

ANALYSIS OF CHEST PAIN TREATMENT

**Insights from Healthcare Provider Data
In the United State**

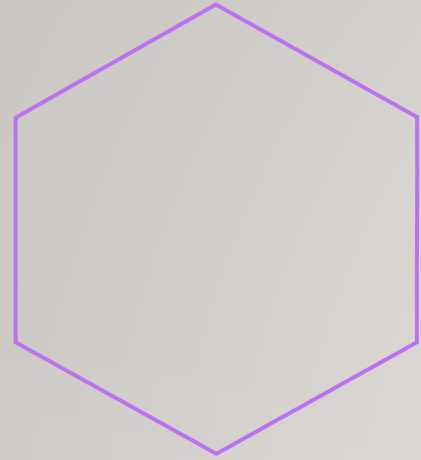
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AGENDA

Introduction

An overview of the presentation's purpose and goals

Data Overview

A look at the dataset, including key statistics and data coverage.

Chest Pain Analysis

Insights into the distribution of Chest Pain cases, providers, and costs.

Geographical Insights

Understand the geographical distribution of Chest Pain cases

Conclusions

Summarize the key insights from the analysis and any recommendations

INTRODUCTION

- Welcome to our presentation where I delve into healthcare data analysis, focusing on Chest Pain treatment. My goal is to provide valuable insights that aid healthcare decision-making. I'll start with an overview of the dataset, highlighting its size and scope. Then, I'll zero in on Chest Pain cases, examining their distribution, costs, and top-performing providers. A financial analysis will uncover cost-related attributes. Geographical insights will reveal regional trends. I concluded with a summary of my findings and actionable recommendations. My objective is to empower healthcare providers and policymakers with data-driven insights that enhance the quality of Chest Pain treatment. Thank you for joining me.

PRIMARY GOALS

ANALYTICAL INSIGHT
ON CHEST PAIN
TREATMENTS IN THE
UNITED STATE

DATA OVERVIEW

- Total Records: Over 150,000
- States: Data from all 50 states in the USA
- Providers: More than 3,000 healthcare providers
- Ailments Covered: 100 different medical cases
- **Focus on "Chest Pain":** I explored insights and trends specific to this medical condition in the United State

Data Features

DRG Definition: Diagnosis-Related Group for medical cases.

Provider Name: Name of the healthcare provider.

Provider City: City where the healthcare provider is located.

Provider State: State in which the provider is situated.

Hospital Referral Region Description: Geographical region where the provider operates.

Total Discharges: Number of patient discharges.

Average Covered Charges : Average cost charged by the provider.

Average Total Payments: Average payment received by the provider.

Charges: Cost associated with medical services.

Average Medicare Payments: Average payment from the Medicare program.

6 DISTRIBUTION OF HEALTHCARE PROVIDERS BY STATES

REGIONAL ANALYSIS

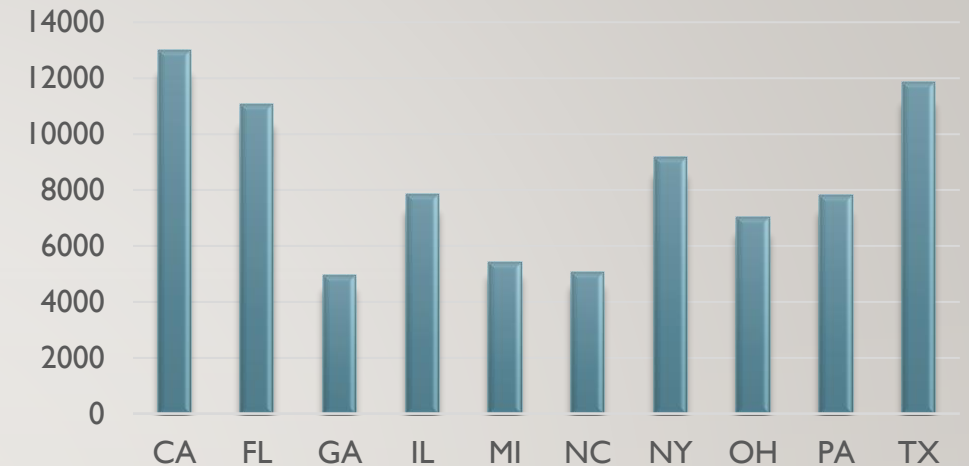
Top States with High Healthcare Providers:

- **California** has the highest number of healthcare providers, with 12,997 providers, indicating a large healthcare network.
- **Texas** follows closely with 11,864 providers, reflecting a substantial healthcare infrastructure.
- **Florida** has 11,074 providers, and **New York** has 9,178, both indicating extensive healthcare access.

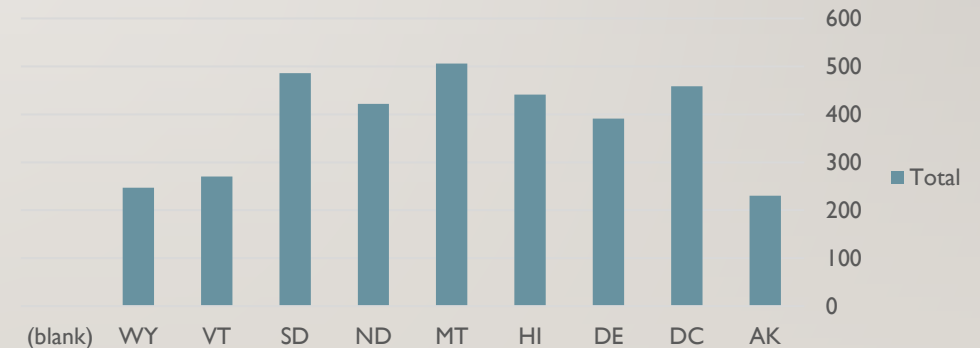
States with Fewer Healthcare Providers:

- **Wyoming** has the fewest healthcare providers, with 247, suggesting limited healthcare resources.
- **Alaska (AK), Vermont (VT), and Hawaii (HI):** These states also have relatively lower numbers of healthcare providers, indicating potential challenges in access to healthcare services.

Distribution Of The Top 10 States With The Highest Providers



Distribution Of The States With Fewer Healthcare Providers Treating Chest Pain treatments



7 CHEST PAIN HEALTH CARE PROVIDERS CITY ANALYSIS

Chicago has the highest number of healthcare providers, with 1,501 providers, indicating a robust healthcare network.

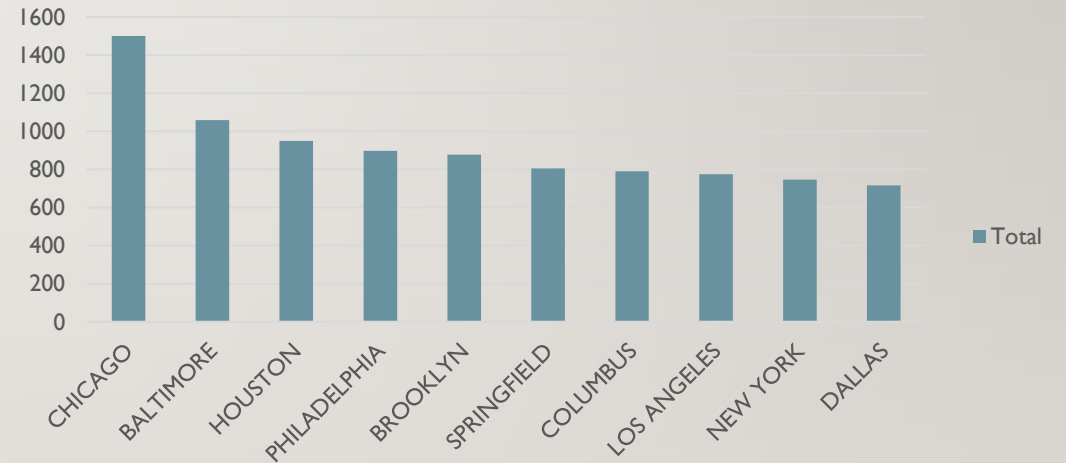
Baltimore follows closely with 1,059 providers, suggesting a substantial healthcare infrastructure.

Houston, Philadelphia, and Brooklyn: These cities also have a significant number of healthcare providers, reflecting extensive healthcare access.

Additional Insights:

- Springfield, Columbus, and Los Angeles are among the cities with a notable presence of healthcare providers, indicating varied geographical distribution.
- New York and Dallas, despite being highly populated cities, have relatively fewer healthcare providers compared to their size.

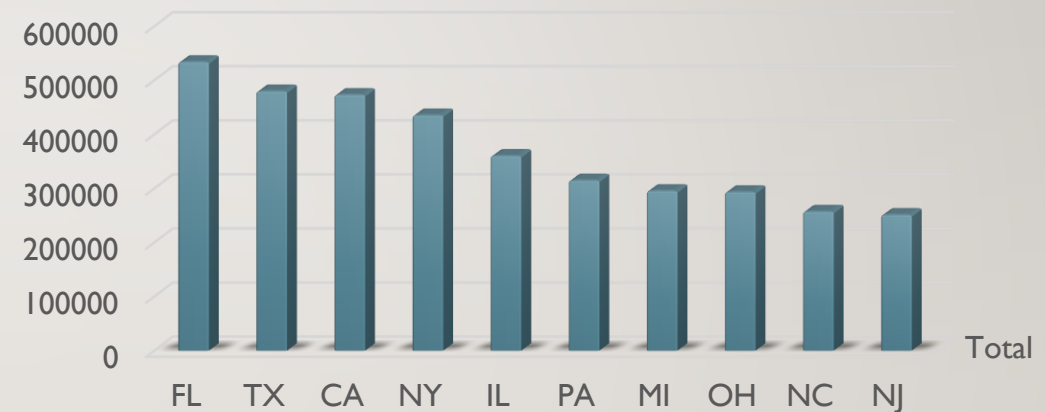
Distribution Of The Top 10 Cities With Most Healthcare Providers For Chest Pain



8 CHEST PAIN TREATMENT REGIONAL ANALYSIS BY DISCHARGE CASES

- Analysis using total discharge cases revealed that **Florida (FL)** has the highest number of Chest Pain cases within the dataset.
- **Texas (TX)** and **California (CA)** are the states with the next highest occurrences of Chest Pain cases follow by **New York**.
- These findings emphasize regional variations in the prevalence of this ailment and provide valuable insights for healthcare planning and resource allocation.

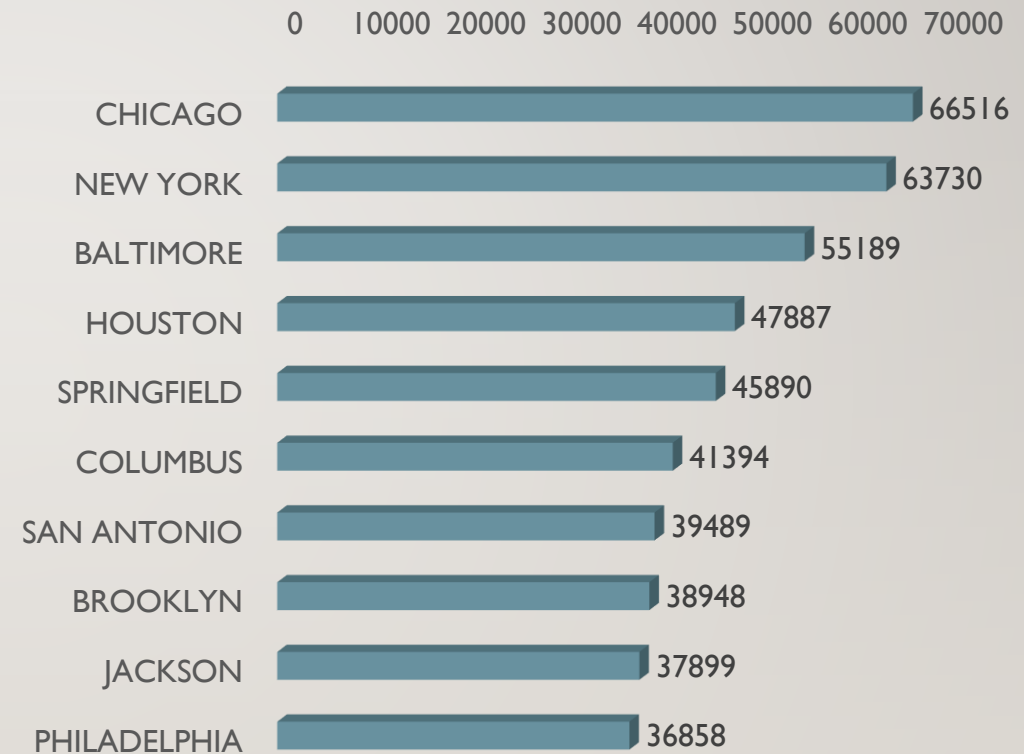
**Top 10 States With Chest Pain
Treatments By Total Discharge**



9 CHEST PAIN TREATMENT PROVIDER CITY ANALYSIS

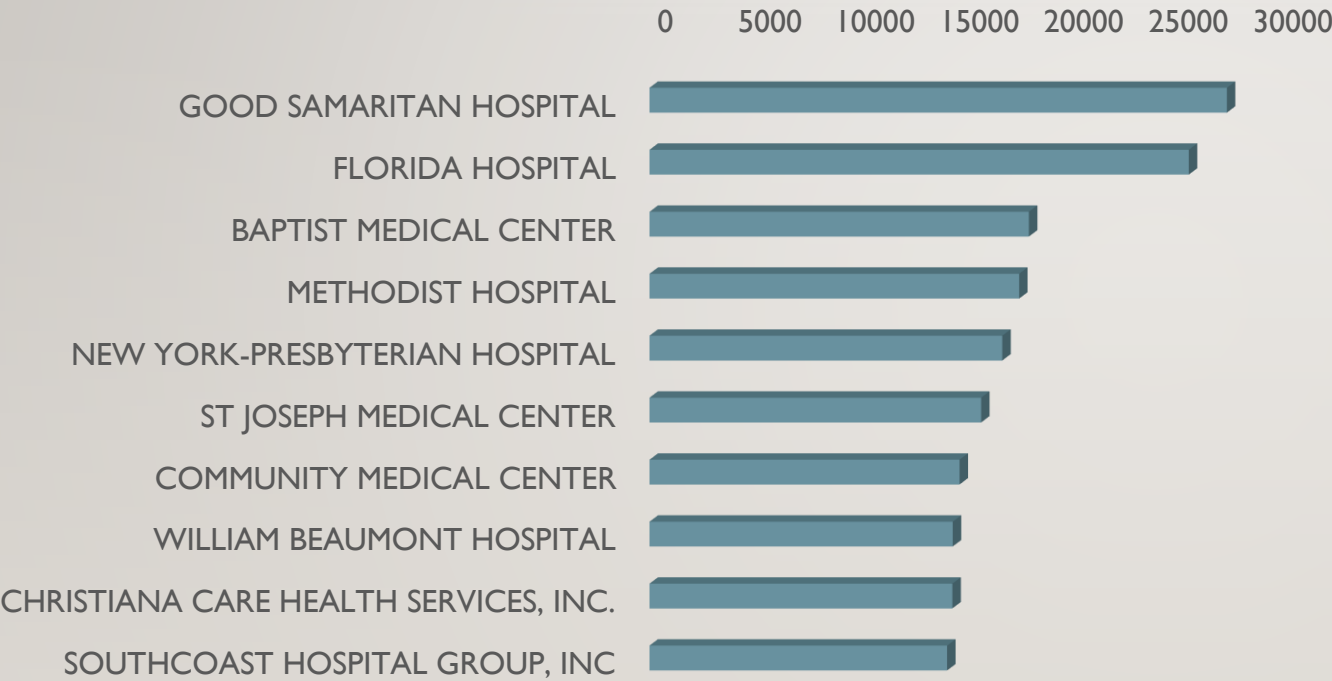
- When focusing on cities, the top 3 with the highest Chest pain cases are **CHICAGO, NEW YORK, and Baltimore**. These cities exhibit a significant prevalence of Chest Pain cases, indicating potential areas of interest for healthcare providers and policymakers in addressing this ailment effectively.

Top 10 Cities With Chest Pain Treatments



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TOP 10 HOSPITALS WITH CHEST PAIN TREATMENT



- **Good Samaritan Hospital is located in Florida and leads with 27,552 chest pain cases;**
- **Florida Hospital follows closely with 25,735 cases, reaffirming Florida's prominence in chest pain treatment.**
- **Baptist Medical Center ranks third with 18,105 cases.**
- **This analysis shows evidence that Florida is a leading state with a high burden of chest pain cases and treatments.**



COST ANALYSIS



Average Covered Charges

Statistical analysis reveals significant cost variability. While the mean charge is approximately \$16,948, the data exhibits positive skewness, indicating a concentration of cases with lower costs and some outliers with notably higher charges.

Average Total Payment

Statical analysis reveals cost disparities. While the mean payment is around \$3,912, the data shows positive skewness, indicating a concentration of cases with lower payments and some outliers with higher payment values.

Average medical Payment

It was revealed payment variations. The mean Medicare payment is approximately \$2,879, with a median of \$2,587.43, indicating some higher payment values. Positive skewness and a broad payment range from \$1,327.23 to \$8,195.95

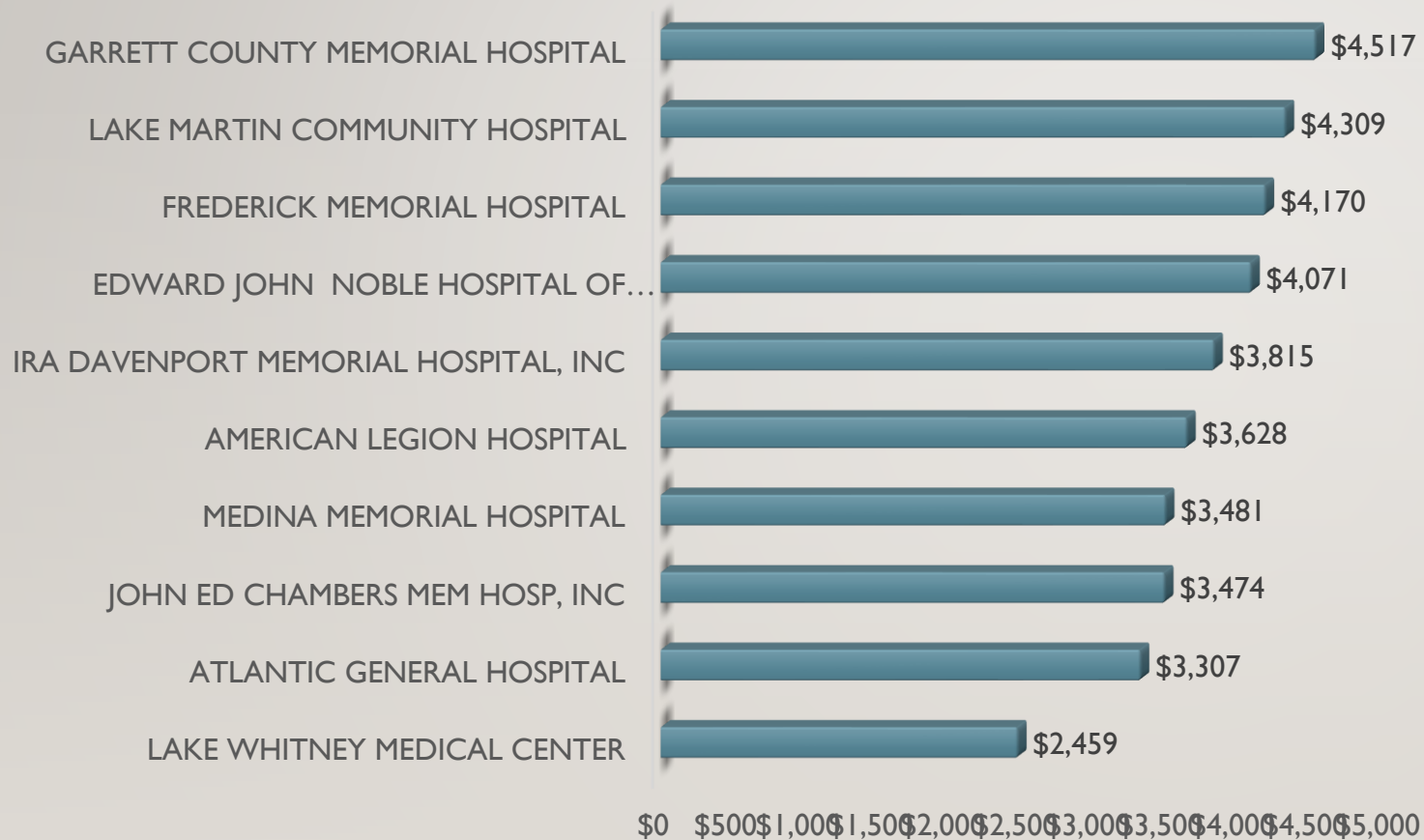
Charges

Statical analysis reveals cost variations. The mean charge is approximately \$3,912, with a median of \$3,628.98, indicating some higher charge values. Positive skewness and a broad range from \$2,673.00 to \$9,180.28

Recommendation: These cost-related attributes exhibit positive skewness, indicating concentration around lower values, but with some higher outliers. This indicate the need to explore factors contributing to disparities in the healthcare cost landscape

TOP 10 AFFORDABLE HOSPITAL BY AVERAGE COVERED CHARGES

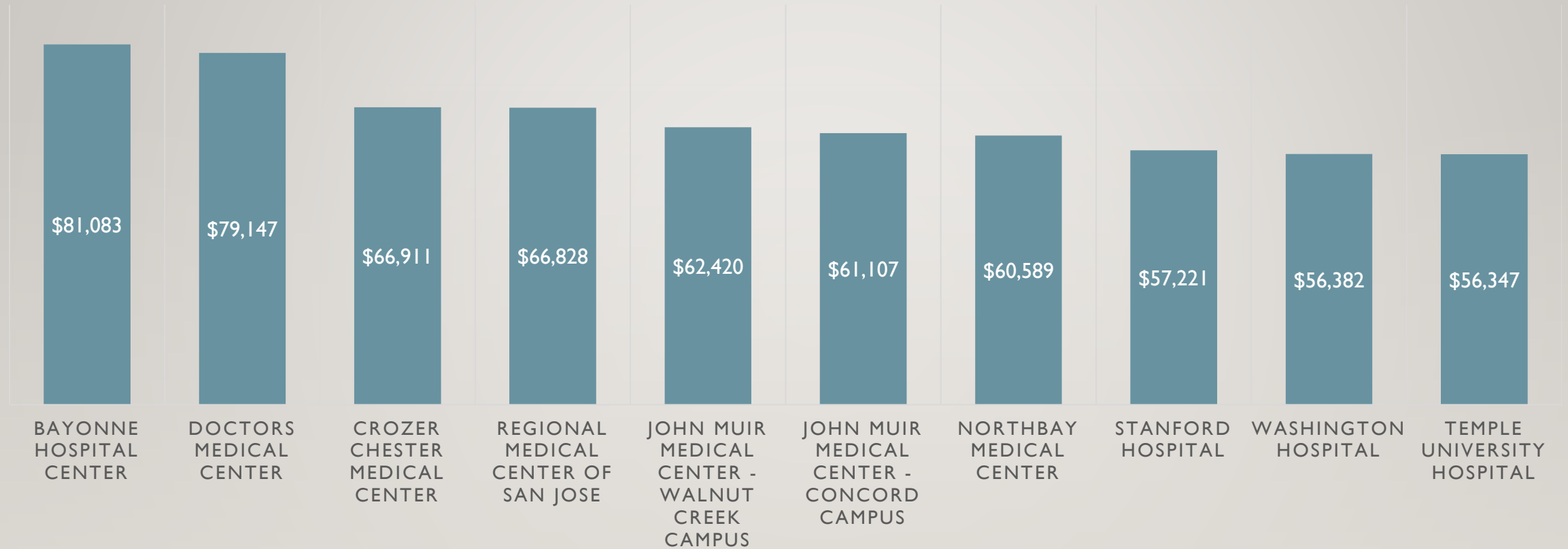
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- The data reveals notable variations in "Average Covered Charges" for Chest Pain treatment.
- Lake Whitney Medical Center stands out with the lowest average charge of \$2,459.40
- The other hospitals maintain relatively higher charges, ranging between \$3,000 and \$4,000.

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TOP 10 EXPENSIVE HOSIPTALs BY AVERAGE COVERED CHARGES



Bayonne Hospital Center has the highest charge at \$81,083.

Followed by Doctors Medical Center at \$79,147 and Regional Medical Center of San Jose at \$66,828.

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Regression Statistics		
Multiple R	0.116965	
R Square	0.013681	
Adjusted R Square	0.013238	
Standard Error	927.6715	
Observations	2229	



The regression analysis indicates a statistically significant relationship between "Total Discharges" and "Average Total Payments" for Chest Pain treatment.



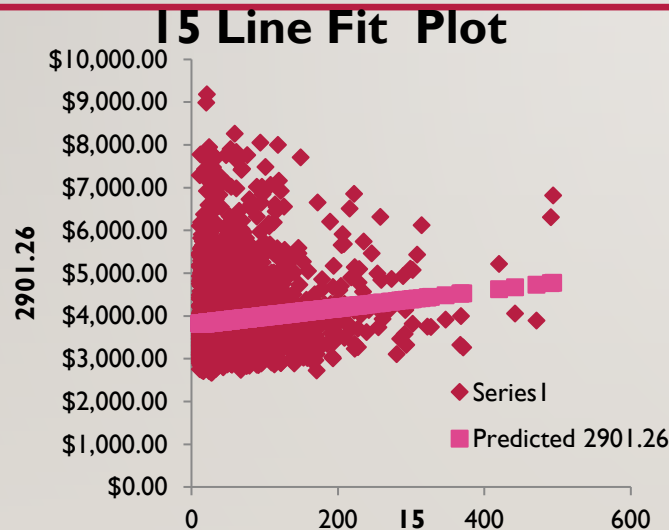
Specifically, as the number of discharges increases, there is a positive impact on average total payments.



However, the variation explained by this relationship is relatively low (R-Square of 1.37%), suggesting that other factors also influence total payments.



Further investigation is needed to comprehensively understand the factors affecting payment variations in healthcare.



15 SUMMARY

- Chicago has the highest number of Chest Pain cases, with the most discharges and treatments, followed by New York and Baltimore.
- Chest Pain cases are also prevalent in Florida, Texas, and California.
- Good Samrita Hospital leads in Chest Pain cases, with Florida Hospital and Baptist Medical Centre following closely.
- Cost analysis reveals significant variations in "Average Covered Charges," "Average Total Payments," "Charges," and "Average Medicare Payments," necessitating exploration of influencing factors.
- "Average Covered Charges" and "Average Total Payments" exhibit both lowest (Lake Whitney Medical Center) and highest (Bayonne Hospital Center) values, underlining the wide range of healthcare costs.
- Disparities in costs among hospitals underscore the need for further analysis to understand the factors contributing to these variations.
- These conclusions provide insights for tailored healthcare strategies, resource allocation, and policymaking based on regional and cost disparities.



13 HEALTHCARE REGULATOR RECOMMENDATIONS

Allocate	Allocate resources strategically to areas with high Chest Pain cases.
Promote	Promote transparency in healthcare costs and charges.
Implement	Implement cost control policies to address disparities.
Monitor and ensure	Monitor and ensure quality of care.
Educate	Educate patients about their rights and choices.

THANK YOU

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