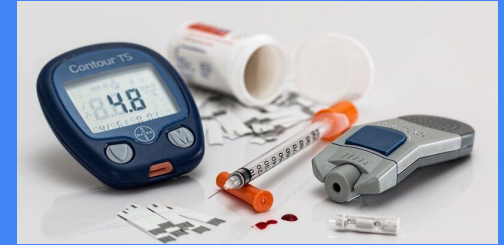


# Identifying Key Predictors of Diabetes Using Survey-Based Health Indicator

Zach Hyman, John Grissinger, Jordan Wood, Raghad Ali



# Introduction:



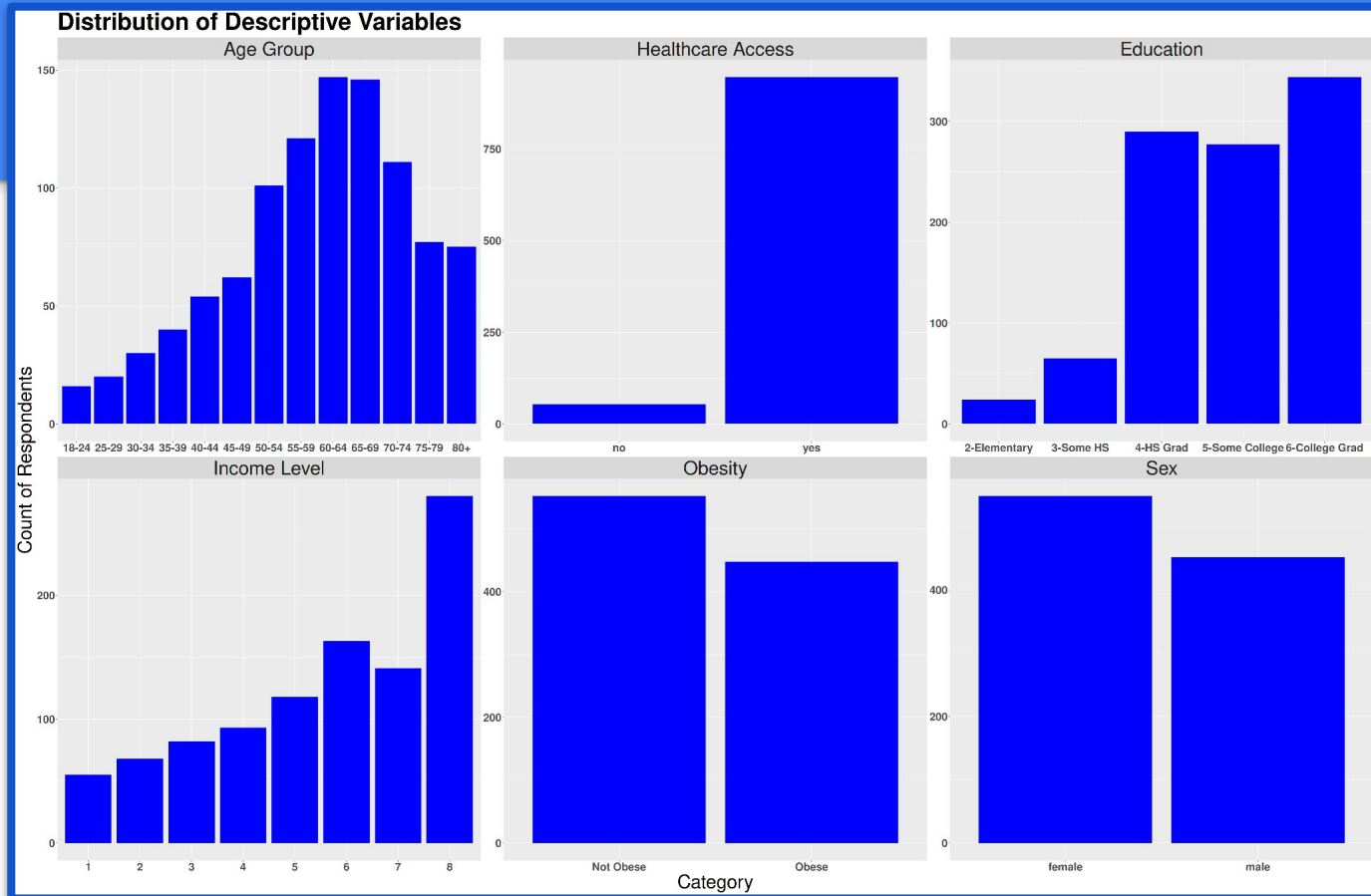
- Diabetes is one of the most prevalent chronic diseases affecting Americans
- The disease is often accompanied by comorbidities, simultaneous (often medical) conditions, that affect diabetes and the potential development of type 2 diabetes (a type of diabetes developed later in life)
- Finding what health, resource access, and lifestyle indicators, are most correlated with diabetes can help us understand how lifestyle changes can be used to reduce the likelihood of developing type 2 diabetes
- We predicted that diet, income, physical health, and high cholesterol would be the most predictive of a respondent having diabetes

# The Data: Diabetes Health Indicators Dataset

<https://www.kaggle.com/datasets/alexteboul/diabetes-health-indicators-dataset>

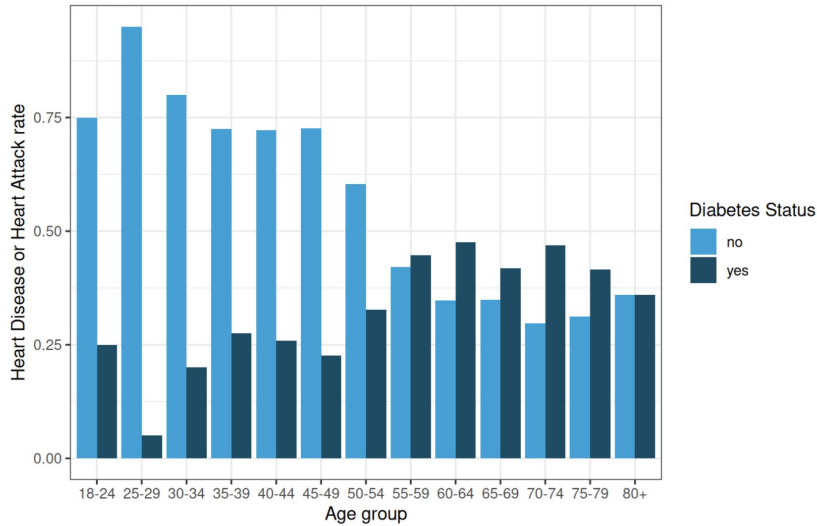
- The dataset we used for analysis was originally obtained using the CDC's 2015 Behavioral Risk Factor Surveillance System (BRFSS) responses and cleaned by Alex Teboul
- The BRFSS is a series of telephone surveys conducted by the CDC surveying over 400,000 Americans from all 50 states, District of Columbia, and U.S. territories
- The original dataset includes 22 columns , and 253,680 rows of responses, and our consolidated data includes 20 columns and 1,000 rows of responses

# The Respondents:

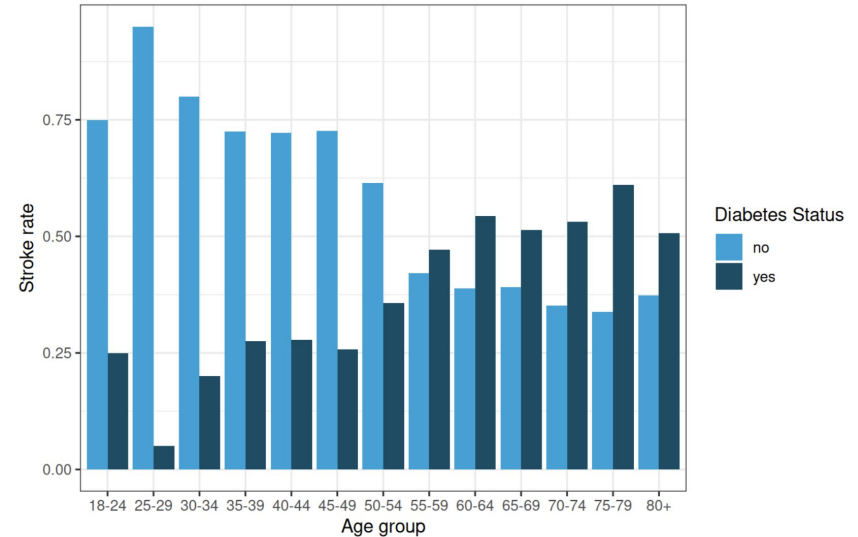


# Analysis- health indicators:

Heart Disease/Attack Rates by Age  
Among Individuals with and without Diabetes

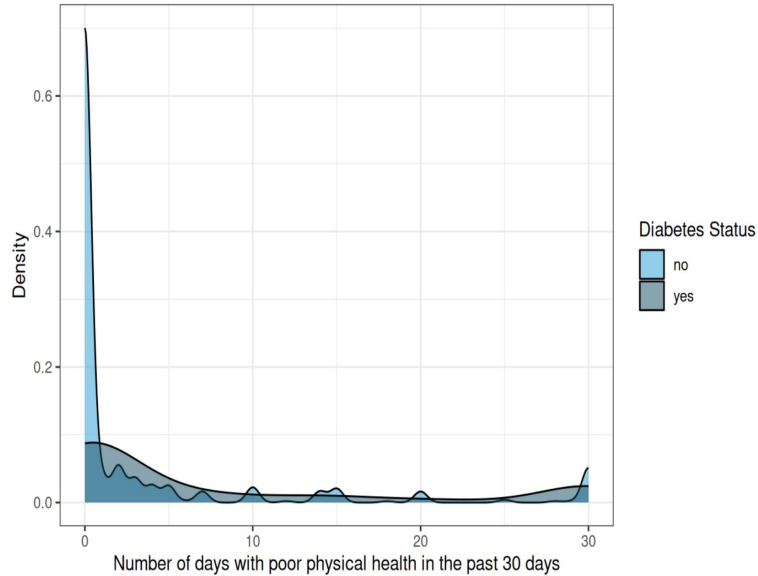


Stroke Rates by Age  
Among Individuals with and without Diabetes

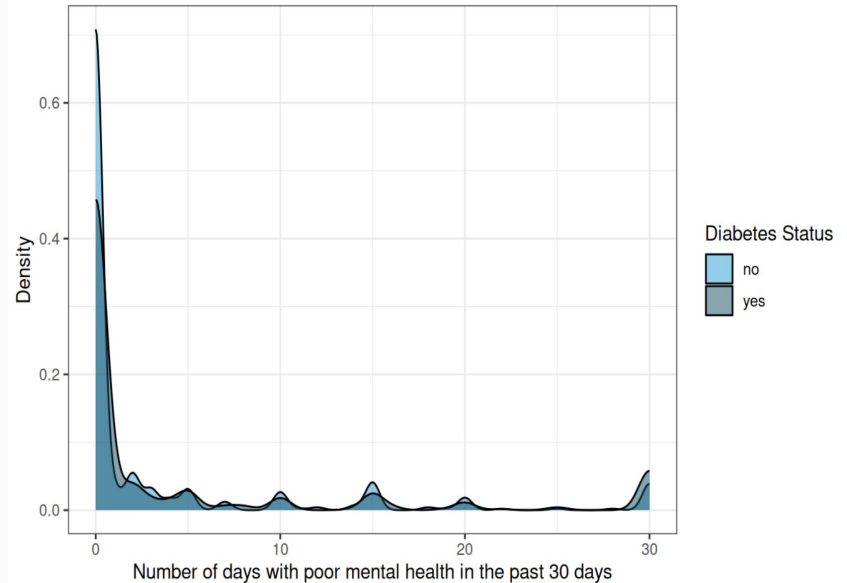


# Health indicators: Continued

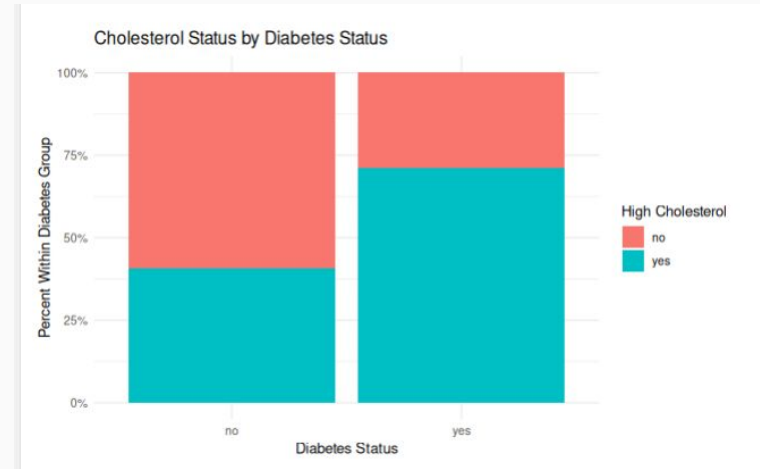
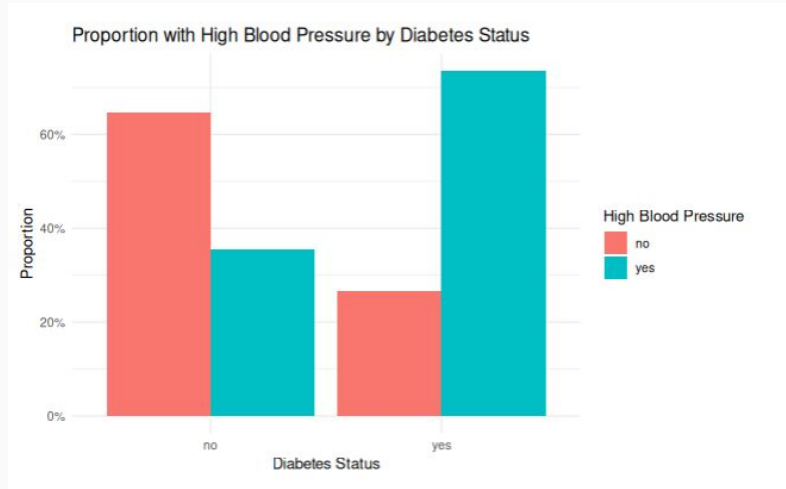
Physical Health Score  
Among Individuals with and without Diabetes



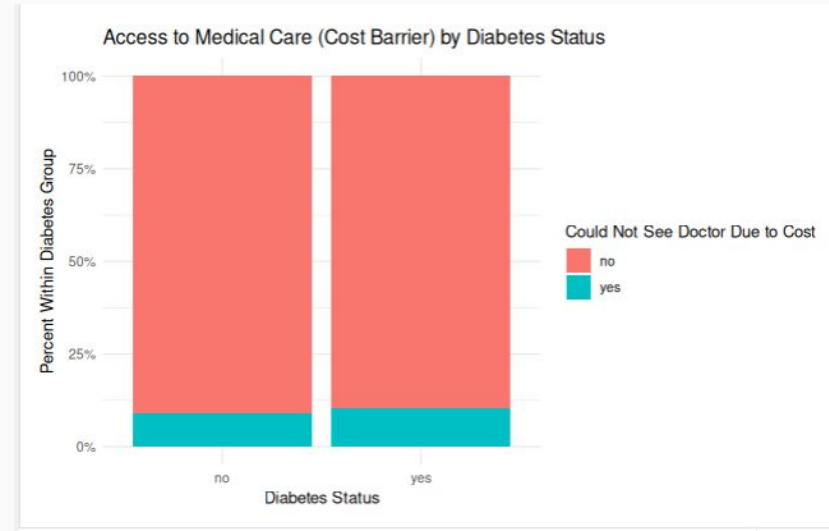
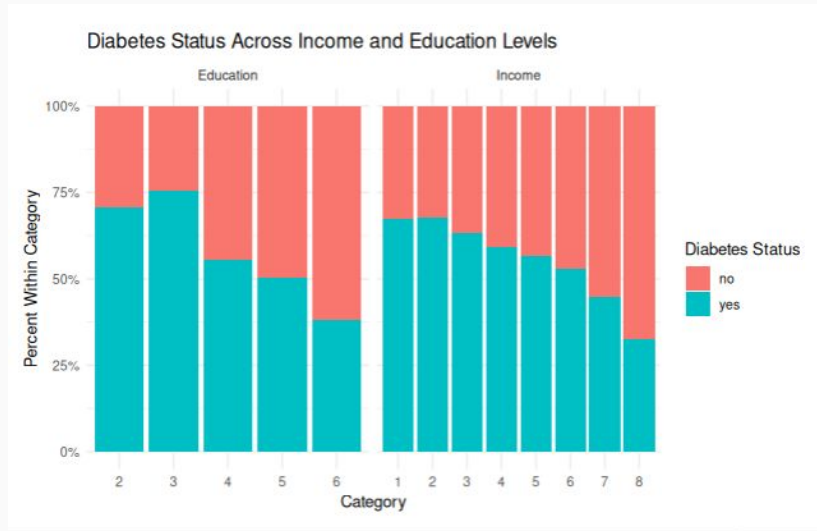
Mental Health Score  
Among Individuals with and without Diabetes



# Health indicators: Continued

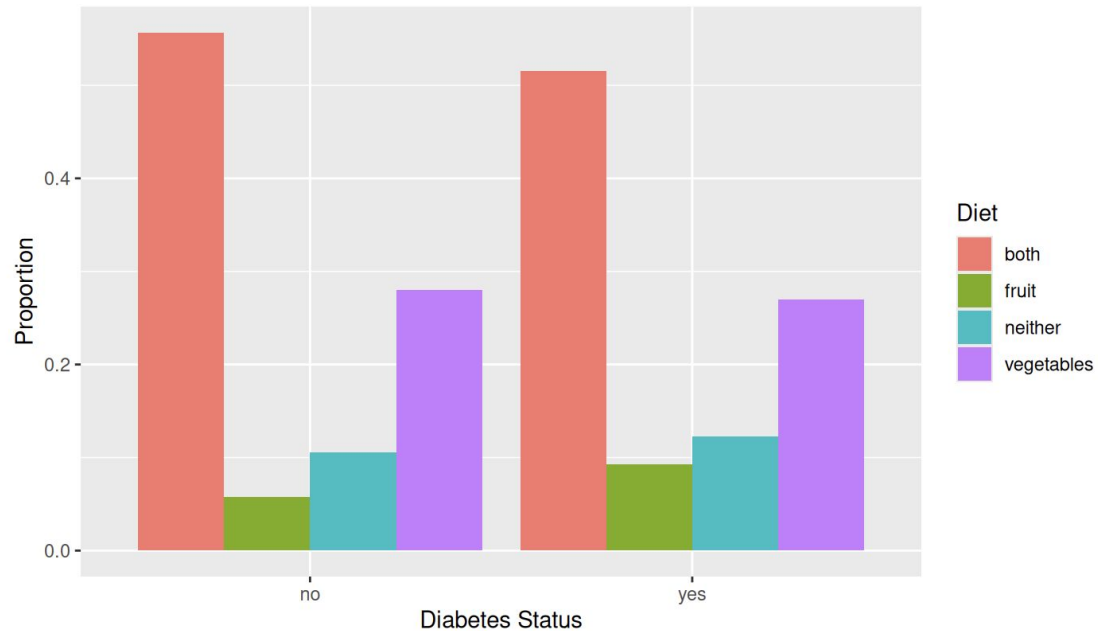


# Analysis- access to resources



# Analysis- lifestyle choices:

Diabetes staus vs Fruit and Vegetable intake



- Vegetables - consume veggies 1 or more times per day
- Fruit - consume fruit 1 or more times per day

# Discussion/takeaways:

- No causation can be attributed from this data
- Some disease comorbidities - cholesterol and BP, as well as heart issues and strokes (more with age)
- No correlation seen in lifestyle choices - diet, drinking, smoking
- This is a surface level analysis - would want statistical analysis
- Questionnaire was quite broad