Barriers To Access of Care in Cardiac Rehabilitation

Amongst People of Low Socioeconomic Status (SES) in the Commonwealth of Kentucky

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INTRODUCTION

Access to care is one of the top reasons individuals do not seek out medical help. This lack of medical attention for some individuals can be the difference between life and death.[1] In 1965, to combat these health disparities, President Johnson signed into legislation a bill that established Medicare and Medicaid programs.[2] The purpose of this bill is to protect the health and well–being of families all over America, especially those of lower socioeconomic status by providing health insurance. In the state of Kentucky, those that are covered by Medicaid include persons aged 65 or older; blind or permanently disabled persons; adults from 19-65; children up to age 19, and pregnant women. This program is meant for those who are low-income individuals and need assistance with healthcare costs.[3] However, there are income limits that restrict who can and cannot receive Medicare in the state of Kentucky. In this study, we will be diving deeper into the disparities that still may plague those with Medicaid.

PURPOSE OF STUDY

This study will compare and contrast individuals who have Medicaid versus those who have a different type of insurance and their likelihood of attending cardiac rehabilitation. We chose to look at one of the most prominent causes of death in Kentucky (KY), cardiovascular disease, that may occur between individuals who have Medicaid versus those who do not. When it comes to cardiovascular disease, this study will specifically look at cardiac rehabilitation participation post myocardial infarction (MI), percutaneous intervention (PCI), and coronary artery bypass graft (CABG). The goal of this study is to see if those who have Medicaid insurance may be less likely to attend cardiac rehabilitation after one of these medical events when compared to those who have private insurance. This care option was chosen specifically due to the importance of cardiac rehabilitation. While many patients want to attend cardiac rehabs, often a barrier is the financial burden it puts on an individual, especially if their insurance is unwilling to cover the expense of attendance. The decision for this is due to the fact individuals who receive Medicaid are considered to be low-income, and this may be a way to show the disparities that can occur between low socioeconomic status individuals and those who can afford their healthcare. Ultimately, researching peer reviewed articles, organizing relevant statistical data, and challenging biases can hopefully provide some clarity on the root problem of the growing health disparities in KY.

METHODS

Study Design:

The study looked at two different groups that were both recommended for cardiovascular rehabilitation due to having a procedure or a diagnosis of a MI, CABG or PCI. The two groups were distinguished by their socioeconomic status (SES). Those that were described as low SES (income of $42,300 or less) were on Medicaid, while their counterparts were on private insurance. The main population that was looked at were both males and females between the ages of 18-64 years old.

Data Collection:

The data came from the University of Kentucky Center for Clinical and Translational Science (CCTS). With the help of the University of the Kentucky Statical department, the data was sorted out based on the patient's age, health insurance and if they had a history of a CABG, PCI, or MI. With this data, a question arises to see a direct correlation between a patient's health insurance (Medicaid and Private Insurance) and their engagement in cardiovascular rehabilitation. In addition to this, the Statistical Department was able to look at the different counties in Kentucky and see the amount of times patients participated in cardiac rehabilitation based on where they lived and the distance to the rehabilitation facility. The project described was supported by the NIH National Center for Advancing Translational Sciences through grant number UL1TR001998. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

RESULTS

The data shows a direct correlation between insurance type and rehab visits completed. ***Table 1*** shows 541 unique patient identifiers were discovered out of 2,008 patients (CCTS). Based on the sample size, Kentucky patients utilized private (other) insurance at a higher rate of 74.7%, Medicaid at 21.8%, and both types at 3.5%.

Insurance Type	Count	Percentage	Mean (Std Dev)	Median
Medicaid	118	21.8%	12.25 (13.77)	6
Other	404	74.7%	20.22 (19.45)	15.5
Both	19	3.5%	19.21 (35.09)	8
Total	541	100.0%	18.44 (19.37)	12

Table 1. Summary of patient insurance types

Patients with private insurance (other) who had a CABG utilized a Q3 range of 30 rehab visits ***(Figure 1). Figure 2*** displays patients on Medicaid completing less rehab visits Q3 23 with the presence of an MI. Cardiac visits are highly concentrated in urban areas (ex. Fayette, Jefferson county) when compared to outlying rural counties (ex. Knott, Whitley) ***(Figure 3)***. Factors that affect rehab visits include transportation, access to cardiac rehab centers, socioeconomic status, etc.

Figure 1. Rehab visits by presence of CABG

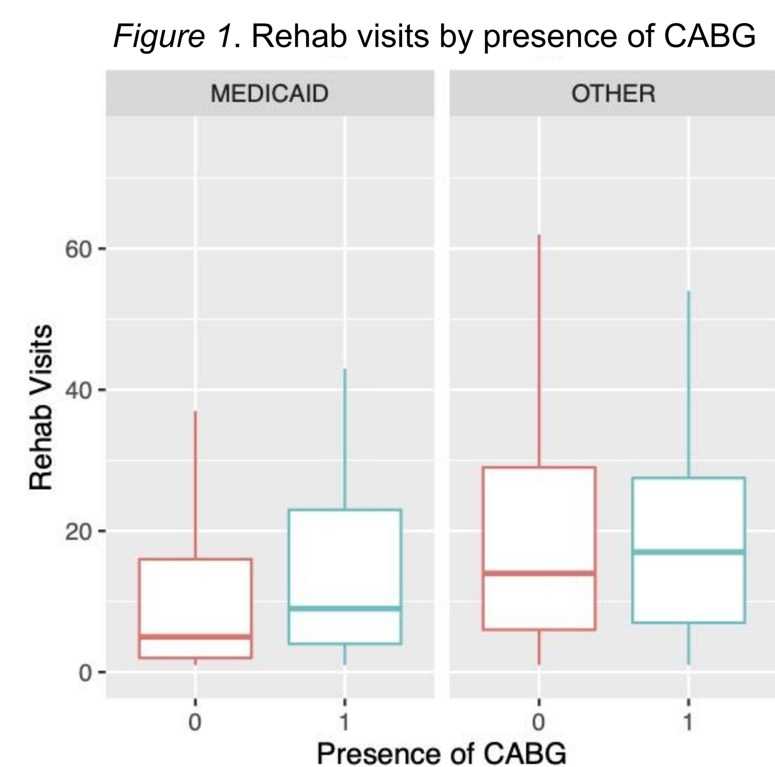


Figure 2. Rehab visits by presence of MI

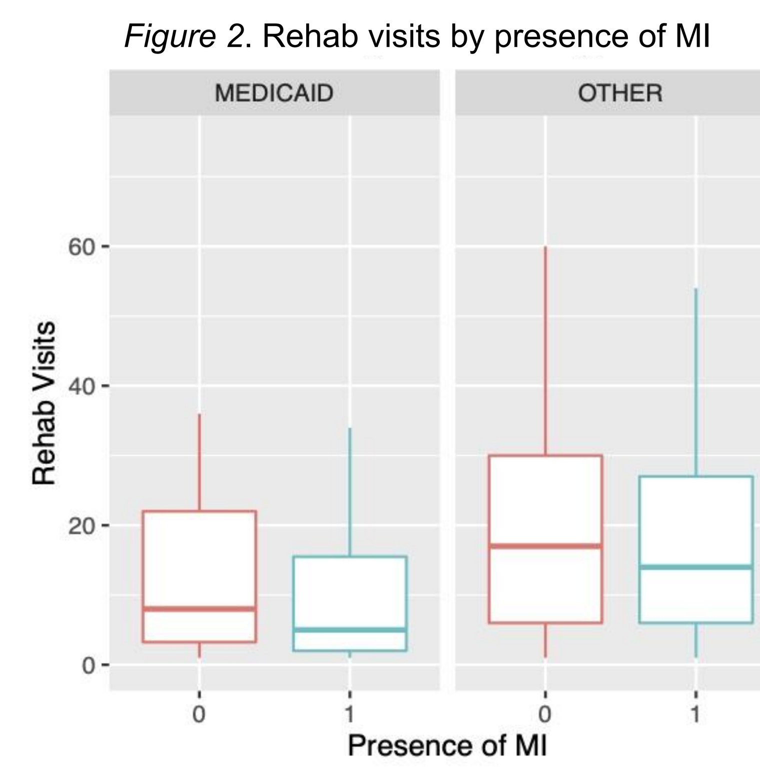
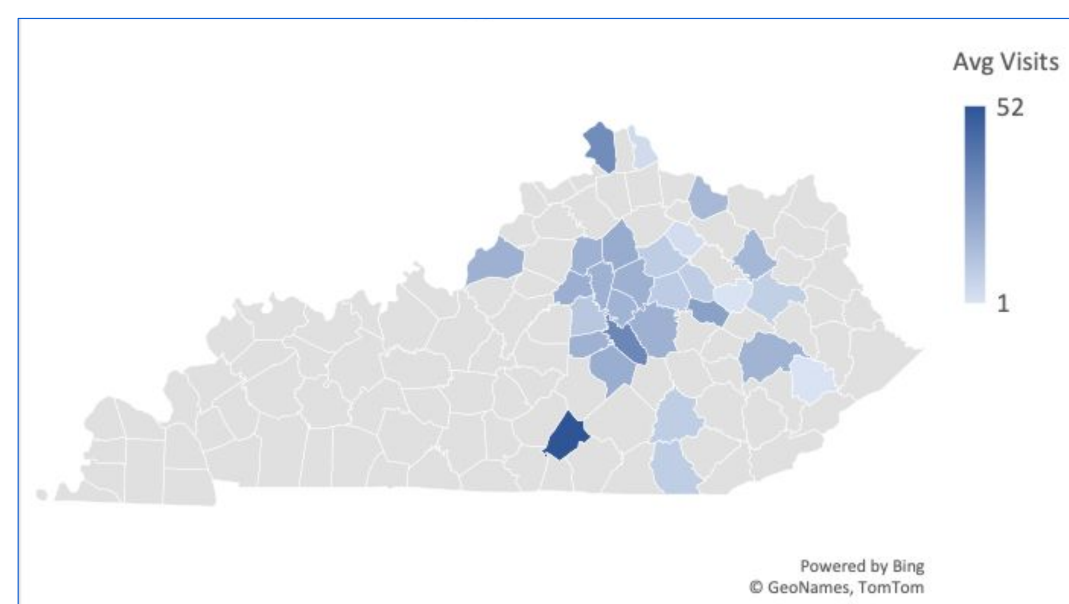


Figure 3. Average patient visits by county



SUMMARY OF RESULTS

- A total of 541 participants completed cardiovascular rehabilitation prescribed after undergoing an MI, CABG, or PCI procedure.
- Results show a relationship between the type of insurance and the amount of cardiac rehabilitation (CR) visits utilized. More CR visits occurred with patients on private insurance (other).
- Patients living in rural counties further from Fayette and Jefferson had a lower average of cardiac rehabilitation visits.

DISCUSSION

This study shows that patient populations dwelling in low socioeconomic (SES) communities had lower participation rates in cardiac rehabilitation (CR) post myocardial infarction (MI), percutaneous intervention (PCI), and coronary artery bypass graft (CABG). Insurance is a confounding variable in participation, with the majority of patients living in low SES communities having medicaid for coverage rather than private insurance. This study extends previous work by showing the correlation between the growing healthcare disparities and access to care due to affordability and location.[3]

Attendance rates for CR according to the data, were drastically lower with medicaid patients when compared to private insurance coverage. Although limited by the accuracy of the attendance sample size when collecting data on patient populations, the data still shows a positive correlation with low SES and a decrease in CR participation. Variables consisting of insurance, location, financial stability, are all contributing factors to a patient's ability to obtain post-operative rehabilitation. The findings from the data replicate other work and suggest that patients are in need of additional resources to overcome barriers that hinder their ability to participate in CR. In general, a more intensive approach towards barriers should start during hospitalization prior to referring a patient to a rehabilitation site.

The current study had strengths and limitations. Strengths included, samples being drawn based on zip codes, income guidelines according to Kentucky benefits for medicaid, and data mapping on county participation in CR. There are a number of limitations, including how gathered data could be limited to areas with a CR site available and not consider their availability in rural areas. The study did not incorporate diversity or take into consideration how variables can differ amongst patient populations culturally. Future research in this area can include patient perspectives rather than statistical data alone. Also, research initiatives on how to implement a plan to break down barriers could fix recurring problems and improve CR data outcomes. Lastly, future research may benefit from community outreach in low SES communities when gathering data by using proportional measures that account for the different patient populations in CR.

CONCLUSION

Access to medical care including cardiac rehabilitation is a barrier for many Americans. Patients requiring cardiac rehab post-MI, PCI and CABG are experiencing more severe health concerns which makes accessing this service even more crucial. This study specifically observed the relationship between patients with Medicaid insurance and their likelihood of attending cardiac rehab compared to those patients with private insurance. The results of the study concluded that patients with Medicaid insurance had lower cardiac rehab attendance rates compared to patients with private insurance. Many external factors further exacerbated the disparities and access to cardiac rehab services including geographic location and distance to cardiac rehab, financial ability, insurance type, etc.

REFERENCES