

INTRODUCTION

This research study focuses on the limitations associated with a lack of transportation access and the related barriers that impact health outcomes for patients. These barriers include but are not limited to: lack of vehicle access, inadequate quality or maintenance, road infrastructure, transportation costs, long distance or lengthy times to reach services, and adverse policies that affect travel including driver's license^A. 3.6 million people in the U.S. do not obtain medical care due to transportation disadvantages⁽¹⁾. These barriers may result in missed or delayed health care appointments, increased health expenditures and overall poor health outcomes¹.

With increased transportation access and more attention brought to the disparity in rural communities, patients can be educated about how to integrate primary prevention into their daily lives. This may allow for illnesses and diseases to be caught earlier, thus improving the health outcomes of the rural population².

PURPOSE OF STUDY

This project investigates the question: How does access to transportation affect health outcomes in rural populations?

METHODS

This exploratory study surveyed a convenience sample of patients from Eastern Kentucky to examine perceptions regarding transportation and access to care. A mixed-method cross-sectional design was employed to distribute an anonymous survey to adult patients of rural primary care clinics. The research survey was then posted in various primary care facilities waiting rooms across rural parts of the Appalachian region of Kentucky. These sites include St. Claire Primary Medicine-Morehead, St. Claire Healthcare- Frenchburg, and St. Claire Healthcare- Olive Hill (refer to Figure 2).

The survey consisted of 11 questions that included patient demographics as well as patient perception on their healthcare. Patients accessed the survey via QR code from the flyers posted in their waiting rooms. This study was reviewed and approved by the UK IRB (protocol 81975).

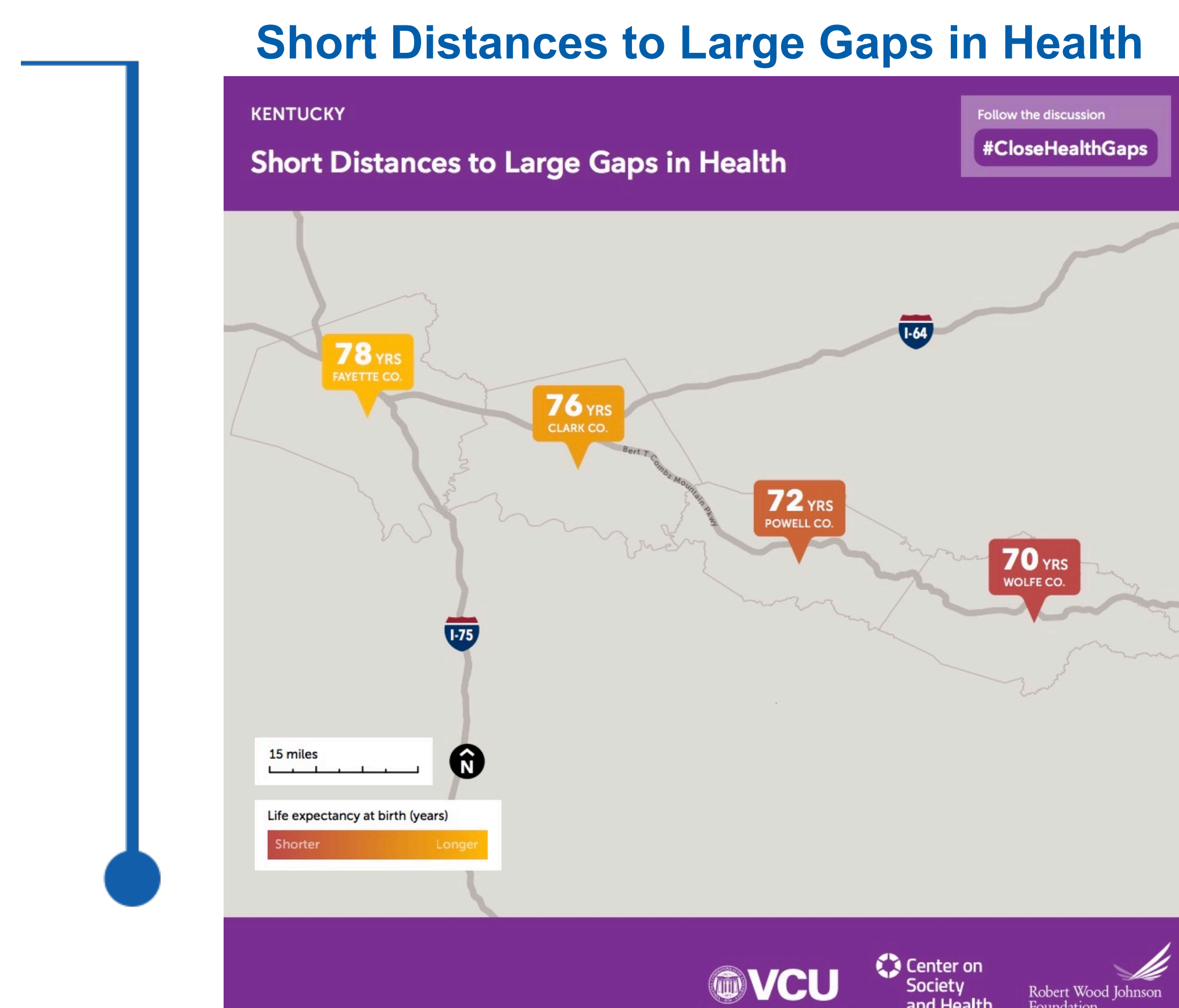


Figure 1: This map shows a visual representation of the life expectancy decreasing dramatically while traveling from central to eastern Kentucky³.

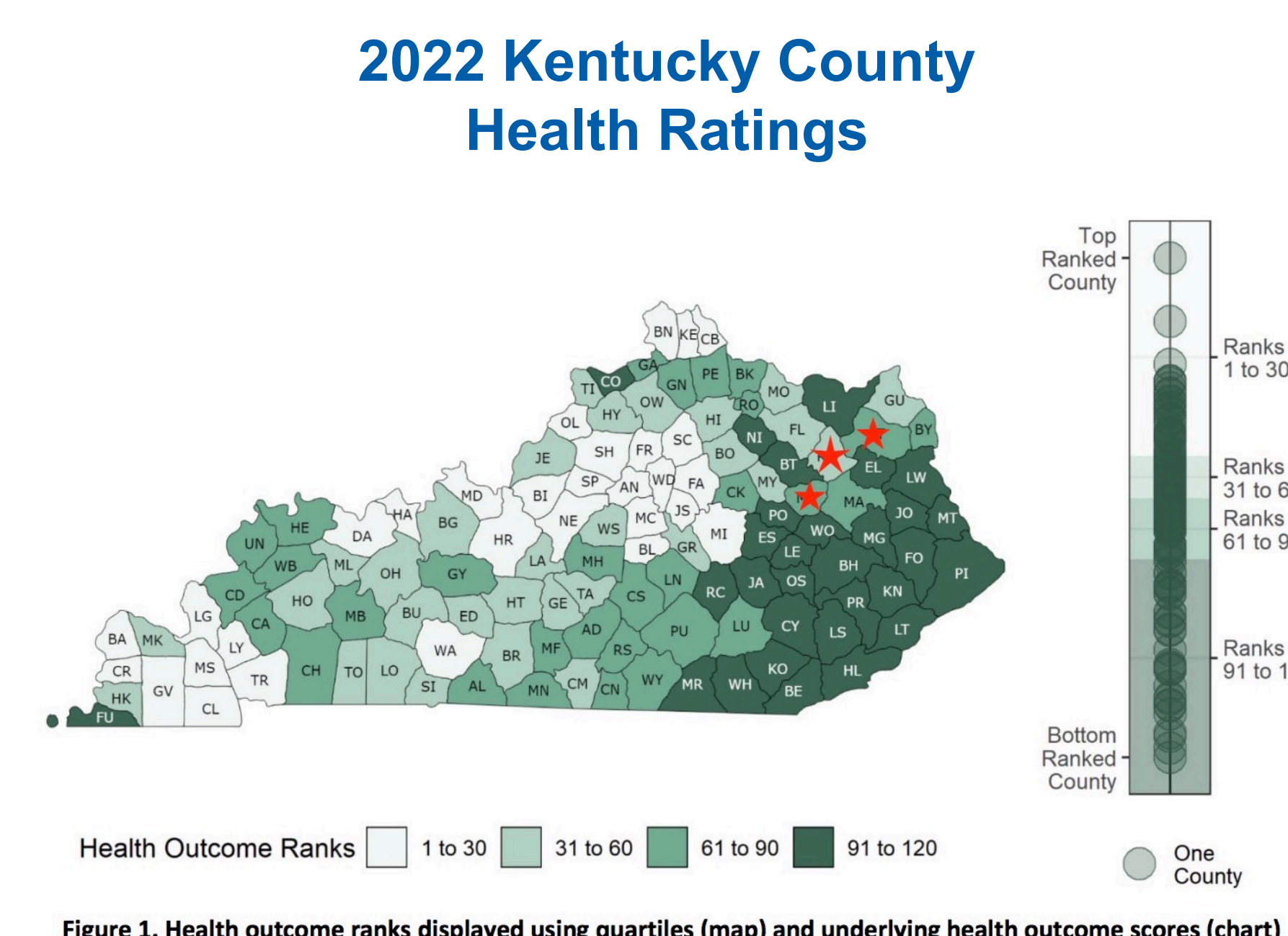


Figure 2: This map shows the health outcome ranks by county. The stars represent where the survey was conducted⁴.

SURVEY QUESTIONS

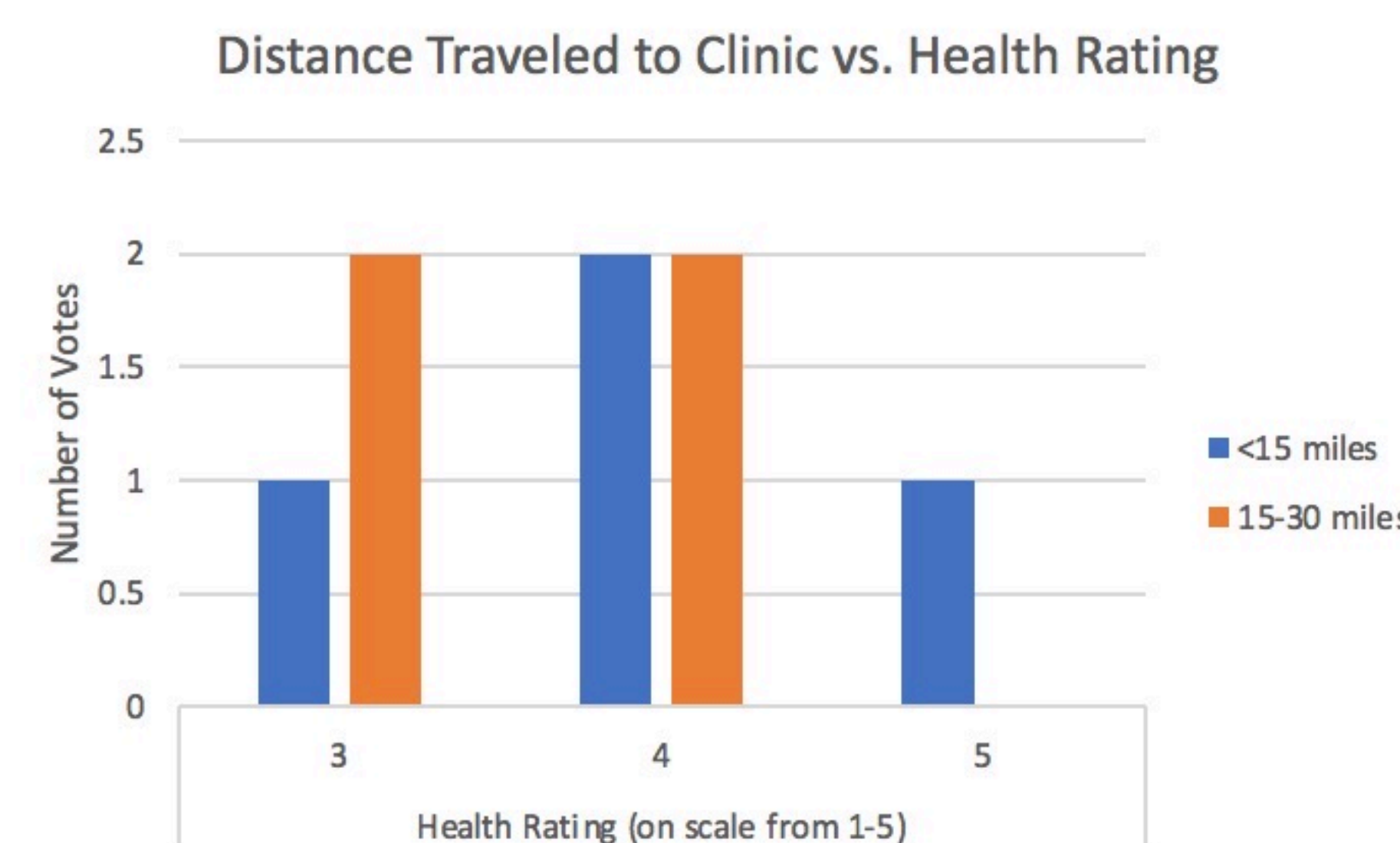
1. Select your age group:	30 or younger, 31-40, 41-50, 51-60, 61-70, 71-80, 81-90, 90+
2. What gender do you identify as?	Male, Female, Non-binary, Transgender, Prefer not to respond
3. On a scale of 1-5, with 1 being poor and 5 being excellent, how would you describe your health?	1, 2, 3, 4, 5
4. Select any of the following that you have been diagnosed with:	Diabetes, COPD, Hypertension, High cholesterol, cardiovascular disease, arthritis, cancer, chronic kidney disease
5. What is the most common reason for your appointments?	Annual check-up, follow-up appointment, specialty care, general sickness/illness
6. How often do you go to your primary care provider?	Once a year or less, 2 times per year, 3-4 times, 5-6 times, 7-9 times, 10-12 times, 12+ times per year
7. Have you missed a health care appointment within the last year?	Yes, No
If selected yes, what was the cause?	Transportation, Expense, Insurance, Distance, Scheduling conflict
8. What is your most common mode of transportation to your health care appointment?	Self driven, Family/friend, insurance provided (ex: medi-cab), public (ex: bus, uber)
9. How far do you travel for your health care appointments?	15 or fewer miles, 16-30 miles, 31-45 miles, 46-60 miles, 61 or more miles
10. Do you feel transportation has prevented you from getting to your health care appointments?	Yes, No
If selected yes, why?	Cost, lack of driver's license, distance, vehicle availability, insurance coverage
11. Have you declined a specialist appointment?	Yes, No
If selected yes, why?	Transportation, Expense, Insurance, Distance, Scheduling conflict

RESULTS

The survey showed that all 8 respondents lived within 30 miles of the clinic and 7 of those 8 drove themselves. On a scale of 1 to 5, with 1 being poor health and 5 being excellent health, 3 respondents rated their health as a 3, 4 rated their health as a 4, and 1 rated their health as a 5. Half of the respondents traveled less than 15 miles from the clinic sites, including the one who rated their overall health as a 5.

When respondents were asked if transportation hindered them from getting to healthcare appointments, 8 out of 8 respondents responded with no.

Those who rated their overall health as a 3 reported diagnoses of diabetes, COPD, HTN, high cholesterol, and cardiovascular disease. Arthritis and HTN were recorded the most frequently at 3 responses.



DISCUSSION

Since the majority of the respondents ranked their health lower the further they lived from their primary care provider, one would expect transportation to play an issue to some degree. However, all respondents reported that transportation was not an issue. This was an unanticipated finding that does not align with contemporary literature.

Overall, the results of the survey did not support transportation being as large of an impact on barriers to care as expected from previous literature. It is unclear if these results are an outcome from a small sample size or other varying factors. Therefore, further research is needed. This is important for healthcare systems and providers to be aware of to actively reduce the negative impact of transportation barriers on patients for better health outcomes.

CONCLUSION & FUTURE CONSIDERATIONS

Through this study, an exploratory tool was piloted to gather patient perception data about transportation as a potential barrier to care. The strength of this research is to provide future researchers a data tool. By doing so, this adds to the existing literature regarding the need for research around the relationship between rural areas and transportation.

Limitations that were encountered during this research merit acknowledgement. Moving forward with this piloted exploratory tool, future research may consider alternative methods of survey distribution and consideration of topics such as telehealth. Additional considerations may also include timing and duration of study period, as well as number and geographic diversity of participating of clinics sites. Abundant literature points to a relationship between transportation and barriers to care; therefore, future research should seek to understand needs, perceptions, and challenges faced by rural populations.

REFERENCES

We would like to give acknowledgement to UK statistician, graduate student Jeffrey Jones. Provided is a QR code to our listed references.

