Socioeconomic Status and Barriers Influencing Healthcare Access among Hispanics in Central Virginia.

Oswald Attin, Olushola Ogunleye, Leslie Omoruyi, Dominique Richburg, and Bethany Schaeffer
Liberty University

Abstract

Purpose:

Evidence shows that low-income populations often have poor health-related quality of life. Health disparities are even worse among minority populations. This study aims to increase understanding about socioeconomic determinants of health among Hispanics in Central Virginia to enable appropriate culturally-sensitive interventions by relevant stakeholders.

Methods:

Using a self-administered questionnaire, a cross-sectional survey of 100 participants from the Hispanic community in Central Virginia was done in April 2016. Research hypotheses were that socioeconomic status is a major determinant of access to healthcare, and that barriers to healthcare services influence preventive health behaviors in this population.

Results/Findings:

Chronic health conditions were the most commonly reported health problems. Among those who accessed preventative healthcare, a long waiting list and racial discrimination were problems most commonly encountered at health facilities. With almost two-thirds (64.2%) earning household income ≤$30,000, the cost of healthcare and lack of medical insurance were the major barriers to seeking healthcare. Household income was also a significant determinant of the type of health care facility accessed and other problems encountered.

Conclusion:

Multiple factors interact significantly as a blend of social determinants that can be targeted in interventions to improve the healthcare-seeking behavior and access to healthcare among this population.

Introduction and Purpose

Barriers to health care services are usually categorized into factors affecting availability, affordability, acceptability, and geographic accessibility of health care services (Marmot & Allen, 2014). Healthcare availability entails the existence of physical health systems, health workers, equipment, drugs, and the time a patient has to wait before receiving health services. Healthcare affordability is determined by cost, household income, and willingness to pay for services received (Mosadeghrad, 2014). Cultural norms, community preferences, and the attitudes of healthcare workers have been shown to influence the willingness of individuals (or groups) to utilize health services (Marmot & Allen, 2014; Mosadeghrad, 2014; Nobles et al., 2013). In addition, the location of a health center and transportation barriers may influence the decision to seek health services (Mosadeghrad, 2014; Nobles et al., 2013). These barriers are not mutually exclusive and interact with each other as the social determinants of health (Marmot & Allen, 2014). Although health disparities have a multifactorial etiology, socioeconomic disparity has been well established as a major determinant, perhaps, the single largest set of determinants of health utilization and outcomes (Marmot & Allen, 2014; Mosadeghrad, 2014).

Socioeconomic status is the social hierarchy of an individual or a group. It is predominantly derived from information on occupation, income, and educational level (Kim & Park, 2015). Individuals with low socioeconomic status have more health-related problems and worse self-perceived health (Marmot & Allen, 2014). Socioeconomic hierarchy underlies the differences in health behavior-associated risk factors such as

obesity, smoking, hypertension, and physical inactivity (Chen & Miller, 2013; Mielck et al., 2013). These interactions ultimately lead to a wide gap in life expectancy between both extremes of socioeconomic status (Marmot & Allen, 2014). Research has shown that members of some minority populations in the United States especially Hispanics and African Americans have disproportionately higher prevalence of both infectious and chronic diseases than whites (Kim and Park, 2015; Braveman & Gottlieb, 2014). A higher proportion of such minority groups live in areas with poor housing and high risks of environmental hazards than whites. Also, they have a larger proportion of people without college education, and hence at the lower end of the income scale.

Within the last two decades, the Hispanic population has been the principal driver of demographic growth in the United States. It is the most populous ethnic minority in the United States with an estimated 56 million people in 2014, and projected to reach 76 million by 2050 ("United States Quick Facts," 2017). Hispanics represent 18 percent of the total U. S. population and account for over one-quarter of the infant population ("United States Quick Facts," 2017). Although the Asian population had a growth rate of 3 percent in 2017, Hispanics were responsible for 56 percent of population growth in the United States between 2000 and 2010 ("United States Quick Facts," 2017; "Demographic Profile of Hispanics in Virginia," 2011; Passel et al., 2011). In 2016, the median annual household income among Hispanics in the United States was $47,000, compared to $68,000 among whites. In the same year, the poverty rate among Hispanics was 20 percent, compared to less than 9 percent among whites ("United States Quick Facts," 2017; Kuebler & Rugh, 2013). The National Health Insurance Survey conducted between January and June 2016 shows that one in four Hispanic adults aged 18 to 64 years was without health insurance. This was twice and three times the proportion in blacks and whites respectively ("Health Insurance Coverage," 2016).

Some factors affecting access to health care are specific to the Hispanic population in the United States including language barriers, immigration status and level of acculturation. Over 40 percent of Hispanics in the U. S. were born outside the country, and retain their health behaviors and cultural beliefs. Some studies suggest that less than one-fourth of Hispanics in the U.S. speak English proficiently (Morrison et al., 2014). Recent immigrants especially those who are undocumented and without proficiency in English are not likely to have employers offering health insurance as a benefit. In addition, many Hispanic children born in the United States to undocumented parents are not enrolled for Medicaid because of the fear of being discovered by immigration authorities. This combination of factors explains, in part, why among Hispanics, there is poor access to preventive healthcare with frequent emergency room visits (Morrison et al., 2014; Tienda & Mitchell, 2006). Also, perceived threats and barriers have been widely documented as predictors of health-related behaviors among Hispanics. Research shows that many Hispanic women believe that their susceptibility to diseases like breast cancer is largely dependent on divine predetermination. In addition, for some young Hispanic females, the embarrassment of admitting to sexual intercourse and the level of physical exposure during Pap smear for cervical cytology in cervical cancer screening are perceived barriers that prevent utilization of preventive health services (Byrd et al., 2004; Julinawati, 2013).

Besides the contributory role of intergenerational changes in health behavior among Hispanics living in traditional Hispanic settlements, there is little variation in the relationship between socioeconomic barriers and health outcomes among Hispanics in different regions of the United States (Rhodes et al., 2015; Vega et al., 2009). According to the United States Census Bureau, in 2016, the estimated population of Hispanics living in Virginia was 765,000 ("United States Quick Facts," 2017). While this number represents 9 percent of the state population, more than 21 percent of the uninsured in Virginia are Hispanics (Virginia Department of Health, 2016). The Pew Research Center estimates that

the median annual personal earning of Hispanics in Virginia is $26,000 compared to $38,000 in non-Hispanic whites. Also, home ownership rates are 45 percent and 73 percent among Hispanics and whites respectively ("Demographic profile of Hispanics in Virginia," 2011). The American Community Survey data for 2012 showed that although Hispanics constitute 5 percent of the population in the Richmond metropolitan area of Virginia, they are far more likely to live in poverty than other racial groups with 4 in 10 Hispanics living below the poverty line compared to 32 percent of blacks and 19 percent of whites. Also, 3 in 5 Hispanics in Richmond do not have a high school diploma and 4 in 5 are without a post-high school degree ("Health equity in Richmond, Virginia," 2017).

The rapidly expanding number of Hispanics in the United States justifies the need for their inclusion in health research at the state and county levels. With the exception of a few states like California, Arizona, and Texas, there is paucity of state-level socioeconomic and health data on Hispanics including in Virginia. This study sets out to improve the database of information on the socioeconomic barriers and health status of Hispanics in Central Virginia to enable appropriate culturally-sensitive interventions by relevant stakeholders.

Methods

This study was conducted using the cross-sectional survey study design research method. The cross-sectional survey approach is a type of observational study design that gave an overall picture in finding out the prevalence of healthcare needs for the Hispanic community in Central Virginia. This study involved one contact with the study population and was relatively inexpensive to undertake, which made it easier to discover the needs for the Hispanic people in an expedited fashion.

According to Setia (2016), cross-sectional study designs are useful for population-based surveys and to evaluate the prevalence of disease in clinic-based samples. The investigator measures the outcome and exposures in the study participants simultaneously. Due to the

study design being a one-time measurement of exposure and outcome, it is challenging to obtain the actual causal relationships from this cross-sectional analysis (Setia, 2016).

Research Hypotheses

1. Socioeconomic status is a major determinant of access to healthcare among Hispanics in Virginia.

2. Barriers to healthcare services influence preventive health behaviors among Hispanics in Virginia.

Participants

The inclusion criteria included 100 participants eighteen years and older of Hispanic origin. The participants were also of low socioeconomic status living within the area of Central Virginia in Campbell County, Bedford County, and Lynchburg City. After the participants have been selected for the study, the investigator follows the study to assess the exposure and the outcomes (Setia, 2016). The reason for this specified sampling was to focus on individuals within the Hispanic community with a true need for full access to healthcare that is affordable to meet their particular needs. The target was those under low socioeconomic status due to the lack of health clinics and healthcare access offered to them in the Central Virginia area.

Ethical Considerations: Institutional Review Board.

In order to conduct the study, Assessing the Health Need Among the Hispanic Community in Campbell County, Bedford County, and Lynchburg City by using human research participants, approval from the Institutional Review Board (IRB) was required along with the following supporting documents: consent forms and the health surveys/questionnaires. The approval exemption number provided for this study was

2785.040617 (see Appendix 1). An extensive application was submitted to IRB that included basic protocol information, other study material and considerations, purpose of research, participant inclusion/exclusion criteria, recruitment of participants, research procedures, data analysis, process of obtaining informed consent, waiver of signed informed consent document, participant privacy and confidentiality, and participant risks and benefits.

The required supporting documents with the IRB application included the health survey and the consent form.

Ethical Considerations: Consent Form.

The consent forms were written in both Spanish and English for those participants who solely spoke Spanish. The consent form explained the research study and provided background information, procedures, risks/benefits of being in the study, compensation, confidentiality, voluntary nature of the study, and contacts/questions. This form enabled each prospective participant to choose whether or not they wanted to participate in this study by defining the guidelines needed from each participant.

Ethical Considerations: Participant Privacy and Confidentiality.

During the administration of the surveys, no names were collected on the surveys or consent forms to protect the privacy of the participant and to keep recorded data confidential. Upon completion of the data collection, all collected data was stored in a locked file cabinet. while the only persons with permission to access the data were the researchers of this study. Once the three-year retention period expires, all data will be deleted and cross-shredded.

Survey/Questionnaires

The purpose of this study was to provide in-depth data about Hispanic participants' needs for quality access to affordable healthcare and healthcare programs. After IRB approval, ten students a part of the Spanish Medical Terminology class were given a total of three hundred needs assessment questionnaires distributed evenly to hand out to individuals of Hispanic origin in Campbell County, Bedford County, and Lynchburg City of Virginia. The students went to churches, Hispanic grocery stores, and Hispanic restaurants in order to find participants to complete the surveys. The surveys were self-administered with the response rate being one hundred out of three hundred.

Health Survey.

The surveys were written in both Spanish and English for those participants who solely spoke Spanish (see Appendix 1). Three hundred surveys were distributed to various Hispanic people throughout Central Virginia and one hundred were completed. The surveys consisted of twenty-five questions that inquired about each participant's sex, age, Hispanic origin, marital status, household information, employment status, annual salary, diet information, overall lifestyle information, primary care physician/health clinic information, and breastfeeding information.

Statistical Analysis

The data was analyzed using IBM SPSS Version 23.0. The data analyzed included the participant's health status, healthcare status, mortgage status, household employment problems, and household income pertaining to healthcare. The dependent variables of this study are access to healthcare and preventative healthcare. The independent variable of this study are the barriers to healthcare.

Results

There were 100 study participants who completed the questionnaire and returned it to the researchers. As shown in Figure 1, out of 85

respondents who indicated their gender, majority (61.2%) were female, while two (2.4%) respondents selected "Other" as their gender.

Figure 1: Distribution of Respondents by Gender, Hispanic Needs Assessment Survey, Central Virginia, April 2017 (n=85)
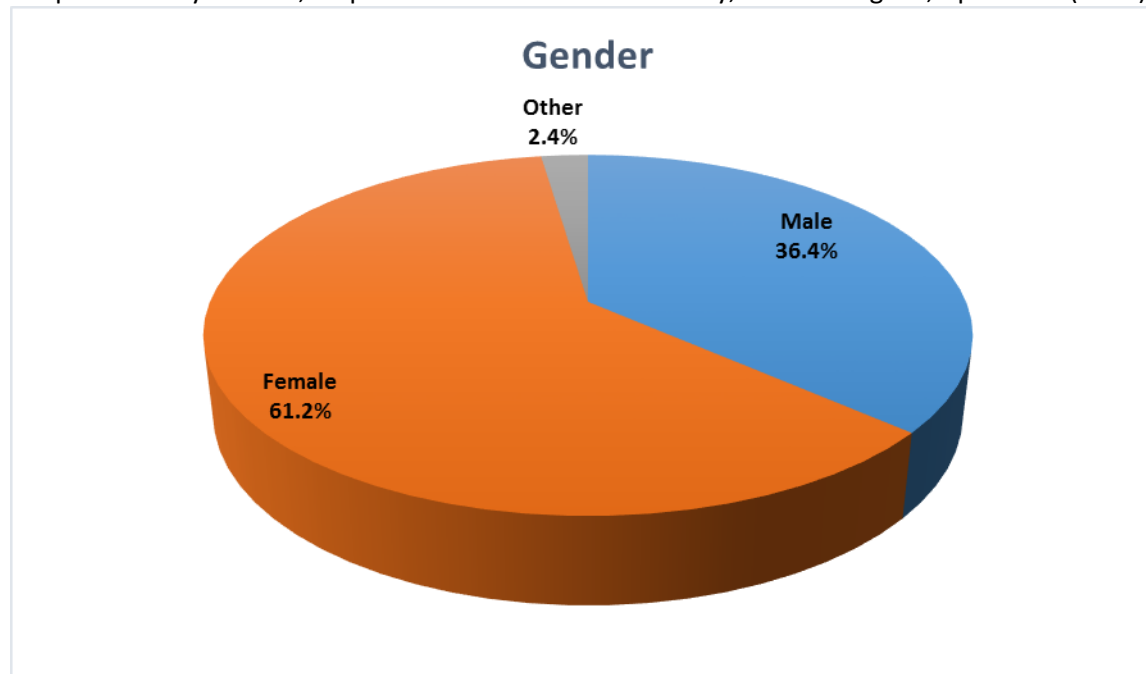
Certain questions were skipped by some participants. The number of persons who answered "Yes" to each question or response option

is presented in the table below, and the proportions who selected each response option per question are shown. For questions where the

participants could answer "Yes" or "No" to multiple responses (or select all that apply), the number of persons who responded to each response

option is placed by the response option; while for questions with mutually exclusive response options, the number of participants who answered

the question is indicated next to the criterion being assessed.

Table 1: Frequency distribution of participants' responses, Hispanic Needs Assessment Survey, Central Virginia, April 2017

Criterion	Frequency	Percent (%)
Health Problem(s) of Participants		
Cancer *(n=69)*	16	23.2
Diabetes *(n=69)*	16	23.2
Hypertension *(n=69)*	13	18.8
Overweight/Obesity *(n=69)*	13	18.8
Heart disease *(n=69)*	2	2.9
Vision problems *(n=69)*	18	26.1
Recurring headache *(n=69)*	21	30.4
Joint/back pain *(n=69)*	31	44.9
Hearing problems *(n=69)*	7	10.1
Respiratory problems *(n=69)*	9	13.0
Toothache/cavities *(n=69)*	6	8.7
HIV *(n=69)*	0	0
Other health problems *(n=69)*	9	13.0
Type of Preventative Healthcare Accessed		
Mammogram *(n=77)*	22	28.6
Pap smear *(n=77)*	12	15.6
Prostate cancer screening *(n=77)*	5	6.5
Flu shot *(n=77)*	12	15.6
Blood pressure check *(n=77)*	11	14.3
Physical exam *(n=77)*	26	33.8
Blood glucose check *(n=77)*	14	18.2
Cholesterol screening *(n=77)*	21	27.3
Vision screening *(n=77)*	26	33.8
Bone density screening *(n=76)*	3	3.9

Dental screening and exam *(n=77)*	27	35.1
Other *(n=77)*	2	2.6

Healthcare Facility Accessed		
Physician's office *(n=94)*	38	40.4
Emergency room *(n=94)*	16	17.0
Family/friend *(n=94)*	9	9.6
Health department *(n=94)*	7	7.4
Urgent care clinic *(n=94)*	17	18.1
Nowhere *(n=94)*	10	10.6
Other *(n=93)*	4	4.3

Problems encountered at Healthcare Facility		
A long waiting list *(n=51)*	13	25.5
Racial discrimination *(n=51)*	12	23.5
Refusal to accept Medicaid *(n=51)*	9	17.6
Difficulty with transportation *(n=51)*	3	5.9
Lack of mental health services *(n=51)*	0	0
Could not find a free clinic *(n=51)*	6	11.8
Not having the right equipment/specialists *(n=51)*	2	3.9
Discrimination based on income *(n=51)*	3	5.9
Discrimination based on not having insurance *(n=51)*	7	13.7
No translator for appointments *(n=51)*	2	3.9
Could not afford the care *(n=51)*	4	7.8
Did not know how to use my health insurance *(n=51)*	0	0

Barriers to Seeking Healthcare		
Too expensive *(n=48)*	20	41.7
Too far/no transportation *(n=48)*	7	14.6
Do not have medical insurance *(n=48)*	14	29.2
Do not feel the need to go *(n=48)*	14	29.2
Other *(n=48)*	2	4.2

Mortgage Foreclosure Problems		
Not enough income to pay mortgage *(n=38)*	9	23.7
Problems with mortgage company's records *(n=38)*	17	44.7
No notice from mortgage company of a problem or a change in policy *(n=38)*	8	21.1
Mortgage company refused to modify the mortgage *(n=38)*	2	5.3
Other *(n=38)*	2	5.3
Household Employment Problems		
Inability to get work following suspension of driver's license due to unpaid fines *(n=41)*	19	46.3
Inability to get work following suspension of driver's license due to DUI *(n=41)*	5	12.2
Being denied a job, raise or promotion due to discrimination *(n=41)*	3	7.3
No accommodation for disability *(n=41)*	4	9.8
Not being paid the correct amount *(n=41)*	2	4.9
Other *(n=41)*	2	4.9
Multiple problems *(n=41)*	6	14.6

As seen in Table 1, out of 97 respondents, 28 reported that they did not currently have any health problems. Among the 69 who did have health problems, the most common condition reported was joint /back pain (44.9%), while recurring headache (30.4%) and vision problems (26.1%) were next. Among 97 respondents, 20 reported that they do not have access to preventative care. Of those who accessed preventative healthcare, the procedure most often accessed was dental screening and exam (35.1%), with physical exam and vision screening tied at second place (33.8%). Majority of the respondents (40.4%) access healthcare at a physician's office, while 18.1% access healthcare at an urgent care clinic. However, 10.6% of them do not have a regular place where they access healthcare.
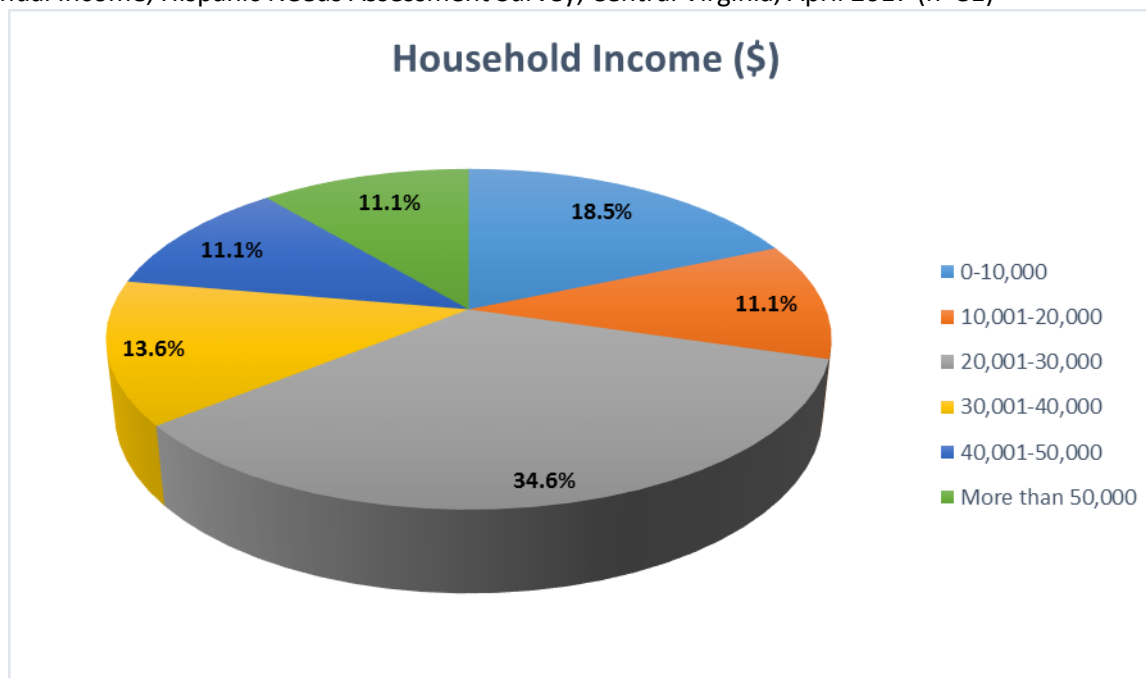
Out of 94 respondents, 43 (45.7%) said they do not have any problems with accessing routine healthcare, while the remaining 51

respondents, as seen in Table 1, cited a long waiting list (25.5%) and racial discrimination (23.5%) as the two most common problems they

experience at a healthcare facility (Table). Forty (45.5%) out of 88 respondents said they did not experience any barriers to seeking healthcare;

whereas, as Figure 2 shows, 20 respondents (41.7%) reported that the cost of healthcare was the most significant factor serving as a barrier to

seeking healthcare, with lack of medical insurance and poor perception of the necessity to seek healthcare tying as the next most reported

barriers (29.2%).

Figure 2: Barriers to Seeking Healthcare, Hispanic Needs Assessment Survey, Central Virginia, April 2017 (n=48)
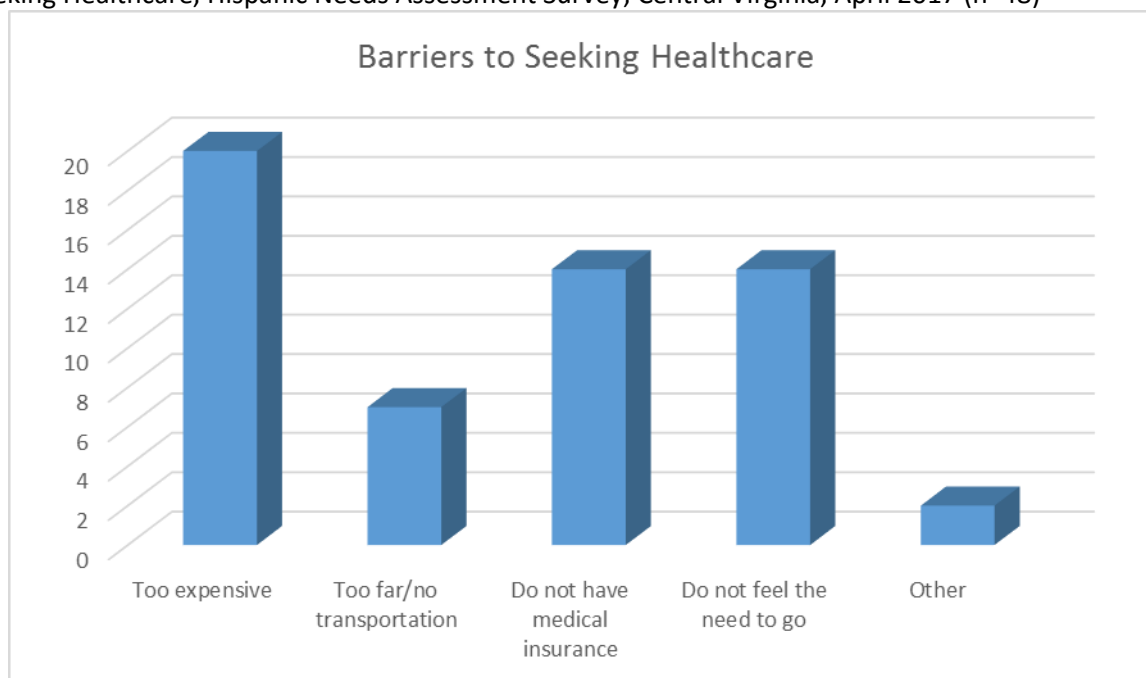
As Figure 3 shows, only 81 respondents reported their annual household income, of which the majority (34.6%) earn $20,001-$30,000 annually. The next most common household income level (18.5%) was for those who earned $0-$10,000 annually. For third place (11.1%), household incomes of $10,001-$20,000, $40,000-$50,000, and more than $50,000 all tied. The median household annual income was among who earned $20,001 - $30,000.

Figure 3: Household Annual Income, Hispanic Needs Assessment Survey, Central Virginia, April 2017 (n=81)

Forty-nine (56.3%) out of 87 participants said they do not have any mortgage foreclosure problems. Table 1 shows that out of the 38 respondents who reported mortgage foreclosure problems, the issue most reported was problems with the mortgage company's records (44.7%); second to this was inadequate income to pay mortgage (23.7%). Forty-seven (53.4%) out of 88 respondents reported that they do not

have any household employment problems; whereas, as seen in Table 1, of the 41 respondents who had household employment problems, the

most common problem encountered (46.3%) was the inability to get a job due to suspension of their driver's license that resulted from unpaid

fines.

Chi-Square Analysis

On Chi-square analysis, as seen in Table 2, there was statistically significant evidence at α =0.05 to show that household employment

problems varied by gender (χ^2 = 38.930; p = 0.028; df = 14). However, mortgage foreclosure problems did not vary by gender (p =0.503). As seen

in Table 3, there was statistically significant evidence at α =0.05 to show that the healthcare facility accessed varied by household income level

(χ^2 = 81.622; p = 0.002; df = 35). However, health status did not vary by household income level (p = 0.165), nor did type of preventative care

accessed vary by household income (p = 0.429).

Furthermore, there was statistically significant evidence at α = 0.05 that problems encountered at healthcare place varied by household

income level (χ^2 = 105.011; p = 0.007; df = 55). In addition, there was statistically significant evidence at α = 0.05 that barriers to seeking

healthcare varied by household income level (χ^2 = 64.549; p = 0.002; df = 25).

Table 2: Household Employment Problems by Gender, Hispanic Needs Assessment Survey, Central Virginia, April 2017

Gender	Household Employment Problems								Total
	No problems with employment	Unable to get to work due to suspended driver's license caused by unpaid fines	Unable to get to work due to suspended driver's license caused by DUI	Being denied a job, raise or promotion due to discrimination	No accommodation for disability	Not being paid the correct amount	Other	Multiple problems	
Male	15	5	0	2	2	0	1	2	**27**
Female	27	10	4	1	2	1	1	2	**48**
Other	0	1	0	0	0	1	0	0	**2**
Total	**42**	**16**	**4**	**3**	**4**	**2**	**2**	**4**	**77**

Pearson Chi-square (χ^2) = 38.930; p = 0.028; df = 14

Table 3: Healthcare Facility Accessed by Household Income Level, Hispanic Needs Assessment Survey, Central Virginia, April 2017

Household Income	Healthcare Facility								Total
	Physician's Office	Emergency Room	Family/Friend	Other	Health Department	Urgent care clinic	Nowhere	Multiple places	
0-10,000	5	1	0	1	3	2	1	2	15
10,001-20,000	3	0	1	0	0	3	2	0	9
20,001-30,000	9	12	4	0	0	1	2	0	28
30,001-40,000	4	0	1	1	1	3	0	1	11
40,001-50,000	2	0	1	1	0	3	0	1	8
More than 50,000	5	0	1	0	1	0	1	1	9
Total	28	13	8	3	5	12	6	5	80

Pearson Chi-square (χ^2)=81.622; p=0.002; df=35

Household income	Problems encountered at healthcare facility												Total
	No routine problems	Long waiting list	Discrimination for lack of insurance	Lack of translator	Could not afford	Multiple problems	Racial discrimination	Refusal to accept Medicaid	Transportation difficulty	Could not find a free clinic	Not having the right equipment / specialist	Discrimination based on income	
0-10,000	9	0	0	1	1	2	1	0	1	0	0	0	15
10,001-20,000	5	0	0	0	0	0	1	1	0	2	0	0	9
20,001-30,000	6	4	2	0	1	1	7	6	0	0	0	1	28
30,001-40,000	4	4	2	0	0	0	1	0	0	0	0	0	11
40,001-50,000	6	1	0	0	0	0	0	0	0	1	1	0	9
More than 50,000	5	1	1	0	0	0	1	0	0	1	0	0	9
Total	35	10	5	1	2	3	11	7	1	4	1	1	81

Table 4: Problems encountered at Healthcare Facility by Household Income Level, Hispanic Needs Assessment Survey, Central Virginia, April 2017

Pearson Chi-square (χ^2) = 105.011; p = 0.007; df = 55.

Table 5: Barriers to seeking Healthcare by Household Income Level, Hispanic Needs Assessment Survey, Central Virginia, April 2017

Household Income	Barrier to seeking Healthcare						Total
	No problems getting preventative care	Too expensive	Too far/no transportation	I don't have medical insurance	I don't feel like I need to go	Multiple problems	
0-10,000	2	3	0	3	4	3	15
10,001-20,000	5	1	0	1	1	1	9
20,001-30,000	15	6	3	2	1	1	28
30,001-40,000	5	3	0	0	3	0	11
40,001-50,000	4	0	0	3	0	1	8
More than 50,000	4	1	1	1	1	0	8
Total	35	14	4	10	10	6	79

Pearson Chi-square (χ^2) = 64.549; p = 0.002; df = 25

Discussion

The multiple barriers to healthcare among Hispanics in Central Virginia are brought to fore by this study. Findings agree with multiple studies that identify factors affecting availability, acceptability, and geographic accessibility as barriers to accessing healthcare (Marmot & Allen, 2014; Mosadeghrad, 2014; Nobles et al., 2013). It is also obvious from our findings that these factors are not independent of one another. They interact significantly as a milieu of social determinants that influence the healthcare-seeking behavior and access to healthcare among this population.

There was wide variation in the household income of the respondents. Though slightly more than one-third of them earn $20,001 - $30,000 annually, the second largest proportion (almost 20%) earn $10,000 or less per year, and are classified as low-income earners. Almost two-thirds (64.2%) of the respondents earn an annual household income of $30,000 or less, compared to 50.9% of all U.S. Hispanics and 26.3%

of non-Hispanic families who earn less than $35,000 per year (Rodriguez et al., 2014). In addition, of all racial and ethnic groups in the U.S.,

Hispanics are reported to have the lowest median annual earnings (Rodriguez et al., 2014). The upper value of the median category of household

income reported in this study is less than two-thirds of the median annual household income of a Hispanic household in the United States in

2016 as reported by the United States Census Bureau, while it is less half of the median household income reported for whites that year (2017).

Economic disparity alone could significantly influence the ability of Hispanics to access healthcare (Marmot & Allen, 2014). Our findings

show that household income level was a major determinant of the type of healthcare facility accessed. For those who were unable to access any

form of healthcare, a lack of motivation to seek healthcare was as important as a lack of medical insurance in preventing them from seeking

healthcare. Moreover, seeing that almost one-third of the respondents that experience barriers to seeking healthcare report that they lack

medical insurance corroborates the finding of the National Health Insurance Survey (2016) and the Virginia Health Equity Report (Virginia

Department of Health, 2016). Annual household income also significantly influenced barriers to seeking healthcare such as the cost of

healthcare, the availability of transportation to a healthcare facility, motivation to seek healthcare when ill, and availability of medical insurance.

However, it is noteworthy that household income did not influence the type of preventative care accessed among respondents who go to a

healthcare facility. Apparently, choosing to go to a healthcare facility is accompanied by a resolve to access any forms of preventative care

deemed necessary, without regard to how expensive they are.

About 45% of the respondents reported that they do not experience any barriers to seeking healthcare and do not encounter any

problems at the healthcare facility. This may be the same category of respondents as those that do not experience any mortgage foreclosure

problems or any household employment problems; and perhaps the same group as those who earn higher annual household incomes. This

study did not determine whether any correlation existed between these groups of respondents, but it is worthy of note that almost the same

number of respondents fall within these categories. However, it is likely that this finding may not be generalizable to the population of Hispanics

in Central Virginia, as other studies report that much smaller proportions that do not experience barriers to healthcare (Marmot & Allen, 2014;

Mosadeghrad, 2014; Nobles et al., 2014).

Among the respondents that do access a healthcare facility, a long waiting list (25.5%) and racial discrimination (23.5%) top the list of

problems encountered at the healthcare facility – factors that may deter the respondents from seeking healthcare anymore, or from visiting that

same facility. Refusal to accept Medicaid and discrimination because they do not have medical insurance also stood out among problems

preventing access to services at the healthcare facility. Meanwhile, only a small proportion (3.9%) cited the lack of a translator for appointments

as a problem they encountered, a pointer that language barriers or level of acculturation may not be significant factors preventing access to

healthcare among them (Morrison et al., 2014; Tienda & Mitchell, 2006). However, it is also possible that majority of those who access

healthcare facilities go there with a friend or family member who is fluent in the English language and could serve as an interpreter for them. In

addition, only 7.8% reported that they could not afford the care while they were at the healthcare facility and just 11.8% reported that being

unable to find a free clinic prevented them from accessing healthcare services – further indicating that majority of those who make the decision

to go to a healthcare facility either have some form of medical insurance or can afford to pay for the services provided.

The most commonly accessed form of preventative care was dental screening and exam (35.1%), while only 8.7% of the respondents had toothache/cavities. This may be a pointer to the protective effect of accessing preventative care. In addition, there may be an association between the report of physical exam and vision screening as the next most common forms of preventative care accessed and the occurrence of joint/back pain, recurring headache, and vision problems as the three most common health conditions the respondents said they had. Furthermore, because these forms of preventative care require highly skilled healthcare personnel, this may explain why the most common type of healthcare facility visited was a physician's office. However, emergency rooms and urgent care clinics are also visited quite frequently, indicating that a significant proportion of them would rather wait till their health conditions become much worse before accessing a healthcare facility.

Among other barriers to seeking healthcare, having a healthcare facility located too far or lacking transportation to the facility was only reported by a small proportion of the respondents. This contrasts the findings from other studies that cite this as a major barrier to seeking healthcare (Mosadeghrad, 2014; Nobles et al., 2013). In addition, while other studies report some correlation between one's socioeconomic status and one's self-perceived health status—with people of lower socioeconomic status being more likely to perceive themselves as having worse health—the current study does not show this association perhaps because we only asked about one component of socioeconomic status—income—and not for occupation and educational level (Marmot & Allen, 2014; Nobles et al., 2013; Kim & Park, 2015).

Though majority of the health conditions we asked about were chronic conditions, and as anticipated, at least 20% of the respondents reported having diabetes, vision problems, and joint/back pain, it was surprising to find that only 2.9% of the respondents reported having heart

disease while 23.2% reported having cancer (Kim & Park, 2015; Chen & Miller, 2013). This contrasts evidence, which shows that cardiovascular

disease is the chief cause of mortality among U.S. Hispanics (Rodriguez et al., 2014). This is true especially among the Mexican Hispanics (who

are the most studied population of Hispanics in the U.S.), who have a cardiovascular disease prevalence of 33.4% among males and 30.7%

among females (Rodriguez et al., 2014). The low self-reported prevalence of heart disease in the study group may be linked to their poor health-

seeking behavior and poor access to healthcare, leading to fewer opportunities for diagnosis of heart disease particularly in the early stages

before life-threatening complications set in. On the other hand, cancer—which is often perceived as more life-threatening than other health

conditions—may cause them to report early to a healthcare facility for screening and diagnosis, particularly if they have had friends or family

members who died from cancer.

Summary and Conclusions

We administered three hundred surveys and only received one hundred. The feedback from most of the Hispanic participants was fear

of immigration and the fear of people knowing their medical problems. In addition, the participants did not like that the questionnaire asked too

many extensive questions and was very long in length. After knowing the fears of the participants, this study has illustrated what the health

needs are in the Central Virginia Hispanic population and how to better address them in the future. On the other hand, we did notice that some

of the questions in the questionnaire were not answered, which could be attributed to their fears of immigration, the potential of other people

discovering participant's medical problems, and the fact that the questionnaire was too long.

Recommendations

In creating a new questionnaire for the Central Virginia Hispanic population, we will aim to decrease the number of questions in the questionnaire, increase participation and our sample size. We will also ensure that incentives will be given to motivate more participation. On the contrary, since the study did show some health barriers in the Hispanic population, the appropriate stakeholders can now address them to make necessary changes. Lastly, we will target our questions towards healthcare, healthcare access, and socioeconomic barriers instead of immigration and household status. The new questionnaire will also address other Hispanic populated areas in Virginia and not just the Central area of Virginia.

References

Braveman, P., & Gottlieb, L. (2014). The social determinants of health: It's time to consider the causes of the causes. *Public Health Reports, 129*(1_suppl2), 19-31. doi:10.1177/00333549141291s206

Byrd, T. L., Peterson, S. K., Chavez, R., & Heckert, A. (2004). Cervical cancer screening beliefs among young Hispanic women. *Preventive Medicine, 38*(2), 192-197. doi:10.1016/j.ypmed.2003.09.017

Chen, E., & Miller, G. E. (2013). Socioeconomic status and health: Mediating and moderating factors. *Annual Review of Clinical Psychology, 9*(1), 723-749. doi:10.1146/annurev-clinpsy-050212-185634

Demographic and Economic Profiles of Hispanics by State and County, 2014. (2011). Retrieved from http://www.pewhispanic.org/states/state/va/

Health equity in Richmond, Virginia. (2017). Retrieved from https://societyhealth.vcu.edu/media/society-health/pdf/RVAHealthEquityFINAL.pdf.

Health insurance coverage: Early release of estimates from the National Health Interview Survey, January–June 2016. (2016). Retrieved from https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201611.pdf

Julinawati, S., Cawley, D., Domegan, C., Brenner, M., & Rowan, N. (2013). A review of the perceived barriers within the health belief model on pap smear screening as a cervical cancer prevention measure. *Journal of Asian Scientific Research, 3*(6), 677-692. Retrieved from https://www.researchgate.net/publication/261177105_A_Review_of_the_Perceived_Barriers_within_the_Health_Belief_Model_on_Pap_Smear_Screening_as_a_Cervical_Cancer_Prevention_Measure

Kim, J., & Park, E. (2015). Impact of socioeconomic status and subjective social class on overall and health-related quality of life. *BMC Public Health, 15*(1). doi:10.1186/s12889-015-2014-9

Kuebler, M., & Rugh, J. S. (2013). New evidence on racial and ethnic disparities in homeownership in the United States from 2001 to 2010. *Social Science Research, 42*(5), 1357-1374. doi:10.1016/j.ssresearch.2013.06.004

Marmot, M., & Allen, J. J. (2014). Social determinants of health equity. *American Journal of Public Health, 104*(S4). doi:10.2105/ajph.2014.302200

Mielck, A., Vogelmann, M., & Leidl, R. (2014). Health-related quality of life and socioeconomic status: inequalities among adults with a chronic disease. *Health and Quality of Life Outcomes, 12*(1), 58. doi:10.1186/1477-7525-12-58

Morrison, A. K., Schapira, M. M., Gorelick, M. H., Hoffmann, R. G., & Brousseau, D. C. (2014). Low caregiver health literacy is associated with higher pediatric emergency department use and nonurgent visits. *Academic Pediatrics, 14*(3), 309-314. doi:10.1016/j.acap.2014.01.004

Mosadeghrad, A. M. (2014). Factors influencing healthcare service quality. *International Journal of Health Policy and Management, 3*(2), 77-89. doi:10.15171/ijhpm.2014.65

Nobles, J., Weintraub, M. R., & Adler, N. E. (2013). Subjective socioeconomic status and health: Relationships reconsidered. *Social Science & Medicine, 82*, 58-66. doi:10.1016/j.socscimed.2013.01.021

Passel, J. S., Cohn, D., & Lopez, M. H. (2011). Hispanics account for more than half of nation's growth in past decade. Retrieved from http://www.pewhispanic.org/2011/03/24/hispanics-account-for-more-than-half-of-nations-growth-in-past-decade/

Rhodes, S. D., Mann, L., Simán, F. M., Song, E., Alonzo, J., Downs, M., . . . Hall, M. A. (2015). The impact of local immigration enforcement policies on the health of immigrant Hispanics/Latinos in the United States. *American Journal of Public Health, 105*(2), 329-337. doi:10.2105/ajph.2014.302218

Rodriguez, C. J., Allison, M., Daviglus, M. L., Isasi, C. R., Keller, C., Leira, E. C., . . . Sims, M. (2014). Status of cardiovascular disease and stroke in Hispanics/Latinos in the United States: A science advisory from the American Heart Association. *Circulation, 130*(7), 593-625. doi:10.1161/cir.0000000000000071

Setia, M. (2016). Methodology series module 3: Cross-sectional studies. *Indian Journal of Dermatology, 61*(3), 261. doi:10.4103/0019-5154.182410

Tienda, M., & Mitchell, F. (2006). *Hispanics and the Future of America*. Washington, DC: The National Academies Press. doi:10.17226/11539

United States Quick Facts. (2017). Retrieved from https://www.census.gov/quickfacts

Vega, W. A., Rodriguez, M. A., & Gruskin, E. (2009). Health disparities in the Latino population. *Epidemiologic Reviews, 31*(1), 99-112. doi:10.1093/epirev/mxp008

Virginia Department of Health. (2016). Virginia Health Equity Report. Retrieved from http://www.vdh.virginia.gov/health-equity/virginia-health-equity-report/