IST 737 Spring 25: Visual Analytics Dashboards

Project Report: Public Health Insights in the USA

Group 6 (Thursday)

(a) Title of the Project

Public Health Insights: Trends, Behaviors, and Disability Analysis in the USA

(b) Team Members

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(c) Project Description

This project uses Tableau dashboards to analyze U.S. health trends by integrating behavioral, chronic disease, and disability data. We compiled and cleaned datasets from BRFSS, CDC Chronic Disease Indicators, and disability demographics to explore how lifestyle risks (e.g., smoking, obesity) relate to conditions like diabetes and heart disease. The dashboards reveal key disparities such as a 19% disability rate among Black non-Hispanics vs. 1% among Pacific Islanders and highlight issues like missed screenings (42 K+) and high obesity rates (66%). Despite challenges like data inconsistencies and missing values, our analysis offers actionable insights to support targeted health interventions and policy decisions.

(d) Data Sources

1. Primary Dataset (Compiled & Cleaned)

   o Link: [Short URL to Data](#)

- o Description: Combined dataset of behavioral, chronic, and disability-related indicators used for all dashboards.

2. Public Data Sources

- o Behavioral Risk Factor Surveillance System (BRFSS)

    - https://www.cdc.gov/brfss/

    - Source for behavioral patterns, lifestyle risk factors, and self-reported health indicators.

- o CDC Chronic Disease Indicators

    - https://chronicdata.cdc.gov/

    - Used for prevalence of conditions like diabetes, cardiovascular disease, and cancer.

- o CDC Disability & Demographic Data

    - https://data.cdc.gov/

    - Source for disability rates by age, race, and gender across states.

(e) Dashboard Stories

1. Public Health Insights Dashboard

    - o To explore regional patterns in chronic diseases and compare them with behavioral risks across states.

2. Behavioral Health Insights Dashboard

    - o To understand mental health trends and their relationship to chronic illnesses and risk behaviors.

3. Disability Insights Dashboard

    - o To identify disability prevalence across race, age groups, and gender, with a focus on health disparities.

4. Chronic Disease Impact Dashboard

- To highlight states with the highest chronic disease burden and investigate related risk factors.

5. Health Trends Over Time Dashboard

- To visualize how behavioral factors and chronic conditions have evolved between 2018–2023.

- **Tools Used:**
  Tableau: Interactive dashboards and storytelling.
  Excel: Data cleaning, formatting, and joining.

- **Noteworthy Findings:**
  66% of respondents were overweight or obese, linked with increased chronic disease prevalence.
  Screening gaps persist: 42K missed preventive tests.
  Disparities persist: 19% disability rate among Black non-Hispanics vs. 1% among Pacific Islanders.

- **Challenges Encountered:**
  Data inconsistencies (e.g., differing state name formats).
  Missing values in BRFSS survey responses.
  Need for extensive joining across datasets by state and year.

Conclusion

This Tableau project enables deeper exploration of U.S. health trends through dynamic visualizations. The dashboards empower users to investigate behavior-health relationships, visualize disparities, and inform targeted health policies.