**Capstone Final Project Summary**

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**Project Title: US Health Insurance**

**Data Collection Source:** *Originally, I selected seven comma separated values (.csv) files from Kaggle (web scrapped from Data Society). Two files, “Crosswalk2015 and Crosswalk2016” were joined to combine the business years, state, and network data. The remaining files were the premium characteristics.*

*As I began to research the datasets, I discovered updated datasets, however, the information I needed was not in a single dataset. The data was in multiple files and I had to union several tables to analyze any patterns or changes over time. I downloaded so many files I confused myself and was still researching datasets up until less than 24 hours of presentation.*

**Project Summary:**  *My project objectives were to present the various attributes collected on insurance premium rates by state, metal level performance, coverage variations of dental/child/adult plans, and present any patterns to understand customer premium selection in our continuous pursuit of improving health equity.*

* *How do plan rates and benefits vary across states?*
* *How do plan benefits relate to plan rates?*
* *How do plan rates vary by age?*
* *How do plans vary across insurance network providers?*

*The findings were to inform my peers of the size and monies used for US healthcare and a basic understanding of the Marketplace. Bottom line, we spend over $4.3 trillion dollars on Medicare/Medicaid and US citizens are no healthier. I was not completely confident with my assessment and felt I was unable to achieve my initial objective was not because the federal open exchange files and state exchanges are separate programs to conduct comparative analysis. Acquiring the data was not impossible but is fragmented. I was unable to provide the full US assessment due to this challenge and much of the information was updated. The Centers for Medicare and Medicaid are experiencing a data transformation whereas the old dataset/files and the new datasets/files are hosted on separate websites. Note, much of the information remains the same.*

*During my research, I found a lot more recent information than the initial Kaggle datasets. I scrapped the original Kaggle datasets and searched for new data. Significant time was dedicated towards just trying to gain a better understanding in the framework of both the Medicare and Medicaid programs to scope the project and narrow the dataset search. Unfortunately, I was unable to complete in-depth statistical analysis due to the lack of time. I was only able to complete minimal calculations such as sum, count, median and averages for the various premium plan rates. Data inconsistencies were found in the older csv files had extra or unnecessary*

*information because the ‘Source” information was extracted from an older database. Additionally, I explored the US Census Bureau for general insurer and demographic information.*

*In conclusion, rate prices appeared to be consistent over the past three years and only a couple states showed a significant increase. There were significant plan differences between individual non-tobacco and individual tobacco users. With the separation of federal and state marketplaces, additional research and datasets pulled for each of the state databases must be done in order to gain a better understanding of health insurance for the entire US. The next steps are to download additional Plan Attributes for more granular analysis of premium plan benefits.*

***US Health Insurance Datasets***

[*https://www.kaggle.com/datasets/thedevastator/comprehensive-analysis-of-us-health-insurance-ma?select=Network.csv*](https://www.kaggle.com/datasets/thedevastator/comprehensive-analysis-of-us-health-insurance-ma?select=Network.csv)

***Centers for Medicare and Medicaid Services – Health Insurance Exchange Public Use Files (Exchange PUFs)***

[*https://www.cms.gov/cciio/resources/data-resources/marketplace-puf*](https://www.cms.gov/cciio/resources/data-resources/marketplace-puf)

***HealthCare.gov |***[*https://www.healthcare.gov/choose-a-plan/plans-categories/*](https://www.healthcare.gov/choose-a-plan/plans-categories/)