Indian Healtcare System

Analysis Of Healthcare System

Presented by Ghulam Nabi Hussain

Objectives

The overarching objective of this project is to conduct a comprehensive analysis of healthcare infrastructure across various states of India, focusing on the distribution and availability of facilities, hospital beds, and medical professionals. By integrating multiple datasets, the project aims to identify regional disparities, assess utilization rates, and explore correlations between healthcare resources and health outcomes. The ultimate goal is to provide actionable insights that can inform policy decisions and strategic planning to improve healthcare access and efficiency across diverse regions.

Abstract

1. Holistic Overview
2. Identification of Disparities
3. Utilization Insights
4. Correlation Analysis
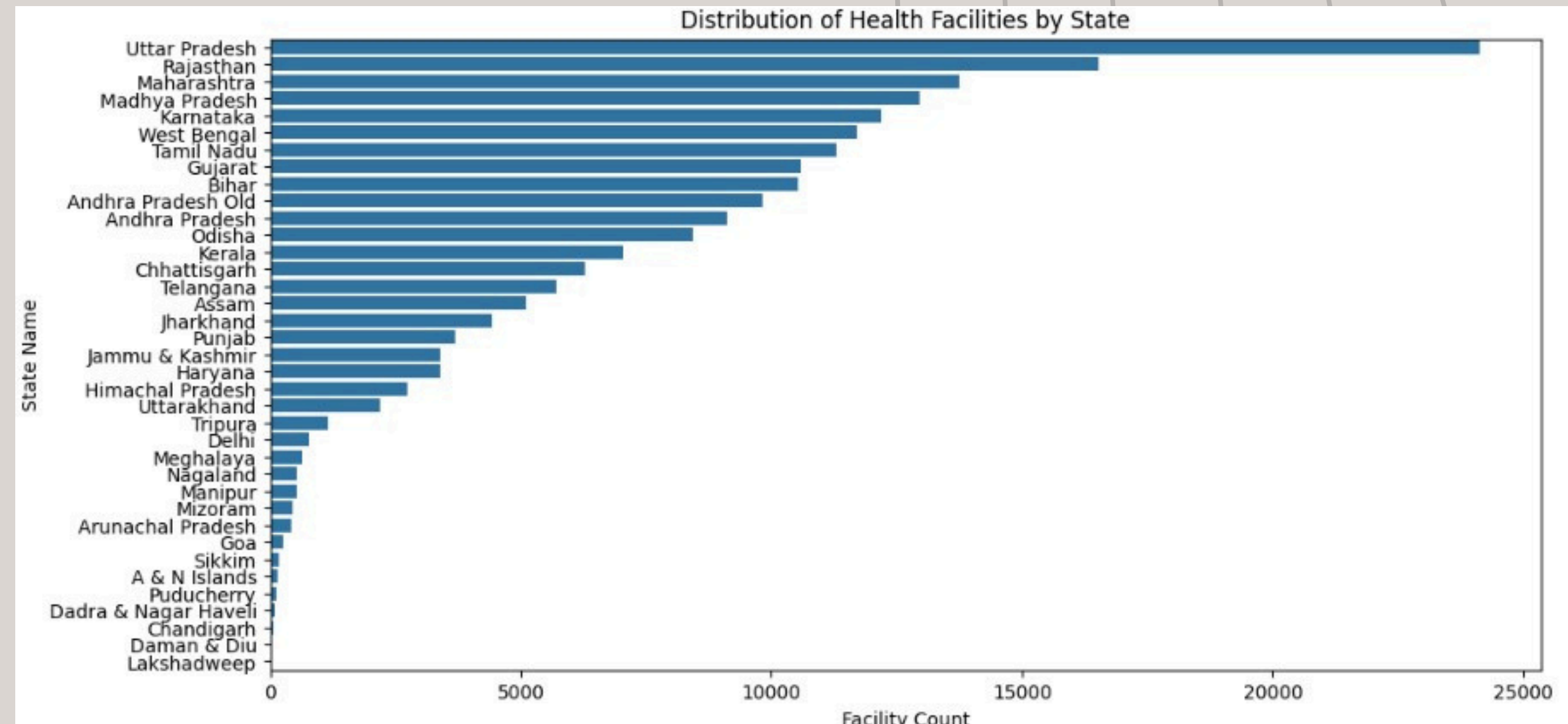5. Strategic Recommendations
6. Enhanced Visualization

Facility Distribution Analysis

Objective:
- To analyze and visualize the distribution of healthcare facilities across different states or regions.

Outcomes:
- Identification of areas with high and low density of healthcare facilities.
- Understanding regional disparities in healthcare infrastructure.

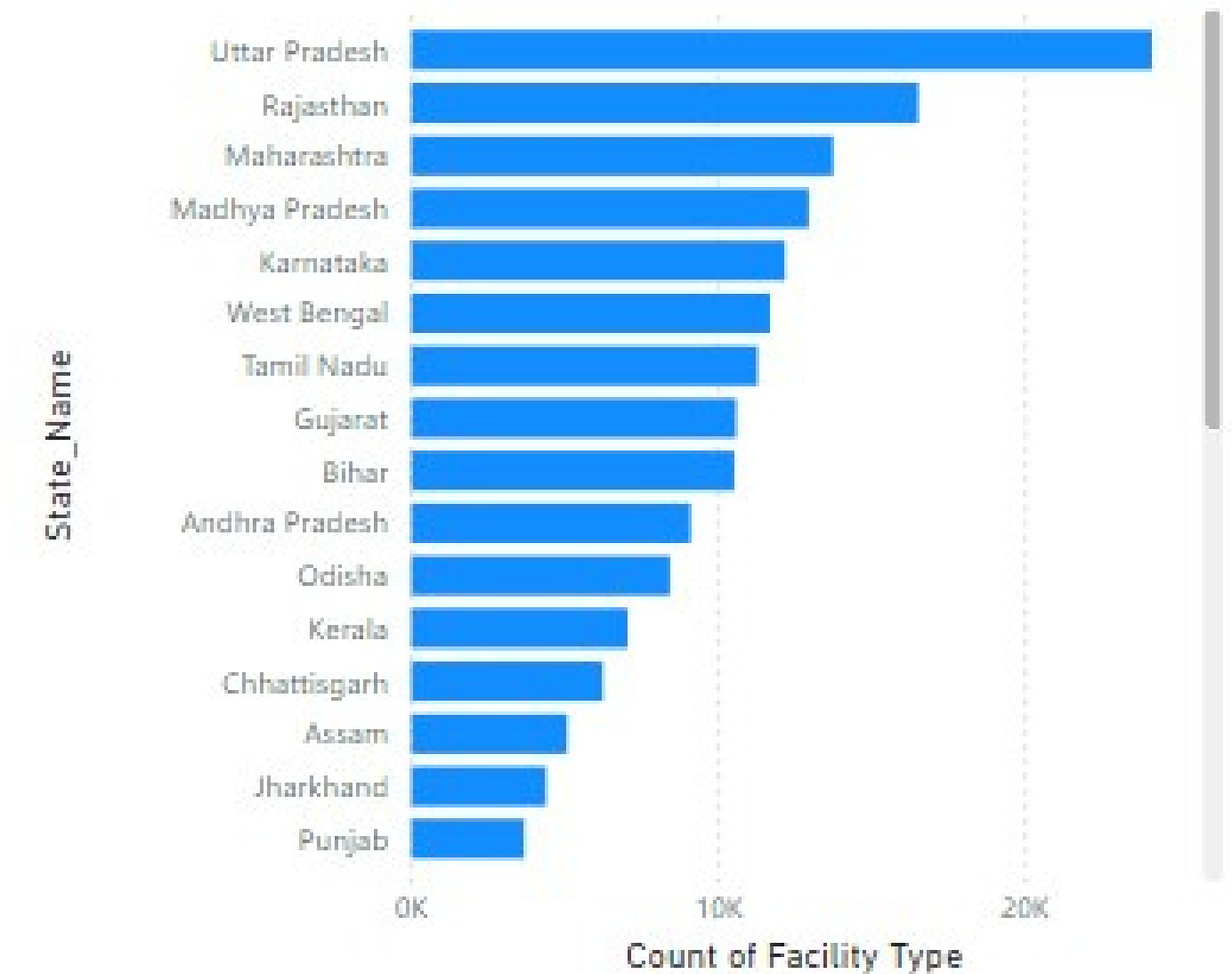Distribution of Health Facilities by State

Recommendations:

- Prioritize resource allocation to underserved areas.
- Implement policies to encourage the establishment of more facilities in regions with low healthcare density.

Count of Facility Type by State_Name and Type Of Facility

Type Of Facility ● Public

State_Name
- Uttar Pradesh
- Rajasthan
- Maharashtra
- Madhya Pradesh
- Karnataka
- West Bengal
- Tamil Nadu
- Gujarat
- Bihar
- Andhra Pradesh
- Odisha
- Kerala
- Chhattisgarh
- Assam
- Jharkhand
- Punjab

0K ... 10K ... 20K

Count of Facility Type

200.44K
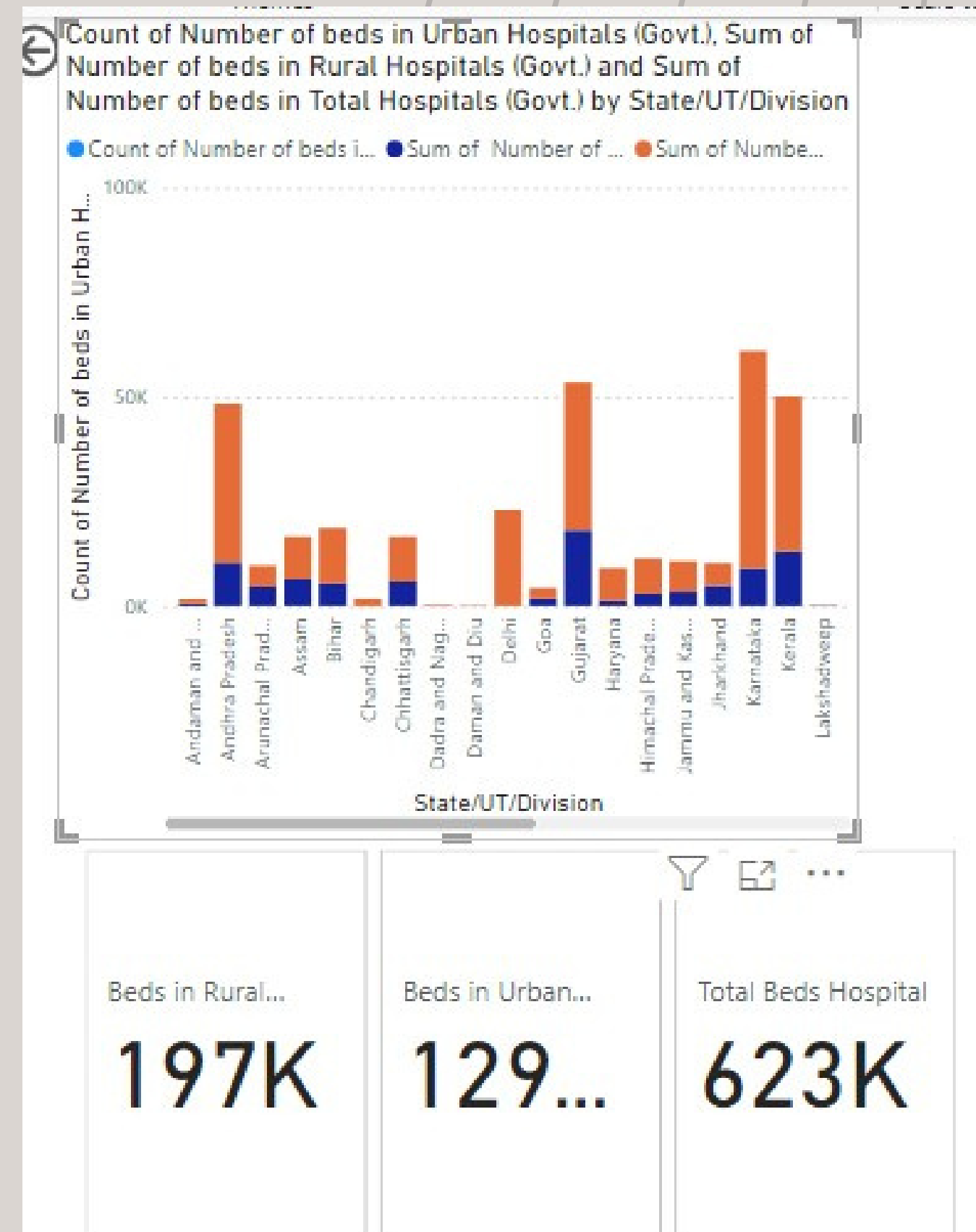
Count of Facility Type

Bed Availability Analysis

Objective:
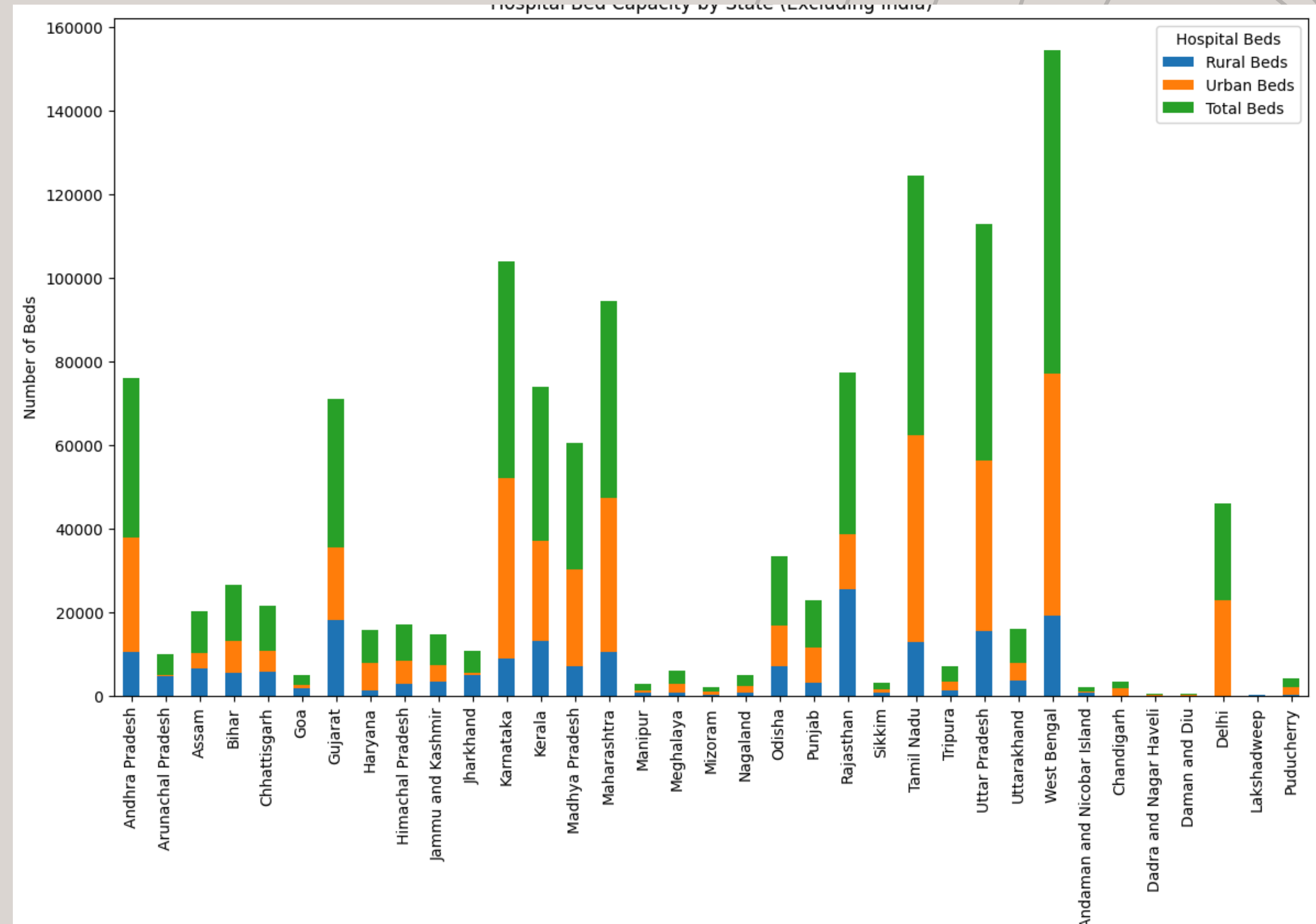- To assess the availability of hospital beds in rural and urban hospitals across different states.

Outcomes:
- Clear visualization of the ratio of beds to population in different areas.
- Identification of regions with critical shortages.

Recommendations:

- Increase bed capacity in overcrowded hospitals.
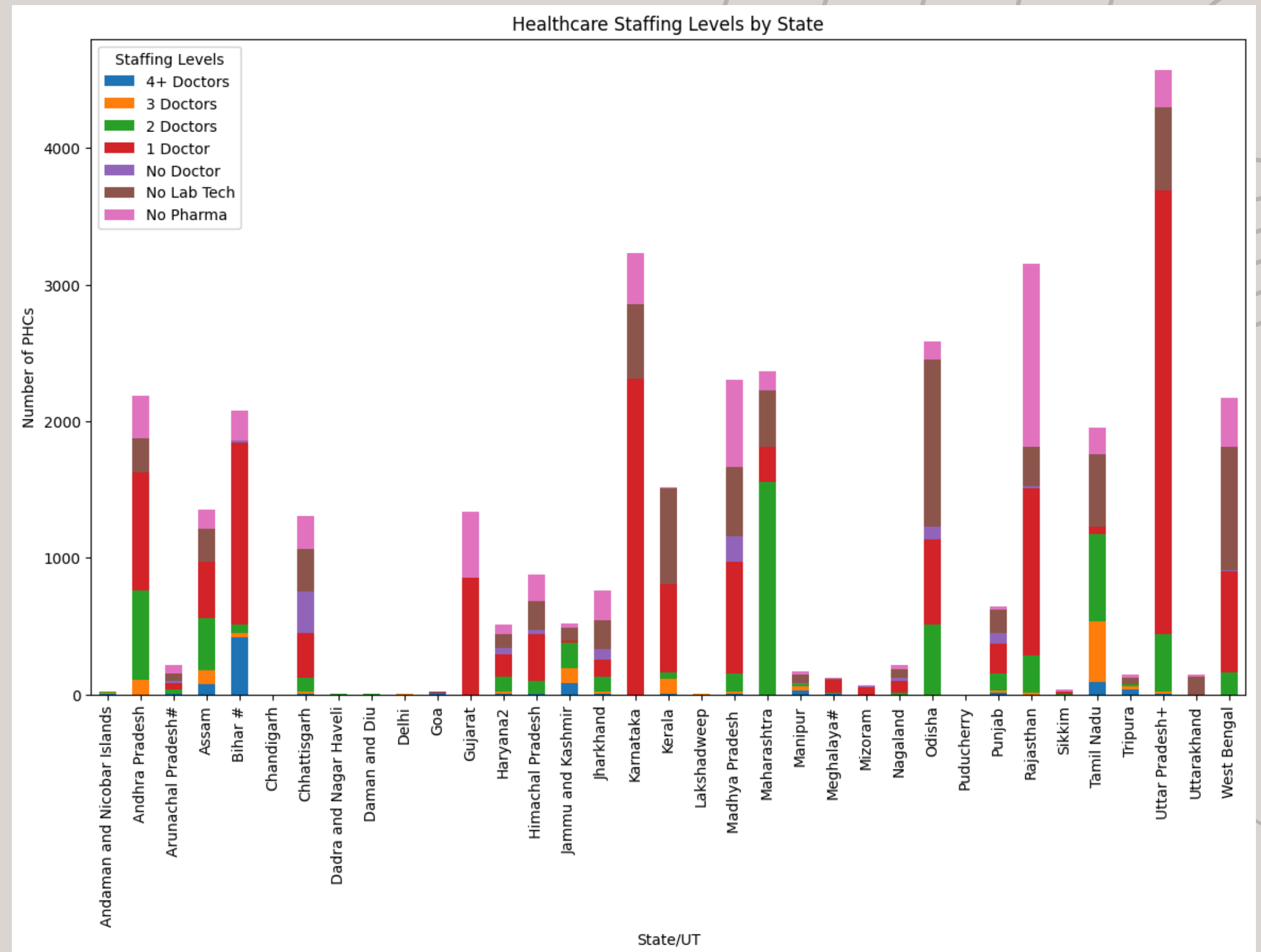- Improve healthcare access in rural areas by building more facilities or expanding existing ones.

Hospital Bed Capacity by State (Excluding India)

Doctor Availability Analysis

Objective:
- To evaluate the number of doctors available in Primary Health Centers (PHCs) across states.
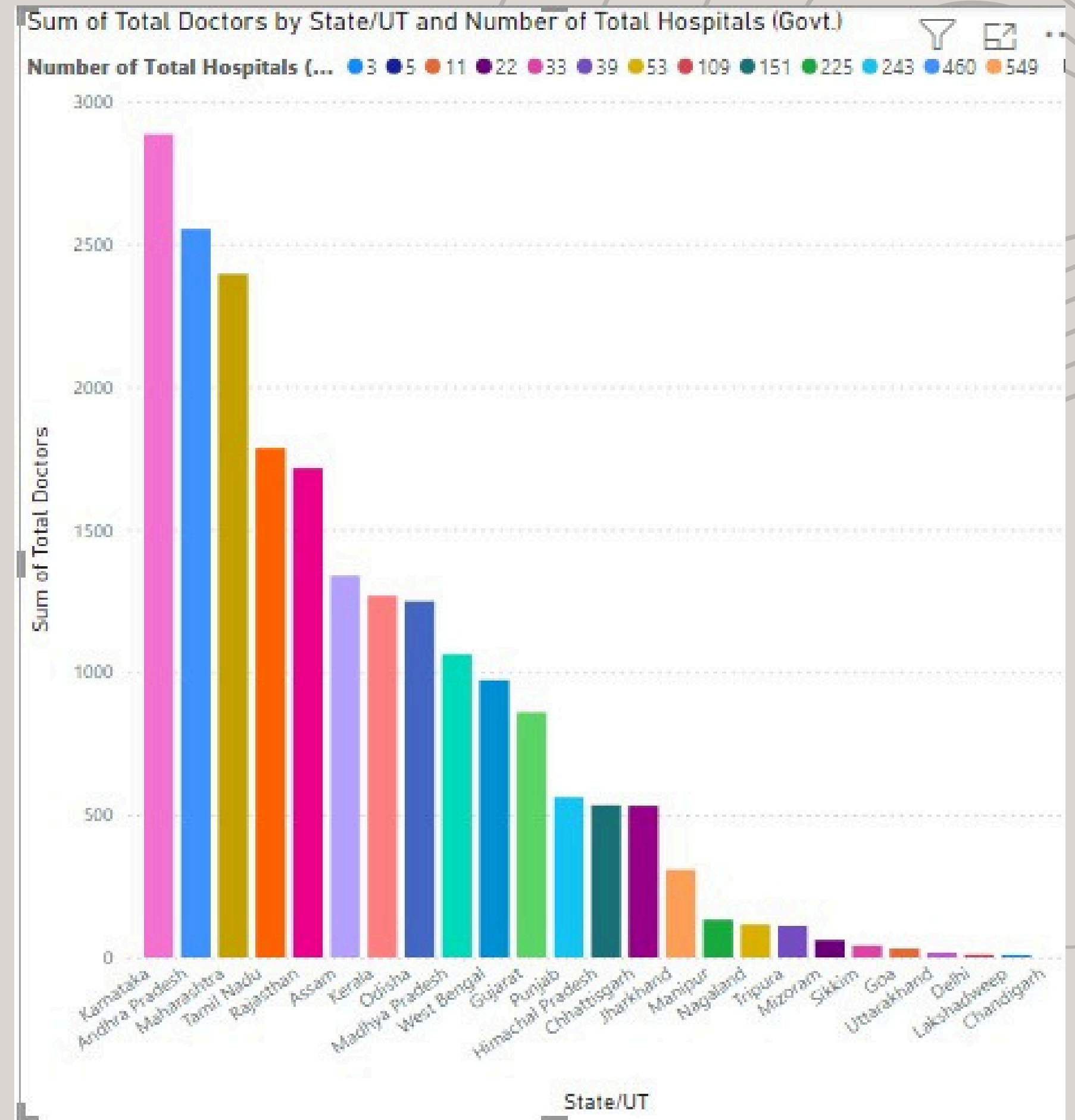
Outcomes:
- Visualization of doctor distribution and potential gaps in healthcare coverage.
- Identification of states with inadequate doctor-to-patient ratios.

Healthcare Staffing Levels by State

Recommendations:

- Incentivize doctors to work in underserved regions.
- Increase recruitment efforts in areas with a low number of practicing doctors.
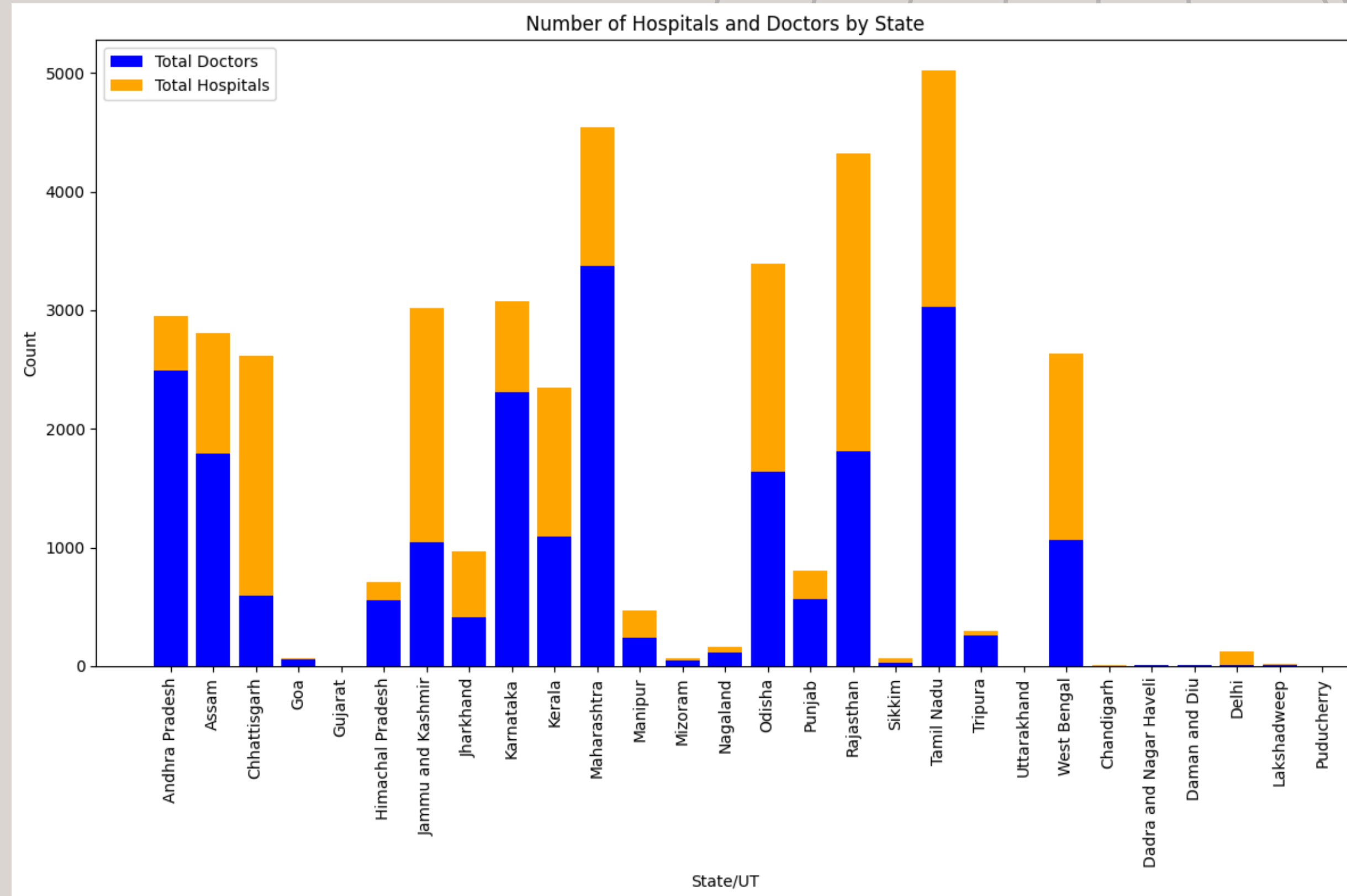
State-wise Healthcare Facility Analysis

Objective:
- To merge multiple datasets to gain insights into healthcare infrastructure across states, including facility counts, bed availability, and doctor distribution.
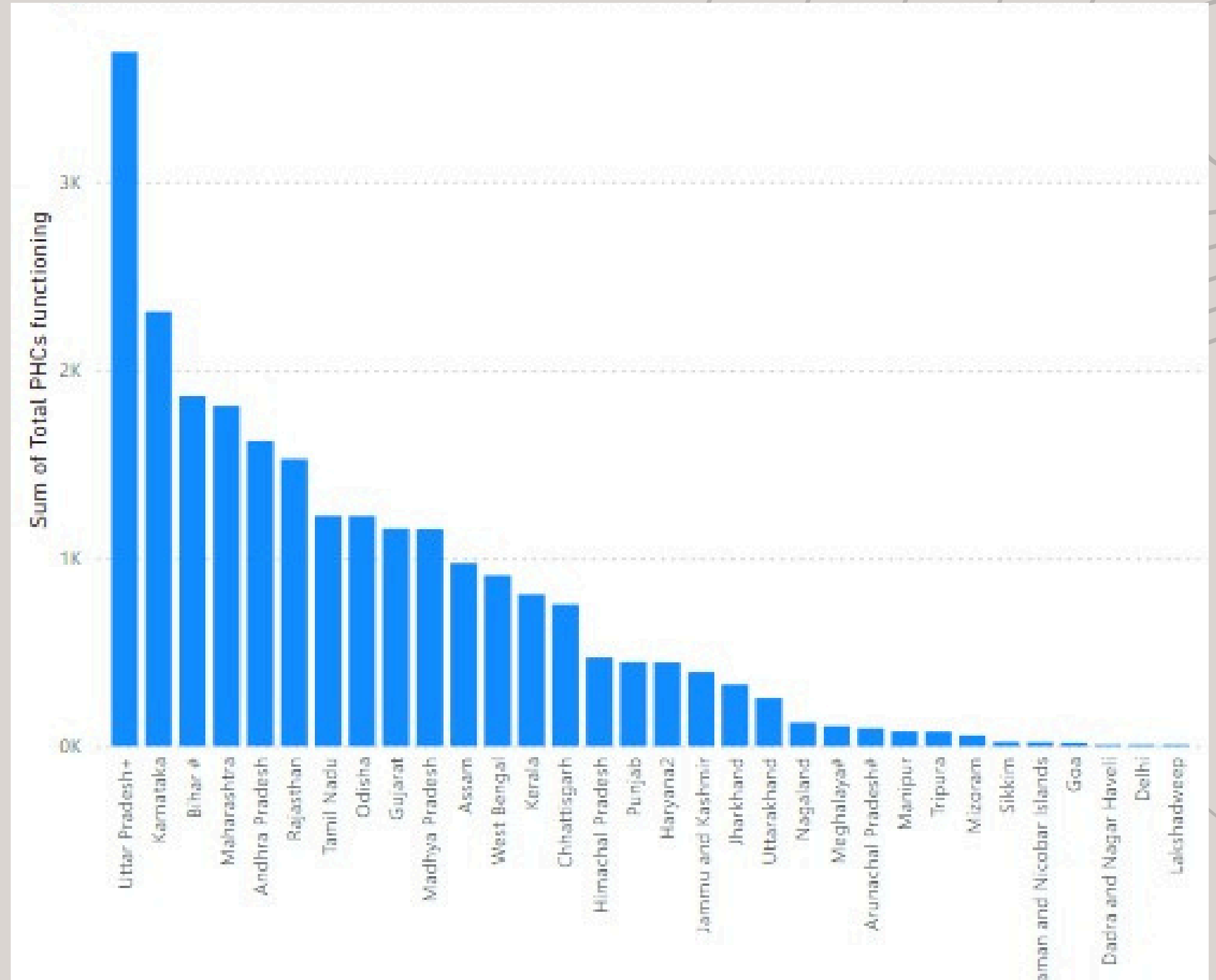
Outcomes:
- Comprehensive overview of healthcare infrastructure by state.
- Identification of correlations between healthcare resources and population served.

Number of Hospitals and Doctors by State

Recommendations:

- Utilize this integrated analysis for strategic planning and policy-making.
- Address disparities in healthcare resources by implementing targeted initiatives.

Geographic Visualization of Healthcare Facilities

Objective:
- To visualize healthcare facilities on a map to better understand geographic distribution.

Outcomes:
- Identification of geographical regions with dense or sparse healthcare facilities.
- Easy visualization of regional disparities.

Average of latitude and Sum of Number of Total Hospitals (Govt.) by State Name and State/UT

State/UT ● (Blank) ● Andhra ... ● Assam ● Chandig... ● Chhattis... ● Delhi ● Goa ● Gujarat ►

First State Name

A & N...

Sum of Number of Total Hospitals...

24K

Recommendations:

- Focus on building or upgrading facilities in regions identified as underserved.
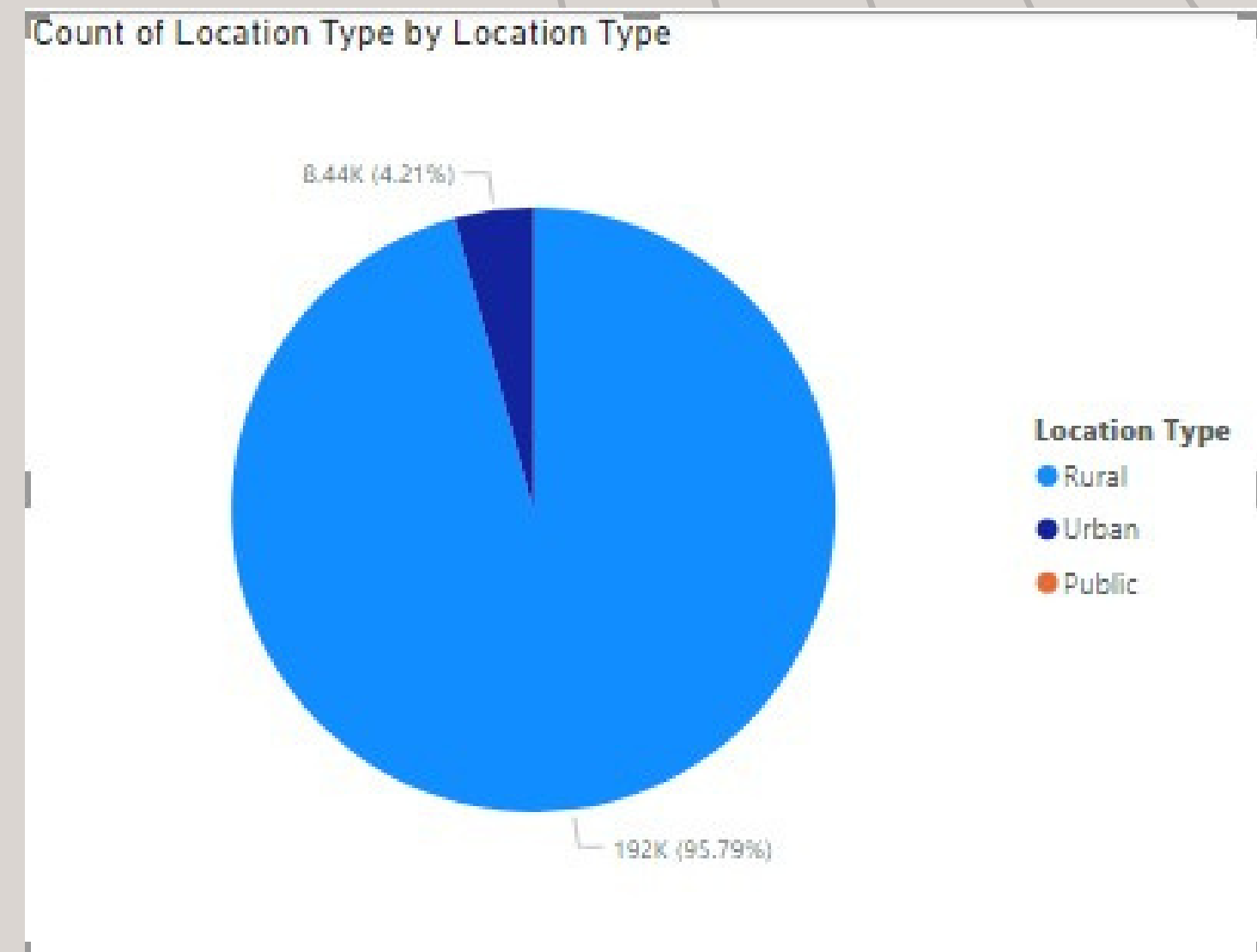- Utilize geospatial data in decision-making for healthcare resource distribution.

Rural vs. Urban Healthcare Distribution

Objective:
- To compare the distribution of healthcare facilities between rural and urban areas.

Outcomes:
- Visualization showing whether healthcare infrastructure is skewed towards urban or rural areas.
- Insights into urban-rural disparities in healthcare access.

Count of Location Type by Location Type

8.44K (4.21%)

192K (95.79%)

Location Type
- Rural
- Urban
- Public

Recommendations:

- Develop policies to address the urban-rural divide in healthcare.
- Encourage the development of healthcare facilities in urban areas through incentives and support, as it has more population density.
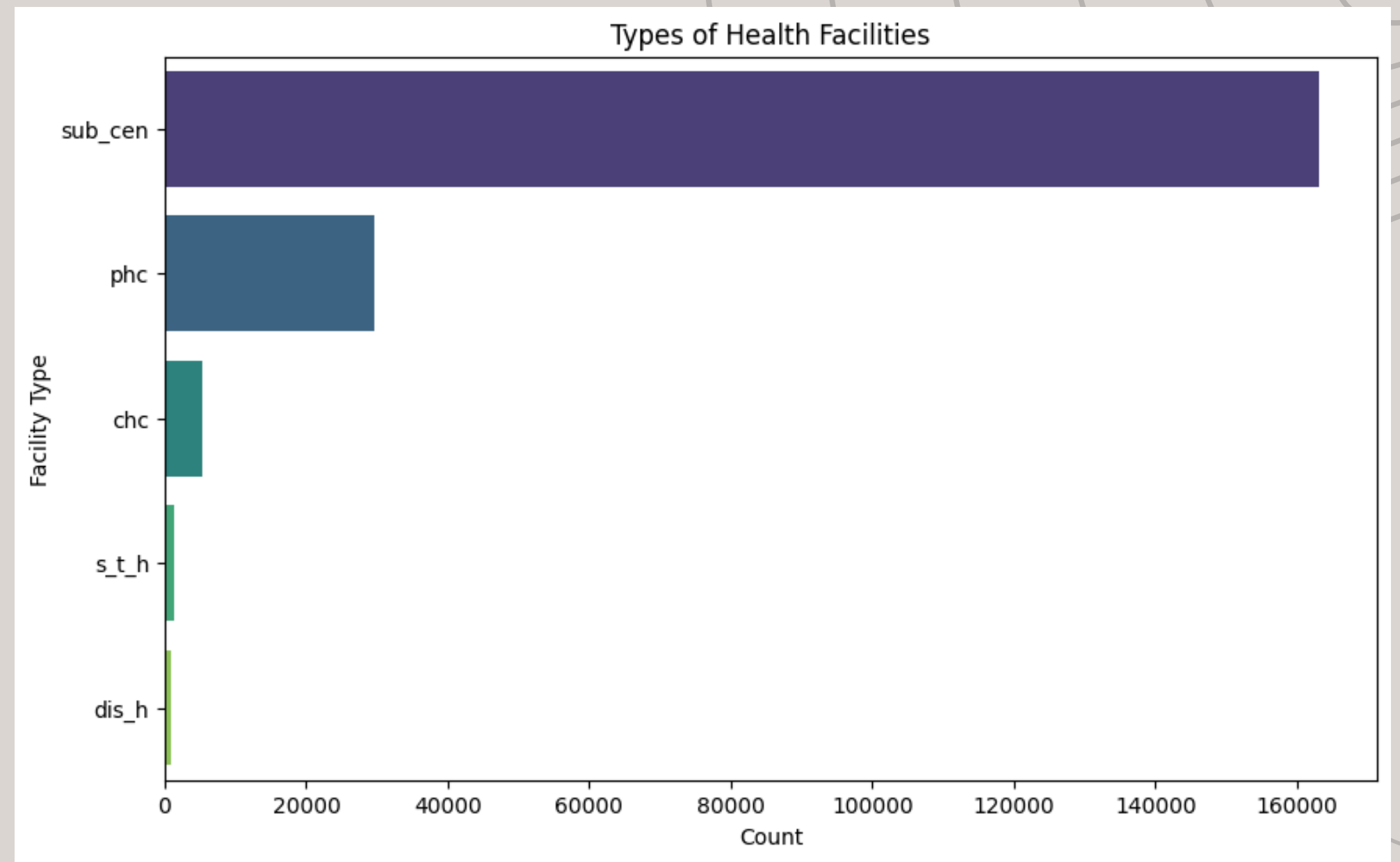
Healthcare Facility Type Analysis

Objective:
- To categorize and analyze different types of healthcare facilities.

Outcomes:
- Clear understanding of the distribution of various facility types.
- Identification of areas lacking specific types of healthcare services.

Types of Health Facilities

Recommendations:

- Ensure a balanced distribution of all types of healthcare facilities.
- Promote the establishment of specialized facilities in areas with identified gaps.
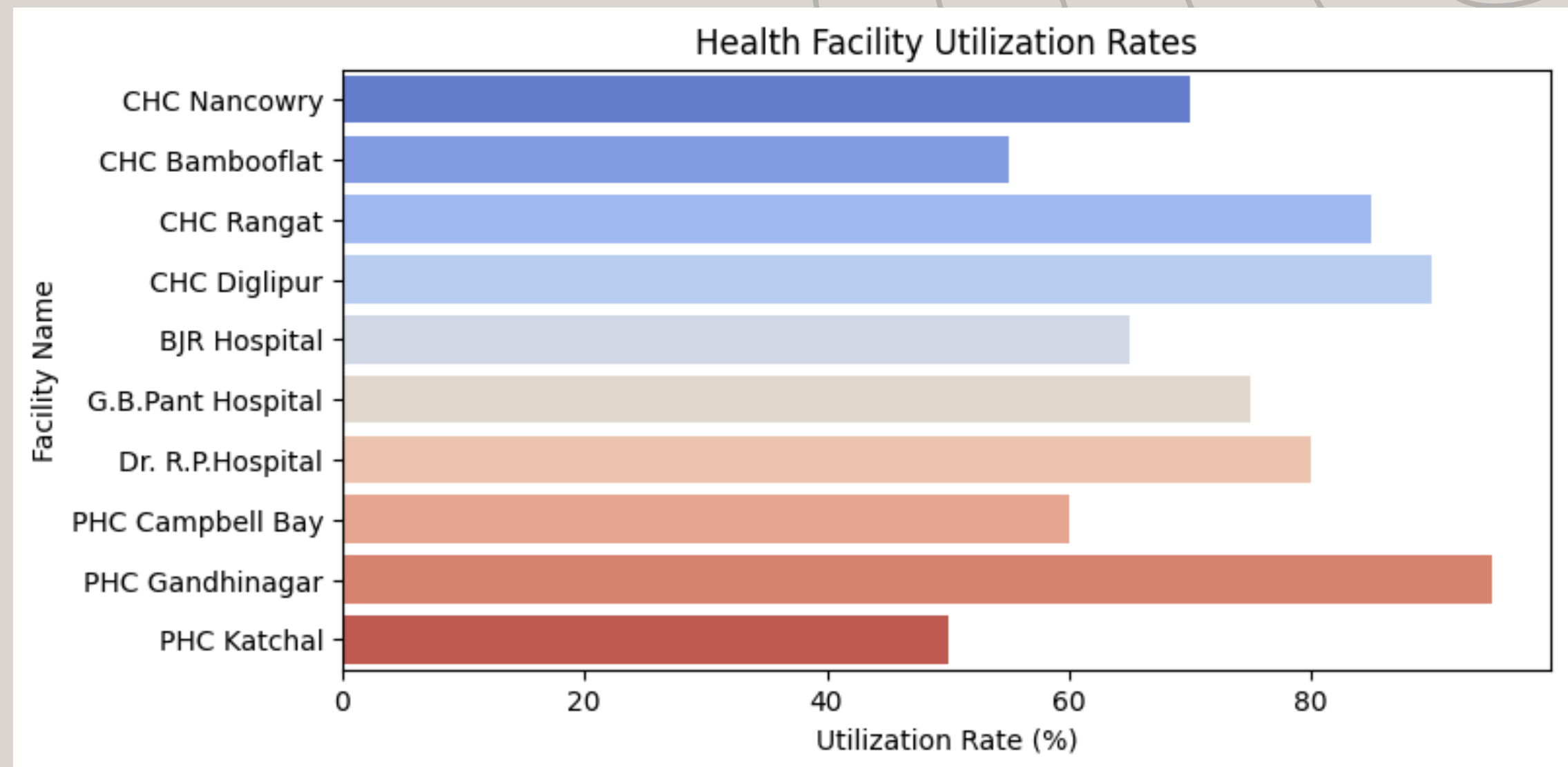
Utilization Rate Analysis

Objective:
- To analyze the utilization rates of healthcare facilities.

Outcomes:
- Understanding of how effectively healthcare facilities are being utilized.
- Identification of underused or overused facilities.

Health Facility Utilization Rates

Recommendations:

- Optimize resource allocation to improve facility utilization.
- Investigate reasons for underutilization and address them through policy changes or resource reallocation.
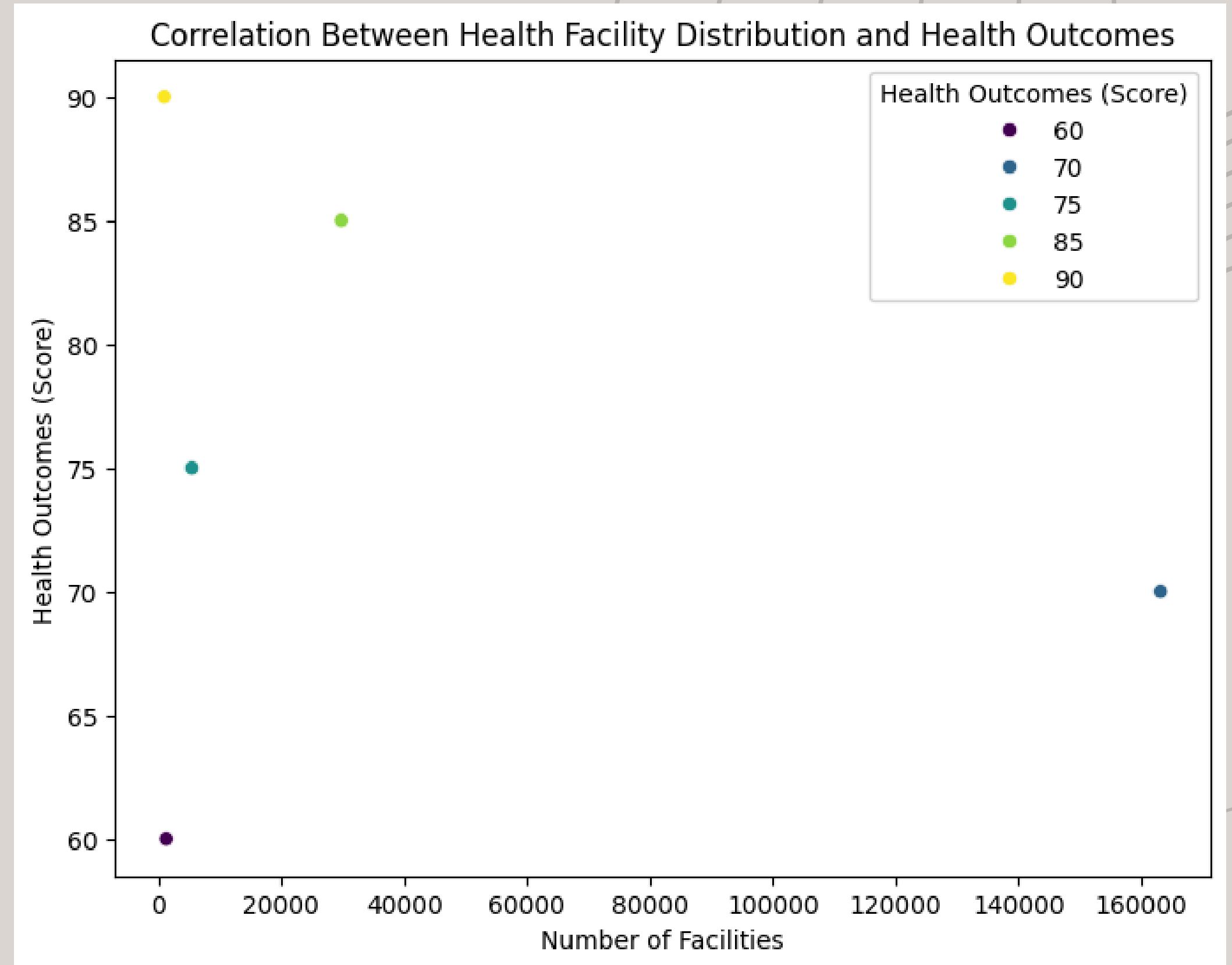
Correlation Between Healthcare Facilities and Health Outcomes

Objective:
- To explore the correlation between the number of healthcare facilities and health outcomes.

Outcomes:
- Insights into whether increasing the number of facilities leads to better health outcomes.
- Identification of other factors that might influence health outcomes.

Correlation Between Health Facility Distribution and Health Outcomes

Recommendations:

- Use correlation data to inform healthcare policy.
- Consider multifactorial approaches to improving health outcomes, beyond just increasing facility numbers.