Data Dashboard and Storytelling – D210

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## **Interactive Data Dashboard**

* Data from both data sets: Used WGU’s provided *Medical* data and *Diabetic Patients' Re-admission Prediction*. (TAYAL, 2020)
* 4 data representations: Included 8.
* 2 different controls: Included 4.
* 2 different KPIs: Identified 2 KPIs on dashboard: Duration of initial stays, Readmission rate.

1. Data sets attached to submission.
2. Dashboard Installation: Installing the dashboard is unnecessary, as it is available to view via Tableau Public. Simply click [this link](https://public.tableau.com/app/profile/nina8405/viz/DATADASHBOARDANDSTORYTELLING_v4/DiabeticData?publish=yes) and you will be able to view the dashboard.
3. The dashboard consists of 8 visualizations and 4 user controls. Starting from the upper lefthand corner:
   1. Total Diabetic Patients: The total number of patients in the dataset.
      1. Affected by the Gender and Age toggle and will adjust to user selections.
   2. ReAdmis: The overall number of patients that were (Yes) and were not (No) readmitted according to the data.
      1. Affected by ReAdmis, Gender, and Age selections.
   3. Days Bars: Show the percentage of days spent in initial visit.
      1. Affected by ReAdmis, Gender, and Age selections.
   4. Demographics: Shows the break down of Race and Gender.
      1. Affected by ReAdmis and Gender selections.
   5. Age Bar: Shows the distribution of patients within each age group.
      1. Affected by ReAdmis, Gender, and Age selections.
      2. Also reflected in Min-Max legend.
   6. Area: Shows breakdown of patient data per area type.
      1. Affected by ReAdmis, Gender, Age, and Area selections.
      2. Also reflected in Pie chart.

## **B. Storytelling**

[Representation and Reporting – NAM2 | D210](https://wgu.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=393276ab-1eae-427a-935a-af5f00aae60b)

## **C. Reflection Paper:**

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Representation and Reporting - D210

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Storytelling with Data

“Data is king during times of uncertainty,” according to Forbes contributor Heather V. MacArthur (MacArthur, 2020b). As a strategy director, I am inclined to agree with her. I work with data and analytics every day in my professional life and marketing campaigns are won and lost by the use and communication of data. When I started this assessment task for D210, I knew immediately that I wanted to turn some of my discoveries—through hard won scrubbing and mining—into a dashboard that could be used in the real world.

**(1)** I have a specific interest in comorbidities and how they affect hospital bottom lines, so the question of “Do diabetic patients contribute to readmission more often than those without diabetes” has been a point of evaluation for many of my research questions. The data set I chose is perfect for this evaluation, as it is filled with data specific to this specific market segment. **(2)** The data set, titled “Diabetic Patients' Re-admission Prediction” is used for machine learning and evaluations from US hospitals for years 1999-2008. It is very similar to the medical data set I have been evaluating in my WGU course load. As such, it offers many of the same variables, along with a few—such as Race, medication lists, and doctor specialties. With these additional insights, I was able to draw attention to different highlights in my dashboard.

**(3)** One of my representations of my dashboard is a map that specifies the concentration of readmitted patients based on their state and the location of the hospitals within that state. Executive leaders can use this visualization to pinpoint which hospitals (based on their area) need the most financial and training assistance to mitigate readmission. A second visualization element is the Age bar chart, which shows a breakdown of the age groups affected by readmission. By utilizing this information, stakeholders have the opportunity to target care campaigns toward the contributing groups. Both of these representations can support decision-making that will have measurable impact on readmissions.

I wanted the users of my dashboard to see the entire store of readmissions, while also being able to locate and compare with my findings. **(4)** As such, I made sure to enable to ability to look at the ReAdmis (readmission) variable when marked as “No,” “Yes,” or both. Due to the fact that I included a map, I also added the ability to look at only one or two sections, rather than all three of the Area variables (Rural, Suburban, Urban).

**(5)** As someone who suffers from seizures and chronic migraines, I am hyperaware of building accessibility into all of my designs. As such, I avoided high-contrast layouts and used a blue-orange color palette. I used larger fonts and gray, rather than black for font colors.

Storytelling with data is all about creating a space that can be utilized by stakeholders, whether they are professionals or laypeople. **(6)** In order to ensure my story is clear, I set my ReAdmis value to “Yes” (meaning yes, this individual was readmitted) by default. As such, I balanced my story telling by presenting the existing data in different ways. I also included the Bar graph titled “Days” in order to clearly reflect this information—and to give the user a chance to see how the dashboard changes when the ReAdmis variable is changed.

**(7)** When creating my dashboard, I utilized my experience in strategy to ensure that the information I was presenting was relevant. My audience analysis came from my current team. I looked at dashboard we’d created in the past and modeled the information for this one based on the KPIs we had then. The dashboard I created would work within a marketing department, but also as part of a pitch deck to C-level decision-makers.

However, C-level decision-makers aren’t the only group of people who utilize dashboards. I wanted to make sure that my design was **(8)** universally accessible, and also relevant, to other stakeholders who work with my team. As such, I made sure to export it multiple formats as well as using the “generic desktop” size to ensure it would fit on a wide variety of screens. **(9)** Lastly, I included data that would be relevant and engaging to my wider audience. For example, I included gender as one of my variables, as this would benefit the content creation team for targeting campaigns. I also included age because that particular variable informs what channels the content we create will go on.

Creating this data dashboard was a beneficial exercise. It gave me the opportunity to look at the data I’ve been cleaning and manipulating in a different light. Ultimately, I am satisfied with my work on this project and am excited for my next step into data science.

## **D. CITATIONS**

TAYAL. (2020, August 27). Diabetic Patients’ Re-admission Prediction. Kaggle. Retrieved December 2, 2022, from https://www.kaggle.com/datasets/saurabhtayal/diabetic-patients-readmission-prediction

MacArthur, H. V. (2020b, June 10). Why Data Is King During Times Of Uncertainty And How To Use It To Inspire Commitment From Others. Forbes. https://www.forbes.com/sites/hvmacarthur/2020/06/10/why-data-is-king-during-times-of-uncertainty-and-how-to-use-it-to-inspire-commitment-from-others/?sh=14e480ab4335