Relationship Between Race, Age, and Telehealth Usage

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ABSTRACT

- Electronic health record (EHR) data is an electronic version of patients' medical charts. It may include data on a person's demographics, health status, medical care, and medical appointments.
- This data has been pulled from the Mount Sinai Health System. It contains information on patients seeking oncology treatment. Each observation represents one patient's visit to the Mount Sinai Hospital. Included in the data are main demographic variables such as patient's age, sex, race, and marital status
- Older individuals, especially those identifying as Other, tend to lean towards in-person visits rather than telehealth services, indicating certain significant age and racial disparities in telehealth usage.

OBJECTIVE

- Investigate the relationship between a patient's age, race, and whether or not they were likely to use telehealth.

- Investigate different relationships in relation to patient's age, race, and whether or not they were likely to use telehealth

- Are there any other factors that have direct correlations with each other?

METHOD

- Use R Studio version 4.4.0 (2024-04-24) to run analyses and plot graphs for our data.

- Use the data provided by Mount Sinai Hospital to create analyses and work with the variables given

- Explored the Data given to us, which meant tidying up the data, seeing how the data answered our questions and then created simple graphs and analyses to help understand the variables better.

- Some examples are Exploratory Analysis of Data, the R packages (tidyverse, dplyr, ggplots etc..) to name a few.

- Formed graphs and tables, it allowed us to demonstrate visually how the data reflects the patient decisions.

- Ran a logistic regression to analyze the data using the variables Age and Race whilst having the race 'White' as the leading variable.

RESULT

Distribution of Age by Telehealth Usage
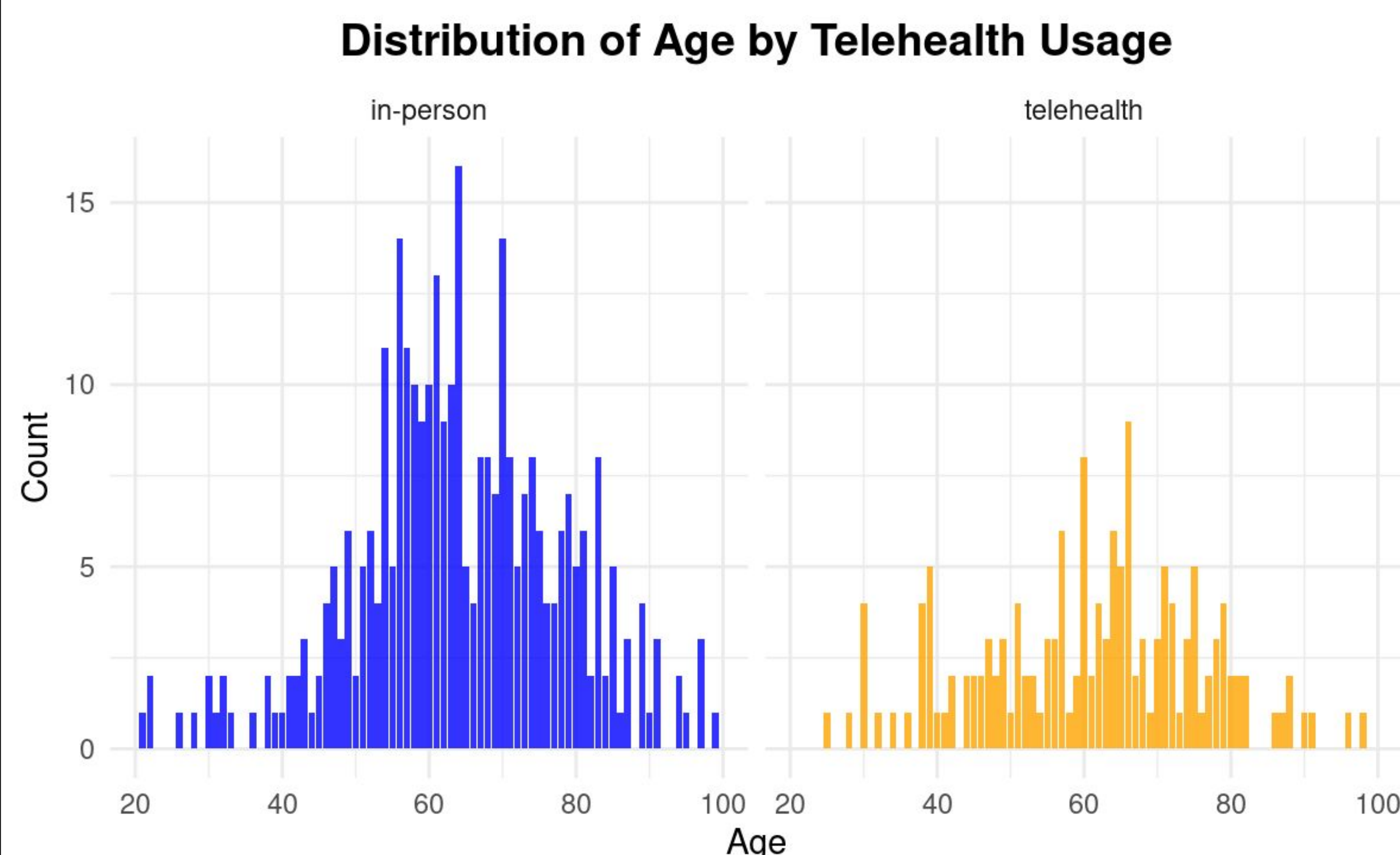
- Looking at the graph above we can see that there's a significant amount of people who prefer more in person visits rather than telehealth visits. Additionally, we see that the majority of people between the age of 55 to 70 prefers to have in person hospital visits.

Proportion of Age Groups (65) by Race and Telehealth Usage
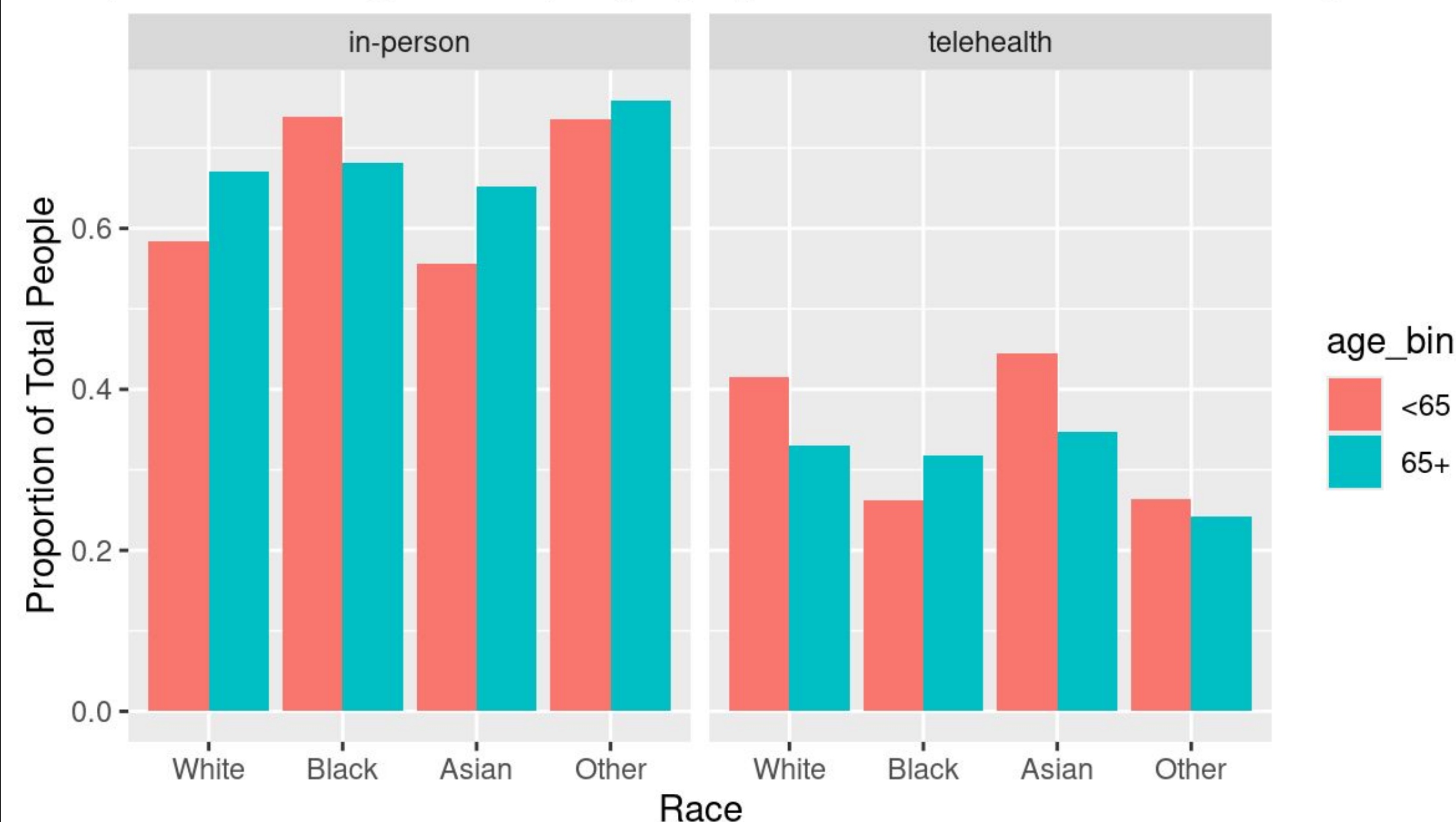
- By comparing race and age group of over and under 65 years old with telehealth usage, we can see that the majority of people still prefer to be in person rather than use telehealth. However, people who identify as White and Asian and are less than 65 years old have a higher proportion of people who use telehealth.

CONCLUSION

- The distribution of ages among telehealth users suggests that older individuals may prefer or require the direct interaction of in-person visits more than younger individuals, who either might be more comfortable with or have better access to telehealth services.

- Individuals older than 65 years old show a higher proportion of in-person visits across all racial groups compared to telehealth usage, indicating a preference for in-person consultations among the elderly.

- Upon creating a logistic regression analysis, we found that the variables race-other and age were statistically significant at the 5% level when compared to Race-White.

- The analysis suggests significant disparities in telehealth usage based on race and age. Specifically, the combinations the race 'Other' and older individuals are less likely to use telehealth services (0.538 times). As well as Black individuals being 0.608 times less likely to use telehealth as opposed to White individuals.

- While race and age might be used to somewhat determine whether individuals lean towards the use of telehealth or have in-person visits there's still much more to factor. And more of a sample that can be used that can result in better analyses.

- For example, research was done comparing telehealth and in-person visits during COVID-19 and found very interesting results such as telehealth having a higher percentage of individuals returning and mixed dissatisfaction percentage based on Provider or Clinical experiences (Bilmoria et al.)

BIBLIOGRAPHY

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