that shows how confident the respondent is in medicine, and hlthstrt is a variable that shows how healthy the respondent is. Both of these variables could reasonably affect whether or not the respondent thinks the government should help pay for medical care. As such, the following tests will be controlled for these variables.

Should Govt Help Pay for Medical Care * Does Respondent make over $75k a year? * Confidence In Medicine Crosstabulation

% within Does Respondent make over $75k a year?

Confidence In Medicine			Does Respondent make over $75k a year? No	Yes	Total
A GREAT DEAL	Should Govt Help Pay for Medical Care	Government Should Help More	49.9%	45.5%	48.1%
		Agree with both	32.4%	33.9%	33.0%
		People Should Help Themselves	17.7%	20.7%	18.9%
	Total		100.0%	100.0%	100.0%
ONLY SOME	Should Govt Help Pay for Medical Care	Government Should Help More	53.2%	43.0%	49.3%
		Agree with both	31.1%	32.1%	31.5%
		People Should Help Themselves	15.7%	24.8%	19.2%
	Total		100.0%	100.0%	100.0%
HARDLY ANY	Should Govt Help Pay for Medical Care	Government Should Help More	63.9%	50.0%	60.2%
		Agree with both	21.7%	25.0%	22.6%
		People Should Help Themselves	14.5%	25.0%	17.3%
	Total		100.0%	100.0%	100.0%
Total	Should Govt Help Pay for Medical Care	Government Should Help More	53.7%	44.6%	50.3%
		Agree with both	30.1%	32.1%	30.8%
		People Should Help Themselves	16.2%	23.3%	18.8%
	Total		100.0%	100.0%	100.0%

When controlling for the respondent's confidence in medicine, all respondents who make under $75,000 a year, regardless of their confidence level in medicine, are more likely to believe that the government should help more when compared to those who make less than $75,000 a year.

Symmetric Measures

Confidence In Medicine			Value	Approximate Significance
A GREAT DEAL	Nominal by Nominal	Phi	.047	.512
		Cramer's V	.047	.512
	N of Valid Cases		603	
ONLY SOME	Nominal by Nominal	Phi	.123	.001
		Cramer's V	.123	.001
	N of Valid Cases		864	
HARDLY ANY	Nominal by Nominal	Phi	.140	.108
		Cramer's V	.140	.108
	N of Valid Cases		226	
Total	Nominal by Nominal	Phi	.102	<.001
		Cramer's V	.102	<.001
	N of Valid Cases		1693	

However, when analyzing the data, it cannot be said with certainty that the respondent's confidence in medicine has any bearing on whether they will be more likely to believe that the government should help pay for medical expenses. For respondents who fall into the two extremes, being those that have a great deal of confidence in medicine, and those who have hardly any confidence in medicine, we fail to reject the null hypothesis due to the *P*-value being over .05. This variable may be insignificant, but its significance will be tested further in later tests.

Should Govt Help Pay for Medical Care * Does Respondent make over $75k a year? * Would You Say The Respondent?S Health In General Is Excellent, Good, Fair, Or Po Crosstabulation

% within Does Respondent make over $75k a year?

Would You Say The Respondent?S Health In General Is Excellent, Good, Fair, Or Po			Does Respondent make over $75k a year? No	Yes	Total
EXCELLENT	Should Govt Help Pay for Medical Care	Government Should Help More	57.3%	45.3%	52.2%
		Agree with both	26.7%	27.1%	26.9%
		People Should Help Themselves	15.9%	27.6%	20.9%
	Total		100.0%	100.0%	100.0%
GOOD	Should Govt Help Pay for Medical Care	Government Should Help More	54.2%	45.8%	50.8%
		Agree with both	28.2%	31.6%	29.6%
		People Should Help Themselves	17.6%	22.6%	19.6%
	Total		100.0%	100.0%	100.0%
FAIR	Should Govt Help Pay for Medical Care	Government Should Help More	55.2%	30.0%	51.5%
		Agree with both	36.2%	50.0%	38.2%
		People Should Help Themselves	8.6%	20.0%	10.3%
	Total		100.0%	100.0%	100.0%
POOR	Should Govt Help Pay for Medical Care	Government Should Help More	46.2%		42.9%
		Agree with both	38.5%		35.7%
		People Should Help Themselves	15.4%	100.0%	21.4%
	Total		100.0%	100.0%	100.0%
Total	Should Govt Help Pay for Medical Care	Government Should Help More	55.5%	44.9%	51.4%
		Agree with both	28.7%	29.8%	29.1%
		People Should Help Themselves	15.8%	25.3%	19.5%
	Total		100.0%	100.0%	100.0%

When controlling for the respondent's health, all respondents who make under $75,000 a year, regardless of their health level, are more likely to believe that the government should help more when compared to those who make less than $75,000 a year.

Symmetric Measures

Would You Say The Respondent?S Health In General Is Excellent, Good, Fair, Or Po			Value	Approximate Significance
EXCELLENT	Nominal by Nominal	Phi	.151	.010
		Cramer's V	.151	.010
	N of Valid Cases		402	
GOOD	Nominal by Nominal	Phi	.085	.248
		Cramer's V	.085	.248
	N of Valid Cases		382	
FAIR	Nominal by Nominal	Phi	.194	.280
		Cramer's V	.194	.280
	N of Valid Cases		68	
POOR	Nominal by Nominal	Phi	.531	.139
		Cramer's V	.531	.139
	N of Valid Cases		14	
Total	Nominal by Nominal	Phi	.127	<.001
		Cramer's V	.127	<.001
	N of Valid Cases		866	

When looking at the Cramer's *V* and *P*-value data for this relationship, we can see that based on the *P*-values, we fail to reject the null hypothesis for all respondents except those in Excellent health. Since the *P*-value for those in excellent health is less than .05, only the null hypothesis for those respondents with excellent health can be rejected. We can test this variable for further significance along the values in later tests.

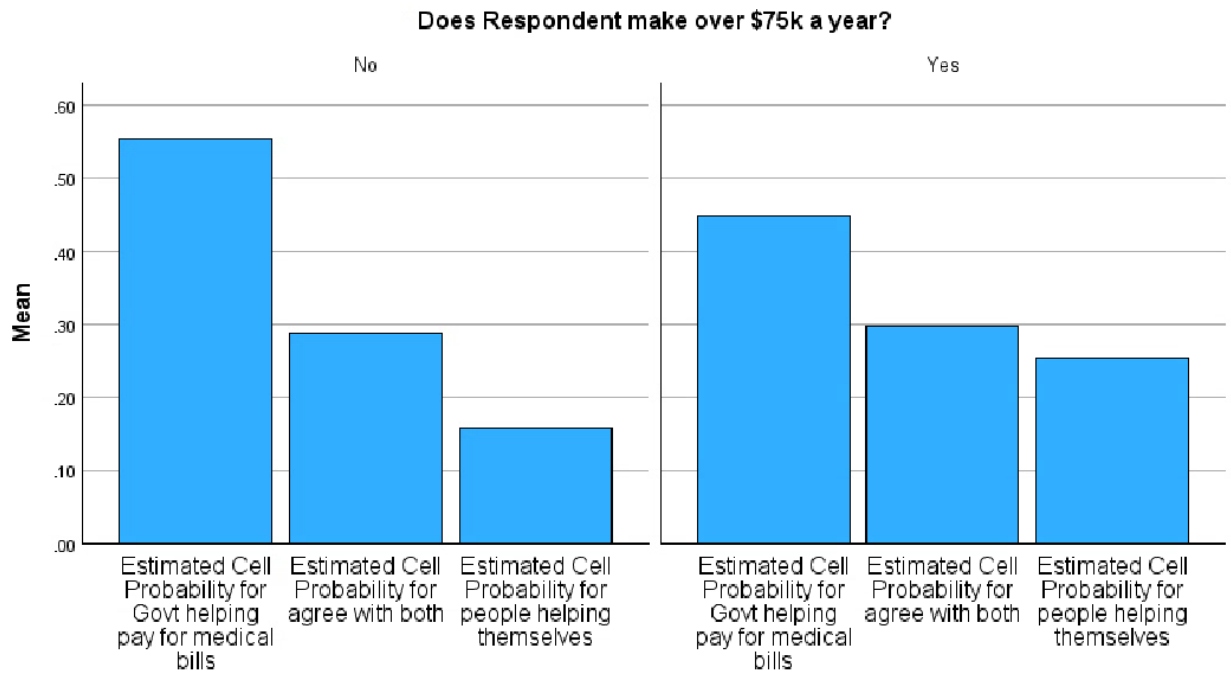
Parameter Estimates

Should Govt Help Pay for Medical Care[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Government Should Help More	Intercept	.532	.295	3.255	1	.071			
	Confidence In Medicine	.109	.121	.812	1	.368	1.115	.880	1.413
	Would You Say The Respondent?S Health In General Is Excellent, Good, Fair, Or Po	-.201	.113	3.179	1	.075	.818	.655	1.020
	[Does Respondent make over $75k a year?=0]	.280	.166	2.855	1	.091	1.323	.956	1.830
	[Does Respondent make over $75k a year?=1]	0[b]	.	.	0	.	.	.	.
People Should Help Themselves	Intercept	-.152	.374	.165	1	.684			
	Confidence In Medicine	.228	.153	2.227	1	.136	1.256	.931	1.695
	Would You Say The Respondent?S Health In General Is Excellent, Good, Fair, Or Po	-.260	.149	3.036	1	.081	.771	.576	1.033
	[Does Respondent make over $75k a year?=0]	-.416	.204	4.169	1	.041	.660	.442	.983
	[Does Respondent make over $75k a year?=1]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Agree with both.

b. This parameter is set to zero because it is redundant.

A multinomial regression was run to test the relationship between the independent and dependent variables. As indicated in the table above, the regression indicates that the only variable that has significant affect on whether or not the respondent believes that the government should help pay for medical care is whether or not the respondent makes over $75,000 a year or not. The data shows that those who make under $75,000 a year are 32.3% more likely to believe that the government should help pay for medical care, and 34% less likely to believe that people should help themselves more.



A bar chart was created using the results of the multinomial regression. The above chart shows the estimated probability of a person believing that the government should or should not help pay for medical bills, depending on whether or not they make more or less than $75,000 a year, controlled for confidence in medicine and the health of the person.

Discussion

The purpose of this paper was to analyze and test if there is a relationship between the income of a respondent and whether or not they believe that the government should help pay for medical care. More specifically, the paper tested the hypothesis that in a comparison of individuals, those who make less than $75,000 a year will be more likely to believe that the government should help pay for medical care when compared to individuals who make more than $75,000 a year. Based on the results of the tests, this hypothesis appears to be

correct. The tests were checked and controlled by variables that could potentially affect the results. Even when controlling for the other independent variables, there is still a significant relationship that indicates that the hypothesis is correct. Therefore, the data shows that there is a positive correlation between whether an individual makes less than $75,000 a year, and if that person believes that the government should help pay for medical care. Thus, knowing the income of an individual can help us predict whether or not that individual will believe that the government should help pay for medical care.

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