Interactive dashboard of diabetes in the US

MARC BUTLER, B.S. MARC@SOUTHERN.EDU
HARVEY ALFÉREZ, PH.D. HARVEY@SOUTHERN.EDU

SOUTHERN ADVENTIST UNIVERSITY
School of Computing

ABSTRACT

In the United States, diabetes claims the lives of many [1]. Therefore, it is relevant to show data about this disease to the population so they can take measures on time to prevent it. The contribution of this research project is the construction of an interactive dashboard in order to facilitate the visualization of diabetes-related data to the public.

METHODOLOGY

1. Extract 253,680 records of US public diabetes data from Kaggle [2] and the 400 diabetes death rate records of each of the states in the US from CDC's website from years 2005 to 2020 [3]
2. Combine, clean, and format the data in Tableau Prep Builder
3. Develop graphs placed neatly on Tableau's dashboard
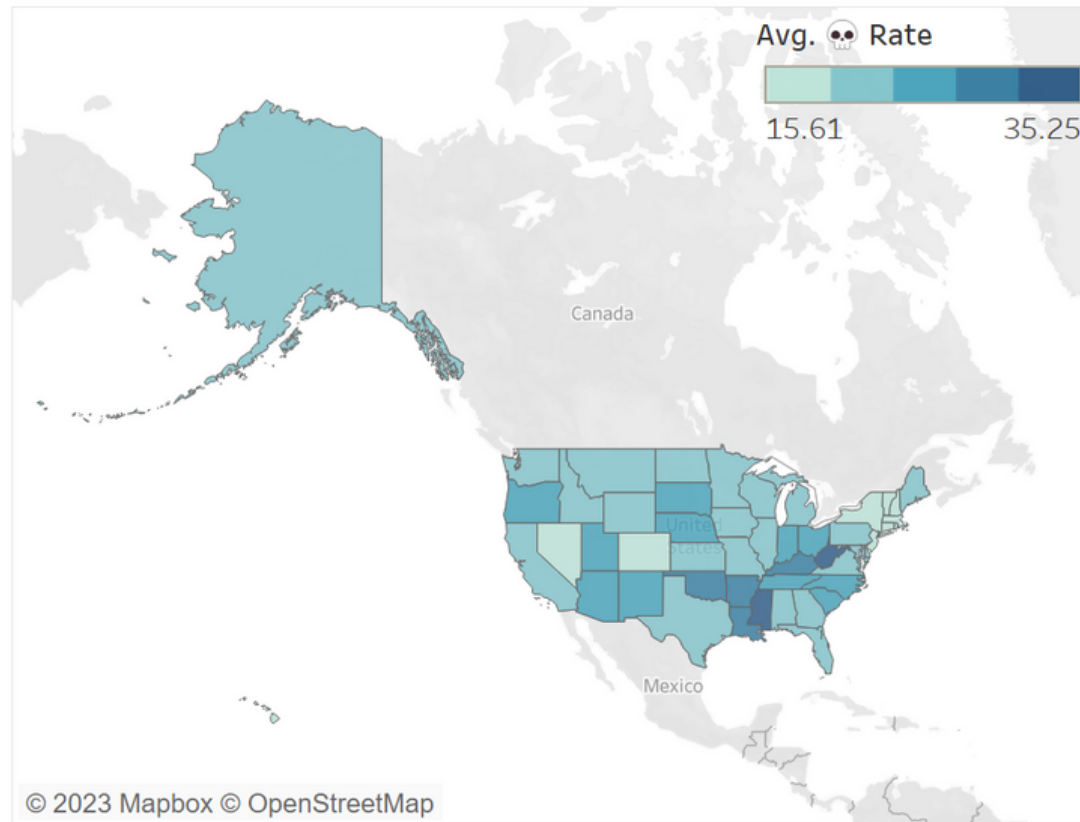4. Publish an interactive webpage ➡

RESULTS & CONCLUSION

This work determined that the diabetes death rate is higher in the rural, Southeast US on average and diabetes is more common in elderly people ranging ages 65-69 than in any other age group. At the age range of 35-39, 41% of the samples were male and the other 59% were female. Further examination shows that mental health challenges are more prevalent in those with diabetes. The graphs in the upper right corner represents individuals in the data sample who ate vegetables and exercised in the last 30 days. This indicates that exercise and vegetables may prevent diabetes.
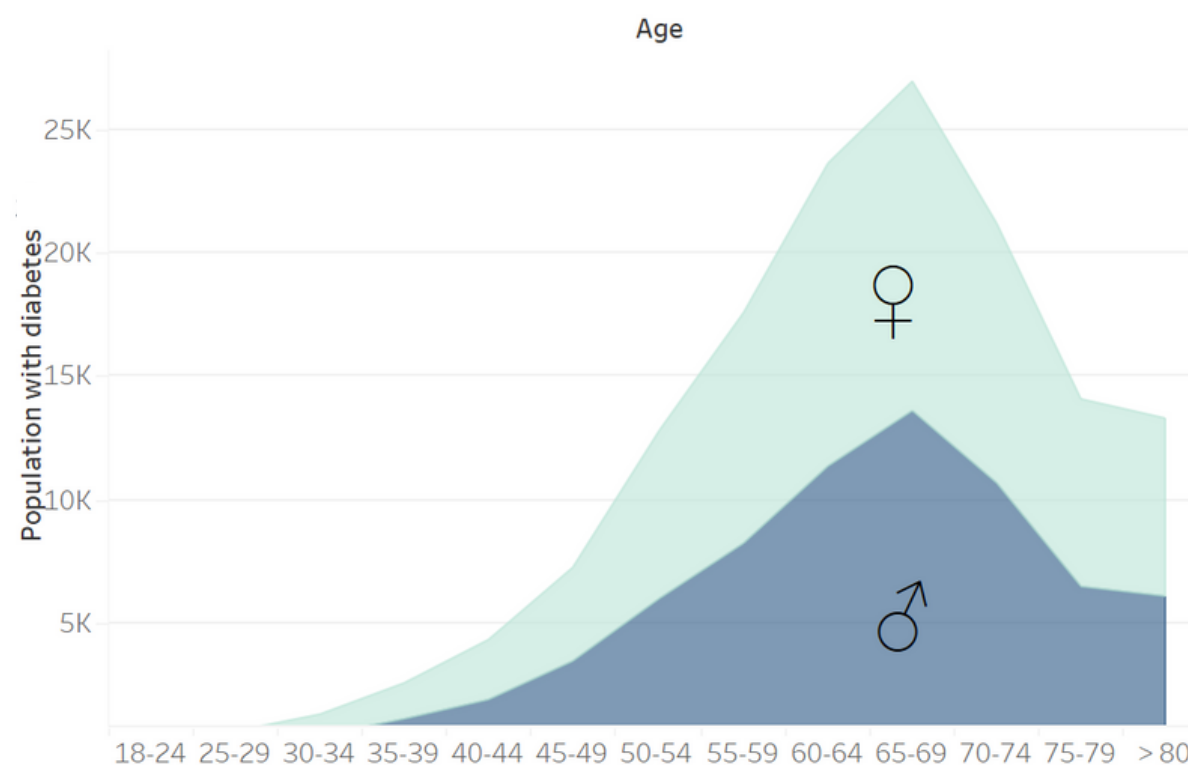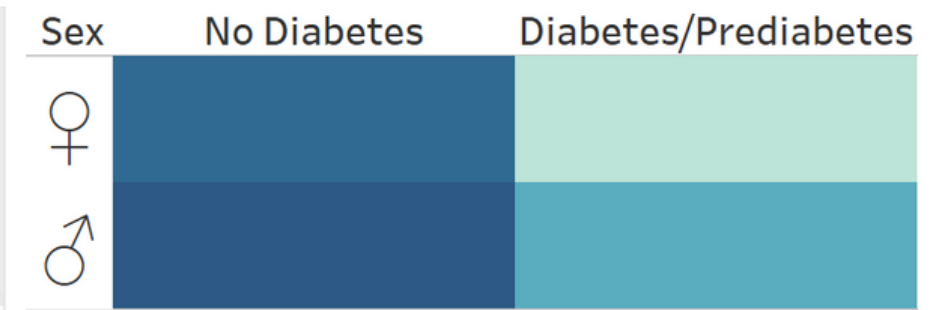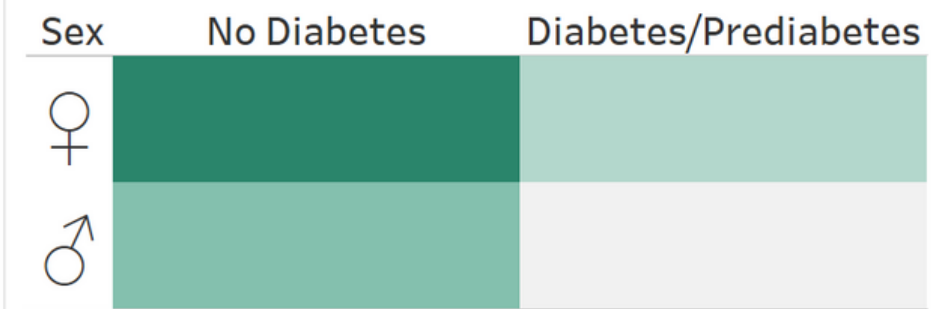
REFERENCES

1. https://diabetes.org
2. https://www.kaggle
3. http://www.cdc.gov

Diabetes Death Rate

Avg. ☠ Rate
15.61   35.25

© 2023 Mapbox © OpenStreetMap

[3]

Effects of Exercise

Sex	No Diabetes	Diabetes/Prediabetes
♀		
♂		

Avg. 👟
59.28%   79.04%

[2]

Effects Diet: Veggies

Sex	No Diabetes	Diabetes/Prediabetes
♀		
♂		

Avg. 🥕
74.41%   84.45%

[2]

Diabetes Age and Sex

Age
Population with diabetes

25K
20K
15K
10K
5K

♀
♂

18-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74 75-79 > 80

[2]

Individual Lifestyles w/ & w/o Diabetes

Diabetes & Prediabetes   No Diabetes

Population
1000K
500K
0K

Measure Names
- 👟 Smoker
- 🍎 Fruits
- Phys Activity
- 🥕 Veggies
- Any Healthcare
- 🧠 Mental Health

Smoker Fruits Phys Activity Veggies Any Healthcare Mental Health

[2]