Project 1 - Group 6

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Title: Comparative study of Medicare payments for common conditions across states

Description: Understanding relationship between hospital charges versus Medicare payments for common inpatient diagnoses from selected states.

Data Source:

Inpatient\_charges\_2021 <https://data.cms.gov/provider-summary-by-type-of-service/medicare-inpatient-hospitals/medicare-inpatient-hospitals-by-provider-and-service>

Research Questions:

1. Which are the most common inpatient diagnostic conditions in the United States?
   1. RESPIRATORY INFECTIONS AND INFLAMMATIONS WITH MCC - 2830
   2. SEPTICEMIA OR SEVERE SEPSIS WITHOUT MV >96 HOURS WITH MCC - 2718
   3. HEART FAILURE AND SHOCK WITH MCC - 2653
   4. SEPTICEMIA OR SEVERE SEPSIS WITHOUT MV >96 HOURS WITHOUT MCC - 2309
   5. SIMPLE PNEUMONIA AND PLEURISY WITH MCC - 2205
2. Top 5 states with highest number of discharges
   1. FL 24.2%
   2. CA 23.4%
   3. TX 19.6%
   4. NY 19%
   5. PA 13.7%
3. Top 5 states who have the highest medicare payment
   1. CA 31.4%
   2. NY 19.9%
   3. TX 18.6%
   4. FL 17.8%
   5. PA 12.2%
4. What are the average Medicare payments for these conditions in these states and how do they compare to the national average?

|  | National | FL | NY | PA | CA | TX |
| --- | --- | --- | --- | --- | --- | --- |
| Heart Failure & Shock w/ MCC | **$9,716** | $8,498 | $13,006 | $8,548 | $12,317 | $10,239 |
| Respiratory Infections w/ MCC | **$16,529** | $14,242 | $21,312 | $14,949 | $21,795 | $16,605 |
| Septicemia w/o MV >96h w/ MCC | **$14,396** | $12,490 | $18,844 | $12,960 | $18,551 | $14,369 |
| Septicemia w/o MV >96h w/o MCC | **$7,077** | $6,315 | $8,977 | $6,175 | $8,896 | $7,442 |
| Simple pneumonia w/ MCC | **$9,129** | $8,372 | $10,891 | $8,398 | $11,617 | $9,075 |

Breakdown of Tasks:

1. Clean up – Kerigo
   1. Use Pandas to clean and format your dataset or datasets.
   2. Create a Jupyter notebook describing the data exploration and cleanup process.
2. Analysis - Ved
   1. Create a Jupyter notebook illustrating the final data analysis.
   2. Use Matplotlib to create 6 to 8 visualizations of your data (ideally, at least 2 visualizations per “question” that you ask your data).
   3. Save PNG images of your visualizations to distribute to the class and instructional team—and for inclusion in your presentation.
3. Write-up - Teresita
   1. Create a write-up summarizing your major findings. This should include a heading for each “question” that you asked your data as well as a short description of your findings and any relevant plots.
4. Presentation - Eirynell