

## **Data Analyst/Business Intelligence Analyst**

### **Project : Medical Equipment Supply Analysis using the CMS Data**

#### **Objective:**

To analyze and visualize Medical Equipment Supply data to uncover business opportunities and trends.

#### **Tools & Technologies:**

Excel: For initial data exploration and cleaning

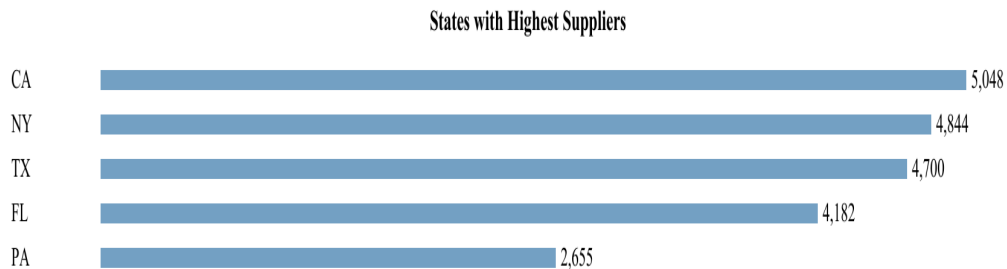
SQL: For data querying and transformation

Tableau: For data visualization and dashboard creating

#### **Analysis**

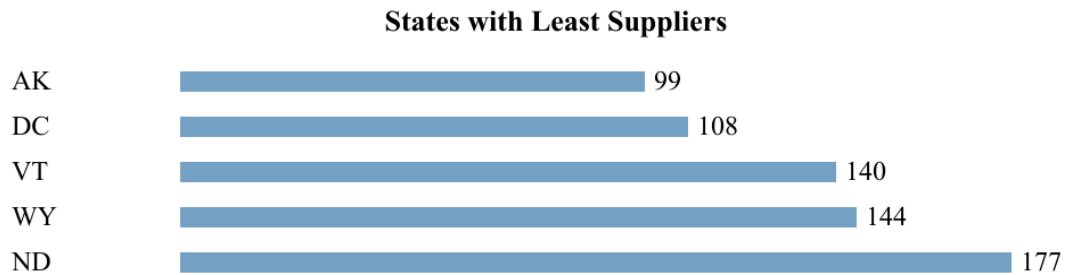
##### **1. States with highest suppliers**

A bar chart was created to identify the top 5 states with highest suppliers. California ranked first and Pennsylvania is the fifth state with highest suppliers.



##### **2. States with least suppliers**

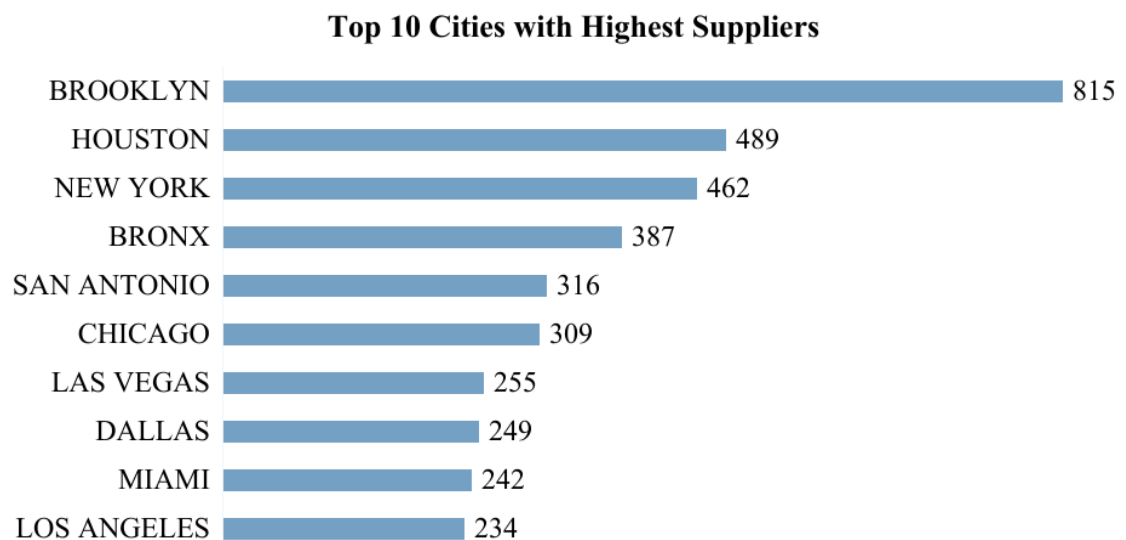
A bar chart was created to identify the states with the least number of suppliers and it was found that Arkansas has the least number of supplies followed by DC.



### 3. Top 10 Cities with Highest Suppliers

A bar chart was created to identify the top 10 cities that have the highest suppliers.

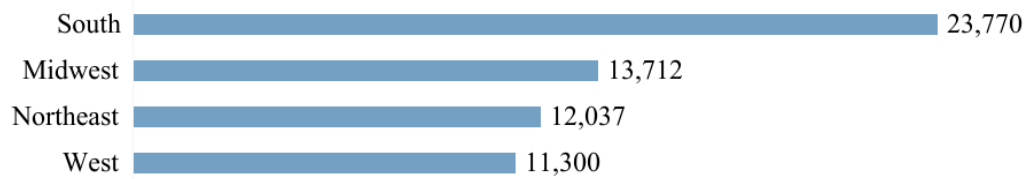
Brooklyn ranked first, followed by Houston and Los Angeles stood at 10th. This indicates a huge supply chain gap between big cities and small cities.



### 4. Regional Distribution of Suppliers

A bar chart was created to identify the regional distribution of suppliers. The south has the highest number of suppliers followed by the midwest. The west has the least, indicating a potential supply chain gap.

### Regional Distribution of Suppliers



## 5. Region wise supplies list

A table was created to identify most common supplies by grouping them. The most common supplies were nebulizers and wheelchairs.

### Region wise Supplies

Region	CPAP Equipment	Nebulizer	Other	Oxygen Equipment	Walker	Wheelchairs
Midwest	9	813	351	8	111	1,236
Northeast	2	833	296	6	114	1,145
South	10	936	550	9	180	2,373
West	8	466	317	15	117	950

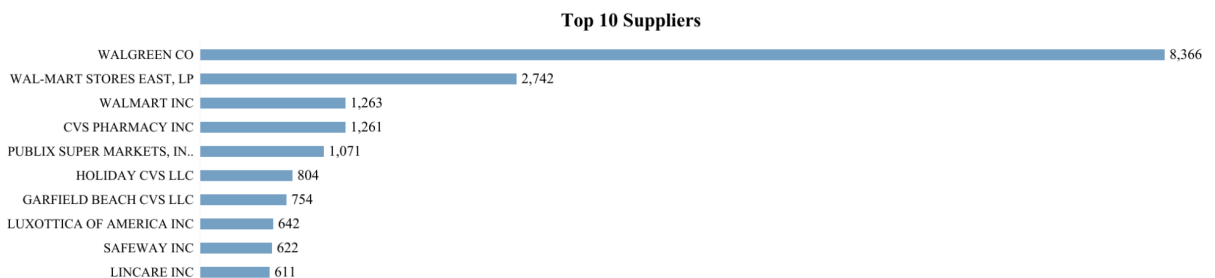
6.

## 5. Top 10

### Suppliers

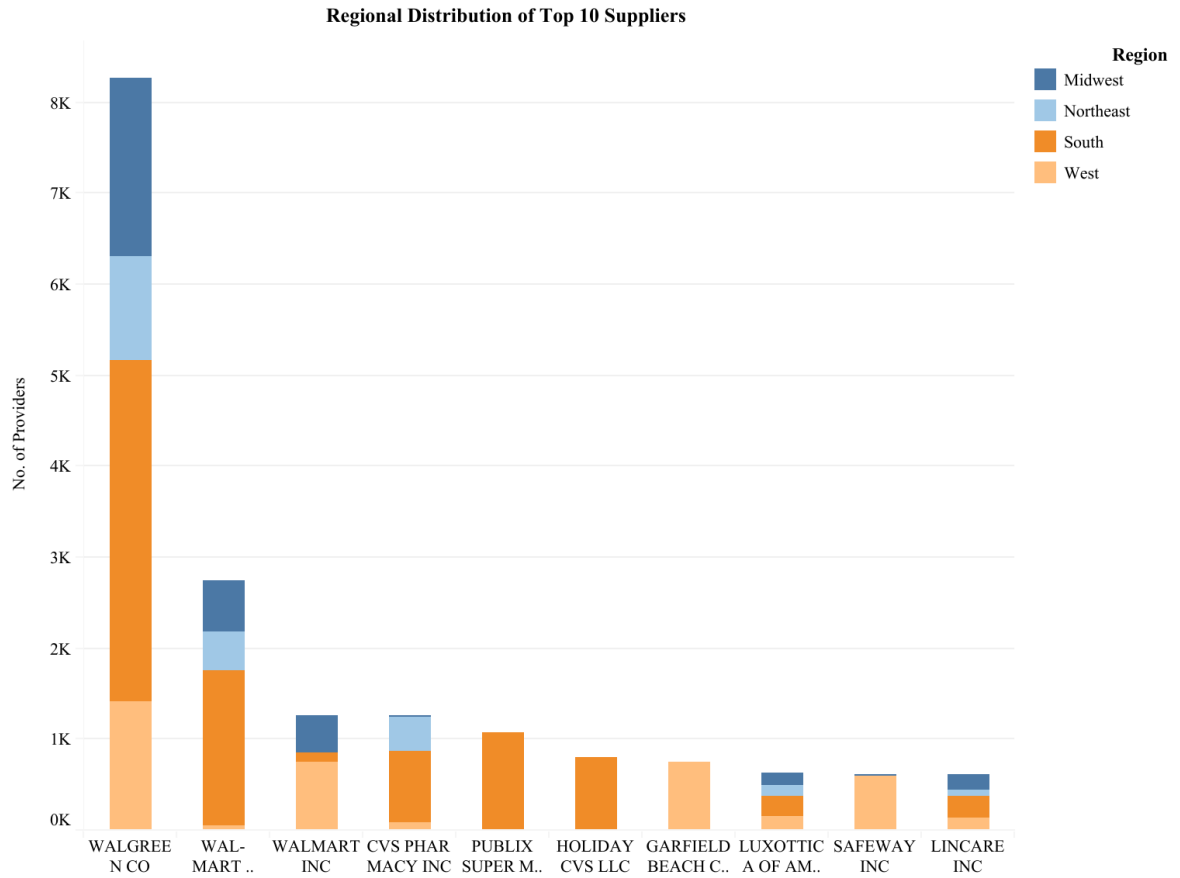
A bar chart was created to identify the top 10 suppliers across the United States.

Walgreen Co ranked first, followed by WalMart.



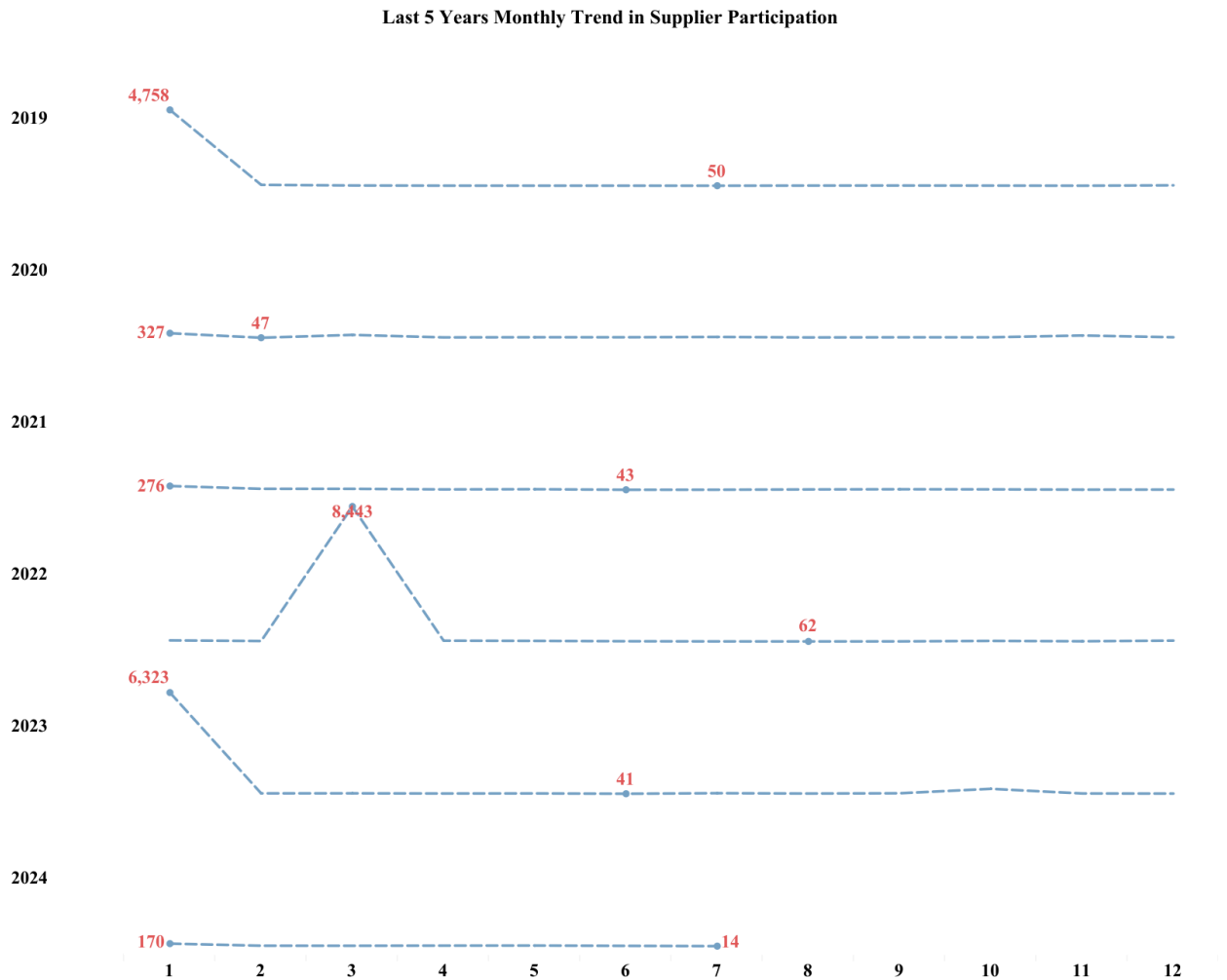
## 7. Regional Distribution of top 10 suppliers

A stacked bar chart was created to identify the regional distribution of top 10 suppliers and it was found that most of these have a major presence in the South region.



## 8. Monthly trend analysis in supplier participation

A line chart was created to identify the pattern of monthly trend analysis in supplier participation for the last 5 years (2019-2024). It was noted that the year 2022 saw the highest number of suppliers followed by 2023.



## BUSINESS IMPLICATIONS

### Strategic Supply Chain Optimization

- Focus on expanding to the states and cities with the least number of suppliers.  
Partnering with top suppliers to increase the diverse range of products to underserved regions.
- For instance, the west region has the least number of suppliers and this is where the suppliers can look for partnerships to enhance their presence in the market.

- The beginning of the year has the highest supplier participation and based on this the companies should manage their inventory to meet the demands.
- The Midwest region saw the highest growth and investing in attracting new customers along with diversifying the product range could lead to potential growth in the market.
- Big players like Walmart and Walgreens have huge presence in the South region. Small to medium size companies could focus on other regions to expand their market presence. Other suppliers in the South region can have partnerships with big players and provide services in the medium and small cities.