**Impact of COVID-19 on Hospital Utilization in California: A Dashboard Analysis**

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1. Introduction

Abstract: This report examines the effects of the COVID-19 pandemic on hospital utilization in California, utilizing the *Hospital Quarterly Financial Utilization Report Complete Data Set* provided by the California Health and Human Services Agency (CHHS).

Problem Definition: The aim is to assess the changes in hospital utilization patterns, including bed occupancy rates, inpatient and outpatient services, in response to the COVID-19 pandemic.

2. Methodology

Data Collection: Hospital utilization data was collected from the CHHS Hospital Quarterly Financial Utilization Report Complete Data Set, spanning pre-pandemic and pandemic periods. The data spanned from Q4 2016 through Q2 2023.

Steps Followed: Since the data was presented in quarterly reports, preprocessing was necessary in order to provide a unified data set. We leveraged Tableau Prep to union the individual sources then removed any unneeded columns. We then pivoted the data and aggregated based on the section we are using for the dashboard. Additionally, we enriched the data by adding data sources and used plotting technology to clean and validate addresses and obtain longitudinal and latitudinal coordinates. Visualization techniques were applied to highlight the impact of COVID-19 on hospital utilization.

Dashboard Creation: A dashboard was created using data visualization tools to analyze and visualize changes in hospital utilization metrics over time.

3. Analysis

Pre-Pandemic Utilization: Analysis of hospital utilization metrics before the onset of the COVID-19 pandemic to establish baseline trends.

Pandemic Period Utilization: Examination of changes in hospital utilization patterns during the COVID-19 pandemic, including shifts in bed occupancy rates, emergency department visits, and inpatient/outpatient services.

Comparative Analysis: Comparison of utilization metrics between pre-pandemic and pandemic periods to identify significant changes.

4. Discussion

We hypothesize that several factors could have contributed to the fact that bed utilization never recovered post covid. To begin with, we believe that telemedicine could be a main driver. Given that COVID was such a highly contagious disease, people sought alternative forms of healthcare, which could result in fewer individuals visiting traditional hospitals and clinics. Additionally, many healthcare workers became burnt out and decided to leave their fields, which led to a shortage of workers. Finally, we speculate that because of inflation, revenue continues to increase while bed utilization appears to never have recovered to pre-pandemic levels.

5. Results and Conclusion

Key Findings: Summary of the main insights derived from the analysis, highlighting the impact of COVID-19 on hospital utilization in California.

Conclusion: Concluding remarks on the significant changes observed in hospital utilization patterns during the COVID-19 pandemic and their implications for healthcare delivery in California.

Recommendations: Suggestions for future research and policy interventions to address the long-term effects of the pandemic on hospital utilization.

6. References

California Health and Human Services Agency. (n.d.). Hospital Quarterly Financial Utilization Report Complete Data Set. Retrieved from https://data.chhs.ca.gov/dataset/hospital-quarterly-financial-utilization-report-complete-data-set

This structure provides a framework for analyzing the impact of COVID-19 on hospital utilization in California using the available dashboard data. Additional insights and recommendations can be added based on the specific findings derived from the analysis.