**D210 Performance Assessment**

**DATA DASHBOARD AND STORYTELLING**

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**Part 3: Reflection Paper**

Readmission of patients in hospitals throughout the country is a problem that has become more and more difficult for institutions to handle. This was especially made prevalent during the Covid 19 pandemic, where hospitals across the country reached max capacity and were unable to account for new and reoccurring patients (CITE). Some hospitals are even penalized by organizations like Medicaid Services and Centers for Medicare if their readmission rates are too high. (CITE). Therefore, predicting which patients are at risk of being readmitted can help hospitals better prepare via new preventative treatment protocols and plan ahead.

**1. Explain how the purpose and function of your dashboard align with the needs outlined in the data dictionary associated with your chosen data set.**

For this investigation, I chose to focus on diabetes as a point of interest medical condition. The purpose and function of the executive dashboard is to showcase which demographics are most at-risk for diabetes based on the existing patient records. This will help the hospital staff and stakeholders better predict and anticipate which patient groups are most likely at risk for diabetes. From there, they can plan interventions and preventative treatments for target groups.

**2. Explain how the variables in the additional data set enhance the insights that can be drawn from the data set you chose from the provided options.**

The additional data set helps enhance the insights by providing an additional line of comparison for the variables we represented here. The 1diabetic\_data set for Hosptial 2 had a much larger sample size of over 100,000 entries as opposed to the 10,000 entries of medical\_clean for Hospital 1. This helped give us additional context to which gender and age groups seemed to be most affected by diabetes. It also showed us that the older age groups were more likely to have diabetic patients than younger groups. The income and geographic data visualizations from Hospital 1 showed us that lower income brackets were more affected by diabetes, and that the disease is more present in states with higher populations.

**3. Explain two different data representations from your dashboard and how executive leaders can use them to support decision-making.**

The two different data representations show us which groups of patients appear to have diabetes. Both tables for Readmission rates show us that the majority of patients with diabetes were female. The tables for Hospital 1 show an almost even split between males and females with diabetes who were readmitted to the hospital. Hospital 2 shows a much higher number of female patients with diabetes being readmitted to the hospital as opposed to male or non-specific genders. Both bar charts for the age groups showed that the older age groups tend to have higher rates of diabetes as opposed to the younger age groups.

Hospital executives and stakeholders can use these to help with decision making in regards to

**4. Explain two interactive controls in your dashboard and how each enables the user to modify the presentation of the data.**

>The two interactive controls in my dashboard are

>They allow users to \_

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**5. Describe how you built your dashboard to be accessible for individuals with colorblindness.**

To make sure that the dashboard was accessible for individuals with colorblindness, I included:

**6. Explain how two data representations in your presentation support the story you wanted to tell.**

The readmission rate tables and the bar charts both show that the majority of patients do not have diabetes. The data representations show us that majority of patients who do have diabetes were female. This could be partially due to women also experiencing gestational diabetes during pregnancy along with type 1 and type 2 diabetes. Furthermore, the age visualizations for both hospitals show that the majority of patients with diabetes were older of age, between the age groups of 40s-80s. For Hospital 1 the majority of patients with diabetes were in the 50s age group whereas in Hospital 2the majority of patients with diabetes were in the 70s age group. Furthermore, the income graphic for Hospital 1 showed that the majority of patients with diabetes were in the lower income brackets, with people in $10,000 salary range having the highest likelihood. This could be due to people in poverty having a harder time accessing healthier food options or being able to afford proper treatment. Lastly, the interactive map showed that the state with the most amount of diabetic patients was Pennsylvania, followed by New York, California, and Texas. These states are highly populated so it would make sense that they would most likely have higher rates of diabetes as opposed to states with lower populations.

**7. Explain how you used audience analysis to adapt the message in your presentation.**

The target audience for the presentation is hospital staff, hospital owners, and their stakeholders. I chose to base my story on diabetes because this is a common occurrence throughout the country and the people viewing my presentation have a high chance of knowing someone in their lives that are affected.

**8. Describe how you designed your presentation for universal access by all audiences.**

My presentation was intentionally designed to be universally accessible by all audiences and not just people in the medical field. For started, the Tableau dashboard was made public and accessible for anyone with internet access to view for free. The dashboard was designed to be simple to understand and does not rely on medical terminology. The colors for the visualizations were chosen so that even people with color blindness would be able to understand and distinguish the visuals.

**9. Explain two elements of effective storytelling that you implemented in your presentation and how each element was intended to engage the audience.**

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**Works Cited**

<https://www.tableau.com/blog/examining-data-viz-rules-dont-use-red-green-together>