**Ruchita Trivedi /Project 2 /Net id: ZX-4954/ STAT-6610**

**Introduction and Source of Data**

The Centers for Medicare & Medicaid Services (CMS) has prepared a public data set, the Medicare Provider Utilization and Payment Data: Physician and Other Supplier Public Use File (Physician and Other Supplier PUF), that is more transparent, affordable and accountable. It contains information on payment (allowed amount and Medicare payment), and submitted charges (Avg. submitted charges) , National Provider Identifier (NPI), Healthcare Common Procedure Coding System (HCPCS) code, and place of service, Drug Indicator , no. of beneficiaries, no. of unique services etc .This PUF is based on information from CMS’s National Claims History Standard Analytic Files. The data in the Physician and Other Supplier PUF covers calendar year 2013 and contains 100% final-action physician/supplier Part B non-institutional line items for the Medicare fee-for-service population.

Main objective is to analyze this dataset thoroughly and try to address few business/research problems. One such question is to identity most expensive providers by each state and know more about their services offered. This questions and other such question is answered interactively in the report below.

**Link:**  [Medicare Provider Utilization and Payment Data: Physician and Other Supplier](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Provider-Charge-Data/Physician-and-Other-Supplier.html)

**1-How do the costs of services vary in different states?**



**Interactive Link**

<https://public.tableau.com/shared/J5YHMWS7P?:display_count=yes>

On selecting a particular service, the above visualization shows its cost in different states. For example, Addiction medicine is most expensive in state of Tennessee. Cardiac surgery is most expensive in Florida etc.

**2-What are the top 10 costliest providers by state? What are their most common services offered?**



**Interactive link:**

<https://public.tableau.com/views/dualaxis_7/Stalkedbars?:embed=y&:display_count=yes&:showTabs=y>

Here, we have the top earning provider of each state. We can call him/ her the best doctor in state.

Also, we see the services offered by them . Avg cost of each service is indicated in bars. Total payment of each provider is indicated on top of each bar.

We can also infer that Internal Medicine is the most popular practice of providers in California.

**What doctor’s credentials are most desirable?**

**Interactive Link**:

<https://public.tableau.com/views/Treemaps-dualais/StalkedHeatMaps?:embed=y&:display_count=yes&:showTabs=y>

Providers with a MD credential in each service type is most desirable i.e. They earn a lot. Deep Blue colors represent high earnings. Nurse Practitioner and Clinical Laboratory are exceptions

**4-What services are more popular in one states than the other?**



**Interactive link:** <https://public.tableau.com/views/Dualaxis_0/dualaxis?:embed=y&:display_count=yes&:showTabs=y>

The pie charts shows the proportion of different services. The pie chart only includes Top-five most expensive services. For example Ambulance service is most expensive in most of the states i.e. sudden mishaps are most frequent, but interestingly only New York and Connecticut has allergy/ immunology as most expensive service. I.e. People might be suffering from allergy most often.

The dark colors in state represent expensive states in terms of medical expenses. Texas has a good mix Pie- Chart.