

## *Original Paper*

# Barriers Associated with Cardiovascular Disease and the Impact of Primary Care Leading to Necessary Emergency Department Visits in The Central Valley

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### **Abstract**

**Purpose:** *The research identified barriers associated with cardiovascular disease and the impact of primary care leading to emergency department (ED) visits in the Central Valley.*

**Methods:** *A semi-structured 16-question interview was conducted at St. Agnes Medical Center in order to gain a fuller understanding of the involvement of primary care providers and their interactions in educating individuals about CVD.*

**Results:** *54 of the total 63 participants report having access to primary care however, some patients expressed they never had access to a cardiologist. Many of the participants (41 of 63) were confident that their care providers were greatly knowledgeable. A total of 46 of the 63 participants felt adequately cared for, while eight of the participants felt that the care, they received was not adequate by reporting that the care was bad or inadequate. Participants expressed that there were some challenges in receiving accessibility of care and many faced socioeconomic challenges.*

**Conclusion:** *There have been many studies focusing on readmission rates with the expansion of ACA. However, none specifically evaluates a region within a state that has multiple socio-economic challenges and the use of primary care visits in relation to cardiovascular disease emergency department visits. There are many socioeconomic factors that, when not favorable, can lead to inadequate care towards the patient. Therefore, strategies to improve the care provided to diagnosed patients should be informed and*

*guided by the influence that these socio-economic factors have with regard to the healthcare experience.*

**Keywords**

*Cardiovascular disease, Affordable Care Act, primary care, Central Valley, emergency department, health literacy*

**1. Introduction**

Healthcare reform under the Affordable Care Act (ACA) and associated California policies have created massive changes for the healthcare system and for healthcare workers over the last decade. While the proportion of Californians with no insurance dropped by 60% before the implementation of the ACA, there are many persons who still struggle with access to appropriate primary care and remain at elevated risk of cardiovascular disease and other chronic conditions. According to Wolf and Maddox (2019), the ACA has affected heart failure patients through coverage expansion, delivery health reform, and insurance regulation. However, there is a gap in the literature that fails to include regions that are challenged with multiple socioeconomic factors. As a result of improvements in treatment, prevention, and access to care, cardiovascular disease (CVD) continues to be the leading cause of death in California. There are over 28 million chronic diseases in California in general, with cardiovascular disease being the most prevalent (36.4%) (Brown et al., 2014).

In the Central Valley, residents may experience a higher rate of cardiovascular disease due to socioeconomic and environmental factors. Even though death rates from cardiovascular disease have declined in California, disparities remain. There is an increased risk of cardiovascular disease among people with low levels of income and education. The Central Valley has the highest rates of poverty and poorer socioeconomic conditions relative to the rest of California. The area is dominated by low-wage farm and service jobs and has average employment income behind the rest of the state (Garcia et al., 2020). Additionally, there are clear socio-economic factors that may contribute to CVD in the Central Valley. Transportation, cost of healthcare, access to care, and overwhelming response to care for others first are just a few. Many individuals face transportation hardships in accessing primary care. Prior literature suggests that individuals who suffer from multiple disparities have more struggles gaining access to transportation services and obtaining preventive healthcare services (Kotval et al., 2020). Healthcare costs have risen significantly over the past several decades due to growth in healthcare prices. According to the Legislative Analyst's Office of California's 2022-2023 budget, there are significant challenges associated with healthcare accessibility and affordability for Californians. Approximately 3.2 million Californians do not have access to full coverage health insurance. Individuals who do have full health insurance coverage are still facing challenges because of high healthcare coverage costs consuming much of their income. Even those who have health insurance face healthcare costs that can consume a significant portion of their income. People's relationships and interactions can have a major influence on their well-being and health (Healthy People, 2023). It's important to obtain timely recommended treatment so that individuals can reduce their risk for long-term outcomes from CVD or

even death. Health literacy is a key factor when teaching people to recognize symptoms in order to get the treatment they need. The research identified multiple barriers associated with CVD and the impact of primary care leading to emergency department visits in the Central Valley using a semi-structured interview narrative model.

## **2. Method**

### *2.1 Data Collection*

Many qualitative studies involve interviewing participants in order to gather data. Interviews tend to be the simplest and most direct method for obtaining data pertaining to a specific phenomenon. The data collection method can be adapted to the research question, attributes of participants, and the researcher's preferred method. Researchers often utilize semi-structured interviews in qualitative research, which involve carefully constructing key components of the subject being explored. A thoroughly crafted semi-structured interview ought to secure essential data in significant areas, still offering leeway for individuals to infuse the conversation with their distinct characters and viewpoints. This study has been designed to provide participants with the freedom to express their concerns with open-ended questions. The data collectors were scribes who were already HIPPA certified through St. Agnes Medical Center and had access and experience in the Emergency Department floor. On shift, scribes at Saint Agnes work side by side with physicians, allowing them to review patient history along with a patient's determined disposition. Furthermore, scribes are also trained in how to speak to patients, while exhibiting proper patient care, due to their role of explicit documentation. After obtaining the patient's diagnosis from the provider, scribes were able to determine if the patient was eligible to be interviewed. Per the study, only patients with cardiac diagnoses were interviewed. The patient's mentation was also considered, with altered, intoxicated, and demented patients being ruled out. Interviews were only performed if the patient could answer, not family, friends, etc. The patient's consent was taken prior to the interview, as indicated in the Google Form if consent was obtained. Since Scribes have consistent communication with patients and ask questions during their shift for the ED doctor, our survey questions did not interrupt their care while in the emergency department. Scribes chart electronically and have access to computers during their shift. The 16-question survey was developed in a Google form that scribes had open in another tab to ask the questions. Additionally, the Google form was protected, and access was granted only to scribes who had completed the data collection training.

### *2.2 Population*

The study focused on those with a primary diagnosis of a cardiovascular-related event when coming to the emergency department. The team acknowledges the inclusion criteria is a sensitive population. However, the likelihood of the admitting issue being an urgent case does not happen too often in the ED and we obviously did not interrupt these cases (like for example a STEMI that needs to go immediately to the cath lab). However, there are many other diagnoses where patients get admitted for cardiovascular issues (chest pain, shortness of breath, and heart palpitations are just a few). In this case, they usually stay

in the ED for 5-6 hours before they are taken upstairs. During this time, the interview took place by the scribe as long as the patient was stable and able to communicate. The scribes who transcribed the information during the ED visit were in real time using electronic health records under healthcare provider supervision. Scribing, also known as “team documentation,” frees doctors from taking notes and entering orders or referrals.

Data collectors finished the following in order to be eligible to collect data in the study:

1. All data collectors were screened for risk and had the opportunity to opt-out without penalty or prejudice.
2. All scribes had to submit a certificate for the CITI training for research in the Social and Behavioral Sciences prior to the start of training. Citi Certificates were stored electronically in a secure password-protected device.
3. All volunteers were asked to sign and return the Attestation form indicating they recognize their roles and responsibilities.

#### Training for Data Collection

Data collectors participated in a webinar training. During the training, they were provided information about obtaining the CITI training prior to data collection. After CITI training certification was obtained, the research assistant provided the scribe access to the Fresno State Google Form and reviewed with the scribe how to collect the data.

#### 2.3 Data Storage

Electronic data was processed through an encrypted channel through Fresno State University’s password-protected link with Google Form data storage. Electronic downloads were only allowed into password-protected folders, and only investigators and human subjects trained staff essential to data analysis had access. Physical copies were stored in a locked file cabinet and only research staff with Human Subjects training had access. All other data analyzed by researchers is non-identifiable and aggregate.

#### 2.4 Qualitative Analysis

Descriptive statistics including means and percentages for the study population are presented in Table 1. A narrative content analysis was conducted of the 16-question survey and NVivo was then used to code. Common themes were identified within the data exposing the characters of the analysis. Codes were created from concepts that came from each of the 16 survey questions combining key responses that supported the summary of the question. The diagnosis of respondents is shown in Figure 1. Accessibility to better medical care is shown in Figure 2-6. Figure 2 answered the question, of whether the respondent had access to primary care. Figure 3 went further to identify what type of primary care they had access to. Figure 4 provides the medical knowledge of the care providers. Figure 5 identifies the education the participant received about cardiovascular disease. Finally, Figure 6 illustrates the adequacy of the care received.

### 3. Results

Table 1 illustrates the frequency and percent across demographic characteristics of patients entering the emergency department for cardiovascular-related conditions. There were 30 (48%) women and 33 (52%) men admitted to the ED. Among the sample group of 40 to 64 years of age, the mean age was 54.8. The racial/ethnic groups were predominantly Caucasian (65.2%), Hispanic/Latinx (13.3%), and African American (17.3%). Caucasians were the group that utilized the most hospital services. Insurance Coverage varied amongst the individuals where Commercial (HMO.PPO) 27%; Medi-Cal was 22%; Medicare 43%; and Self-Pay and Other Payer 8%.

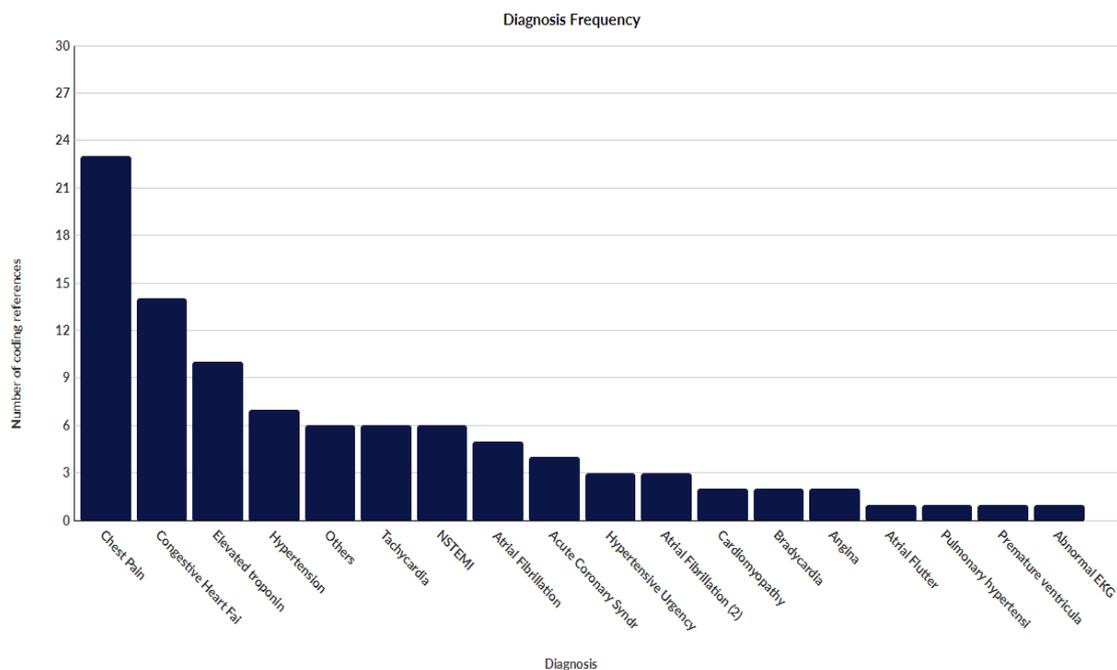
**Table 1. Demographic Characteristics of Cardiovascular Disease Population**

Variable	Frequency/mean	%
Gender		
Female	30	47.62
Male	33	52.38
Age		
Age=18-24	1	1.59
Age=35-44	8	12.7
Age=45-54	8	12.7
Age=55-64	14	22.22
Age=65-75	14	22.22
Age=76-85	11	17.46
Age=86-95	6	9.52
Age=96-100	1	1.59
Race/Ethnicity		
Race/Ethnicity=Asian/Pacific Islander	1	2.17
Race/Ethnicity=Black/African American	8	17.39
Race/Ethnicity=Hispanic/Latino	6	13.04
Race/Ethnicity=Other	1	2.17
Race/Ethnicity=White	30	65.22
Residing County		
Alameda	1	1.59
Fresno	51	80.95
LA	1	1.59
Madera	8	12.7
Mariposa	2	3.17
Insurance		

Commercial (HMO, PPO)	17	26.98
Medi-Cal	14	22.22
Medicare	27	42.85
Self-Pay and Other Payer	5	7.95

**Diagnosis**

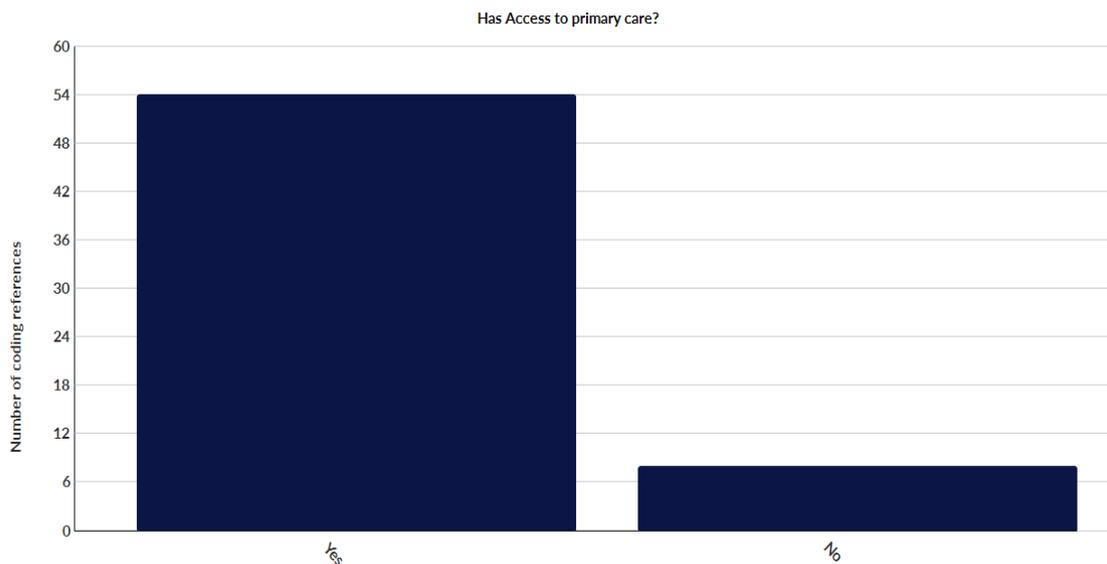
The participants were diagnosed with cardiovascular different conditions and symptoms including chest pains, congestive heart failure, elevated troponin, among other diagnoses. The most common diagnosis from the survey respondents was chest pain, which was followed by congestive heart failure, elevated troponin, hypertension, tachycardia, NSTEMI, and other diagnosis like Atrial Fibrillation with RVR, Acute Coronary Syndrome (ACS), Hypertensive Emergency, Atrial Fibrillation (A-Fib), and Angina. Many of these diagnoses like hypertension, congestive heart failure, and atrial fibrillation, are chronic cardiac medical issues. This means that one admission to an inpatient facility is not going to cure this problem. These medical issues require routine and consistent care in order to decrease the rates of mortality caused by them. Furthermore, when patients are diagnosed with cardiac issues in the Emergency Department, cardiologists are required to be consulted. While in inpatient care, cardiologists work to fix the acute issue, however frequent outpatient care is necessary for the best health outcome. The frequency of the diagnosis from the survey respondents is presented in the bar chart represented by Figure 1 below.



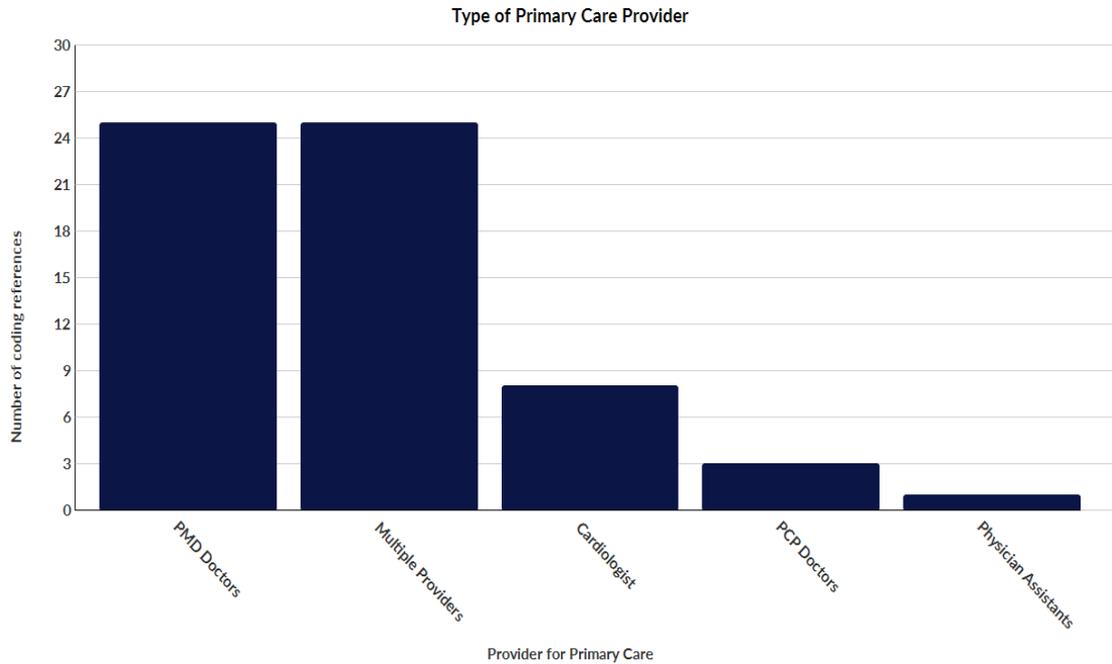
**Figure 1. Most Frequent Diagnosis Bar Chart**

### Accessibility to Better Medical Care

The survey explored the participants' accessibility to better medical care for their diagnosed conditions. The study was able to achieve this by investigating whether the participants had access to a primary care provider, access to education on their diagnosis and medication, the adequacy of the care received, and the medical knowledgeableness of the care providers. Most of the participants had access to primary care, where about 54 of the total 63 participants reported having access to primary care. The remaining seven participants reported no access to primary care for their conditions, see Figure 2 below. Access to health services in communities that are faced with multiple disparities is dependent upon an adequate supply of physicians and advanced practice professionals. In general, the Central Valley has suffered from long-term shortages of primary care physicians. Unfortunately, this then creates a domino effect contributing to poorer health outcomes within the region. For those who had access to primary care, a primary medical doctor was the common provider of primary care followed by a cardiologist. In some cases, participants had access to at least two types of primary care providers. In fact, the second most common group of participants was those that had more than one primary care provider; preceded by the group that only had a PMD as the sole primary care provider. Aside from the PMD and cardiologists, other care providers included physician assistants (PA) and Primary Care Providers (PCP) doctors, see Figure 3 below.



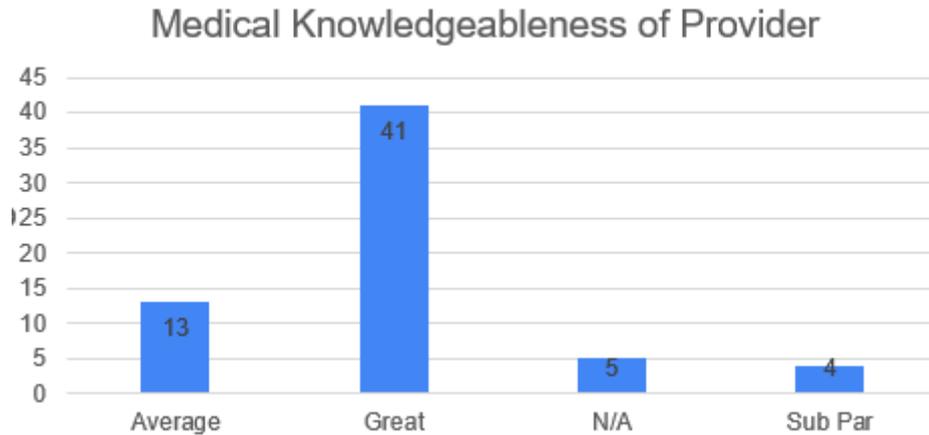
**Figure 2. Participant Has Access to Primary Care**



**Figure 3. Type of Primary Care Providers.**

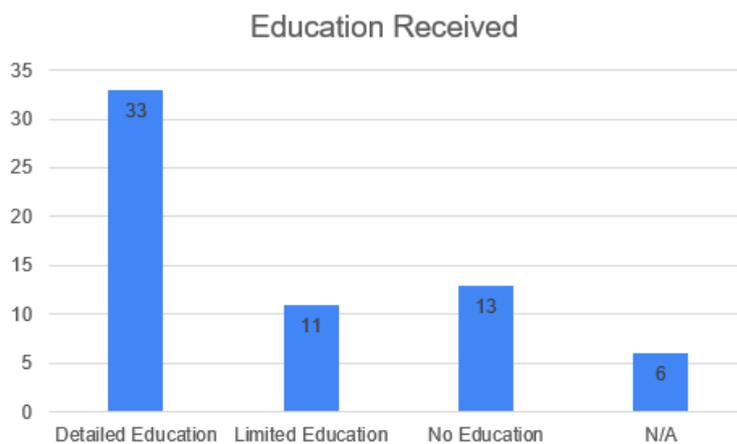
Having access to a cardiologist is important in some cases considering the diagnosis of some participants who recorded atrial fibrillation or any other condition that shows the risk of heart disease (Cleveland Clinic, 2019). Atrial Fibrillation is a disease that cannot be cured on its own. It requires immediate medical attention and the implementation of routine cardiac care. Furthermore, being evaluated in the Emergency Department allows for a patient to be seen by a cardiologist within 24 hours, instead of through outpatient care which can be up to 1 year. Therefore, it is a concern that some never had access to a cardiologist. Improving the effectiveness of care provided may require access to a cardiologist when the condition warrants it.

Another important aspect that helped the study to determine if the participants were receiving better care given their diagnosis was the perceived medical knowledgeability of the care providers. Participants rated the medical knowledgeability of the care providers using three categories, namely sub-par, average, and great. The majority of the participants (41 of 63) were confident that their care providers were greatly knowledgeable, with an additional 13 participants feeling that their care providers were only averagely knowledgeable in medical issues. Another four participants had care providers whom they perceived as having limited medical knowledge. The remaining five participants chose not to answer for this part of the survey. Figure 4 below represents the findings on the medical knowledgeableness of the care providers for this study's participants.



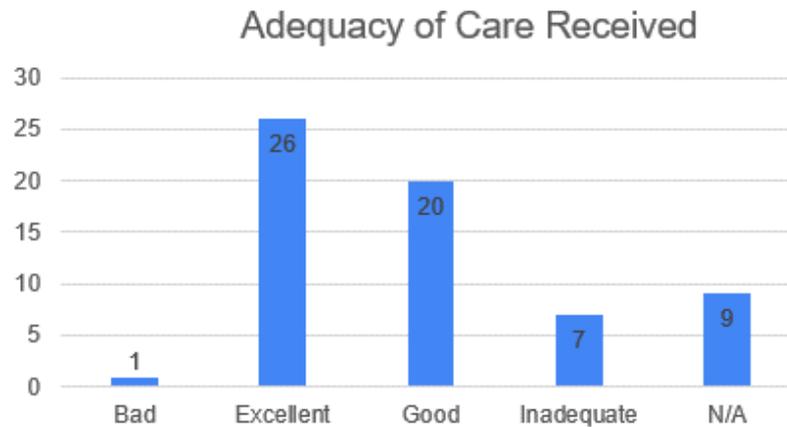
**Figure 4. Medical Knowledgeableness of Providers**

The study also inquired on whether the participants received education of the type of diagnosis they had and on the medication they received. Again, most of the participants reported receiving detailed and elaborate education on their diagnosis and medication. Eleven out of the total 63 participants reported receiving only a partial or limited education, where they were only given the diagnosis but no elaborate explanation. Another 13 of the 63 participants reported receiving no education whatsoever regarding their diagnosed disease or medication. Health literacy is important for each one of us. During our lives at some point in time, we will need to understand, have access to health information, and use the services provided to prevent negative health outcomes. In turn, providing in-depth health literacy to those diagnosed with CVD, will protect their well-being and enable all to manage their healthcare diagnosis when it occurs. The remaining six participants chose not to report on the education that they had received, see Figure 5 below.



**Figure 5. Intensity of Medical Education Received by Participants**

Lastly, the survey asked the participants to rate the adequacy of the care they had received based on four categories, namely, Inadequate, bad, Good, and Excellent. A total of 46 of the 63 participants felt adequately cared for, while eight of the participants felt that the care, they received was not adequate by reporting that the care was bad or inadequate. The remaining nine of the 63 participants never answered for this part of the survey. The results for the adequacy of the care received are presented using the bar chart presented in Figure 6 below.



**Figure 6. Adequacy of Care Received**

The preceding subsections of this research's findings led to an insight that some participants were having inadequate care for their diagnosis and conditions. This subsection utilizes qualitative analysis to explore the survey's open-ended questions on the challenges to a better and adequate care that the participants faced or are at a risk of facing. The study identified two distinct themes from the qualitative analysis, namely, (a) Challenges faced, and (b) Socio-Economic factors impacting care.

### **Theme 1. Challenges Faced**

Some participants faced barriers or challenges that prevented them from accessing better or adequate health care. The most notable challenge faced among the survey respondents was the problems arising from securing an appointment with the primary care providers either for diagnosis or follow-up for treatments. For instance, respondent 61 says that, "*I do not have a phone so scheduling appointments is difficult. Furthermore, I do not have appropriate transportation to get to my appointments.*" The respondent details the challenges he experiences with getting a cardiologist appointment, challenges which have prevented the participant from getting better and adequate care. Another barrier to adequate care was the problem arising with transportation to access the primary care or cardiologists. It was not easy getting transportation for the sick participants who needed to see a doctor or cardiologist, for example, respondent 12 notes this by saying, "*...Not having access to transportation and being too sick to use public transportation*", suggesting that transportation challenges were a barrier to getting better and adequate care.

### **Quality of Care and Accessibility to Provider**

Additionally, some participants experienced ineffective treatments or care; where the condition they were in remained the same despite the care they received. This was frustrating for some of the respondents since their health condition was not becoming better despite paying for the treatment, care, or appointments. On this respondent 24 says that “[The] PMD would “say the same thing but [it] would not get better”, indicating the frustration the participant had with the ineffective treatment or care that the participant was receiving. Another challenge was the lack of access to a cardiologist or a primary care provider for some participants, therefore, it was impossible for them to receive care to begin with. This was the case of respondent 48 who reported no access to either a cardiologist or a PMD, “I do not have a PMD or cardiologist.” The lack of these critical primary care providers inhibits the adequacy of health care received.

### **Coverage of Insurance**

The respondents also complained of the high cost of medical bills and the challenges they had experienced with insurance for medical bills. For instance, respondent 47 stated, “Medications and co-pays are very expensive.” This suggests that the high cost of medications is a barrier to receiving adequate or better health care for some of the participants. Respondent 18 complained of limited education on the medication received, saying that, “Feels like the cardiologist is in a hurry, feels like she doesn’t receive adequate education about medication regimen changes.” Therefore, limited education on medications is a barrier to better and adequate care. Miscommunication between the patient and the care providers was also a challenge and a barrier to better care, as reported by respondent 15, “Miscommunication with PMD.” The miscommunication that respondent 15 had with their PMD led to the participant not getting adequate care. Lastly, some participants felt isolated in the nursing homes, a frustration which negated the experience they had with the care provided. For instance, respondent 56 reports that he feels lonely and isolated in the nursing home where he receives medical care, “Since I am older, I live in a skilled nursing facility which is very lonely.” The feeling of isolation during care or treatment inhibits the adequacy of the care received.

### **Theme 2. Socio-Economic Factors Impacting Care**

The second and last theme explored the various socio-economic factors that impact care and therefore are a factor that determine the adequacy of care received. From the participants’ responses, the study identified five distinct socio-economic factors that impact care adequacy, namely, cost of healthcare, frequency of appointments, personal or underlying health issues, transportation, and lastly, family chores.

The cost of healthcare was a very influential and common socio-economic factor that impacted the respondent’s health care. In cases where the high cost of medical care was reported, the respondents felt that it hindered their better experience with the health care received. The frequency of appointments also appeared as a common socio-economic factor for health care adequacy, where too many appointments became a barrier to better care since some respondents complained of not having time to attend to the

many appointments. As reported by respondent 33, *“Too many appointments to constantly keep up with and not feeling well health-wise,”* suggesting that many appointments were hard to keep up with thereby a barrier to a better care experience. Another socio-economic factor for health care was the personal or underlying health issues that a participant had. For instance, those who had cancer noted that it negatively impacted their experience with the health care that they had received. Respondent 57 reports that *“Having cancer at a young age has been very difficult and has impacted my health in many unexpected ways.”* This clearly illustrates how having an underlying disease like cancer affects the healthcare experience of participants. Transportation was another factor that impacted a participant’s experience with the health care that they received, where the ease of transportation led to a better experience with the health care. Lastly, performing family or household chores was listed as a factor that impacts the experience with health care. For example, the case of respondent 57 who has been affected by performing family chores, *“I have a large family, so I am always taking care of my kids before my health which has sometimes affected my health.”*

These socio-economic factors when not favorable can lead to bad and inadequate care that the participant or patients receive. Therefore, strategies to improve the care provided to diagnosed patients should be informed and guided by the influence that these socio-economic factors have with regard to the healthcare experience.

#### **4. Discussion**

Two-way communication is vital when conducting qualitative research, especially with sensitive healthcare issues. Therefore, this study was best suited for a semi-structured qualitative study. Because researchers can get firsthand narratives of practitioners’ perceptions, behaviors, and roles, semi-structured interviews have a high level of validity (Ahlin, 2019). Our research discovered important barriers that could be typical to communities that are facing social economic distress and access to primary health care providers.

A community’s entry point to many health services are through the healthcare provider. Primary healthcare providers are trusted sources of information for many people, especially those who are seeking the answers to their medical needs. It is essential for every individual to sustain an ample comprehension of their medical concerns because everyone will need health care services at some point in their lives.

All individuals should be taking care of themselves on a regular basis and not when a concern arises sending the person to a clinic or hospital. Health literacy can assist individuals in safeguarding, maintaining, and improving their health. Additionally, healthcare systems must develop and offer information and services that people can use most efficiently with their current skill sets. Primary healthcare providers need to work with public health educators to help transform health literacy. This would help those in need to become familiar with CVD health information and the services that are provided to them. Public health educators can build the individual’s health literacy skills over time. This,

in turn, will enable a person to take control of their life and to exhibit healthy outcomes. Additionally, healthcare systems need to seek assistance from federal government outlets. The Agency for Healthcare Research and Quality (AHRQ) 2020 developed a Patient Engagement Tool. The AHRQ Health Literacy Universal Precautions Toolkit assists healthcare systems by providing access to all levels of health literacy to all patients. The toolkit connects healthcare professionals with their patients by asking questions and building trust between the provider and patient. Building trust can lead to a better understanding of disease processes which can develop into better health outcomes. Healthcare facilities have begun taking accountability for ensuring that everyone, especially the vulnerable, is able to discover, comprehend, and use health information and services in light of the fact that the healthcare system is excessively complicated.

There is a trend in the rise of high healthcare costs associated with cardiovascular disease. According to the Centers for Disease Control and Prevention, heart disease costs the United States about \$219 billion each year. This total includes the cost of healthcare services, medications, and premature death. California Department of Public Health indicates that the annual health care costs for CVD in California have been estimated at \$37 billion which is far greater than any other chronic condition. Although the healthcare costs are high on the commercial side, one needs to consider the high costs of healthcare to the consumer. Individuals should not have to become indebted because of increased healthcare costs due to a disease process. The Kaiser Family Foundation states the average annual premiums in 2022 are \$7,911 for single coverage and \$22,463 for family coverage. The average family premium has increased 20% since 2017 and 43% since 2012. Approximately 7.3 million Americans suffering from cardiovascular disease are presently without health insurance. Consequently, they tend to receive suitable and prompt medical treatment less frequently leading them often experience more severe health consequences, which include increased mortality rates (The American Heart and American Stroke Association). Accessibility to healthcare and providers is a crucial key component when considering CVD.

Access to transportation is vital to increase positive health outcomes. Studies have shown that chronic care appointments among people who hold a driving license are 2.29 times higher than among people who do not (Arcury, 2006). Additionally, giving up driving can increase the possibility of missing an appointment or even delaying trips that are critical to chronic care cases (Mattson, 2011). Individuals who do not have appropriate transportation may result in decreased positive health outcomes and may end up facing multiple health disparities.

## **5. Study Limitations**

This was a qualitative semi-structured interview of participants who came to the emergency department with cardiac disease complications. Because participants were in a healthcare setting, they may not have provided honest responses. One of the most predisposed values to being truthful is associated with respect for the patient as a person who is able to make decisions. This is because, to determine a course of action and governance of care for a patient, the patient requires nothing less than truthful information

(Zolkefli, 2018). However, this does not likely mean that the patient is being 100% honest. In two recent national surveys of 4510 Americans, 60%–80% admitted they had not been forthcoming with doctors about information that could be relevant to their health. More than a third of respondents said they concealed that they disagreed with a doctor's advice. Almost as many kept quiet when they didn't understand treatment instructions (Vogel, 2018). Although the study did have individuals who refused to answer some of our questions, it is impossible to know for certain, whether their answers were honest or if they were just withholding information that they have previously lied about to their primary healthcare provider. Qualitative research has been a topic of discussion for having the appropriate sample size. Qualitative research experts argue that there is no straightforward answer to the question of 'how many' and that sample size is contingent on a number of factors relating to epistemological, methodological, and practical issues (Vasileiou et al., 2018). Therefore, a more empirical study that focuses more on statistics may contribute to the knowledge base of this research study.

## 6. Conclusion

The findings of this study indicate there are many socioeconomic factors that, when not favorable, can lead to inadequate care towards the patient. Some participants faced barriers that prevented them from accessing better or adequate health care. Therefore, strategies to improve the care provided to diagnosed patients should be informed and guided by the influence that these socio-economic factors have with regard to the healthcare experience. From the participants' responses, the study identified socio-economic factors that impact care. This study manages to tie together the different aspects of patient barriers when receiving healthcare for CVD and the use of primary care physicians relating to ED visits. It identified the needs of those diagnosed with cardiovascular disease and the socio-economic challenges they faced. Addressing health literacy is not just a Central Valley priority, it is a national priority. Recently, Healthy People 2030, included health literacy as one of the five overarching goals to attain better health and well-being. Healthy People 2030 also adopted two definitions that together constitute health literacy, personal health literacy and organizational health literacy. Personal health literacy is important to CVD. It is the ability to understand and find useful information and services that are related to healthcare decisions and outcomes. Marginalized populations can benefit from personal health literacy with the potential to decrease health disparities. Organizational health literacy establishes that healthcare organizations are providing equitable useful information and services that are informed and easy to access. The objectives of organizational health literacy focus on provider-patient communication and shared decision-making (Healthy People 2030). While perceptions are important studies to conduct, there needs to be more empirical testing and modeling through statistical analyses. In this case, the focus was specifically on the primary healthcare provider and the barriers faced with CVD in the Central Valley when admitted to the emergency department.

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