Registered Nurse Shortage Analysis in California

A Workforce and Population Impact Assessment

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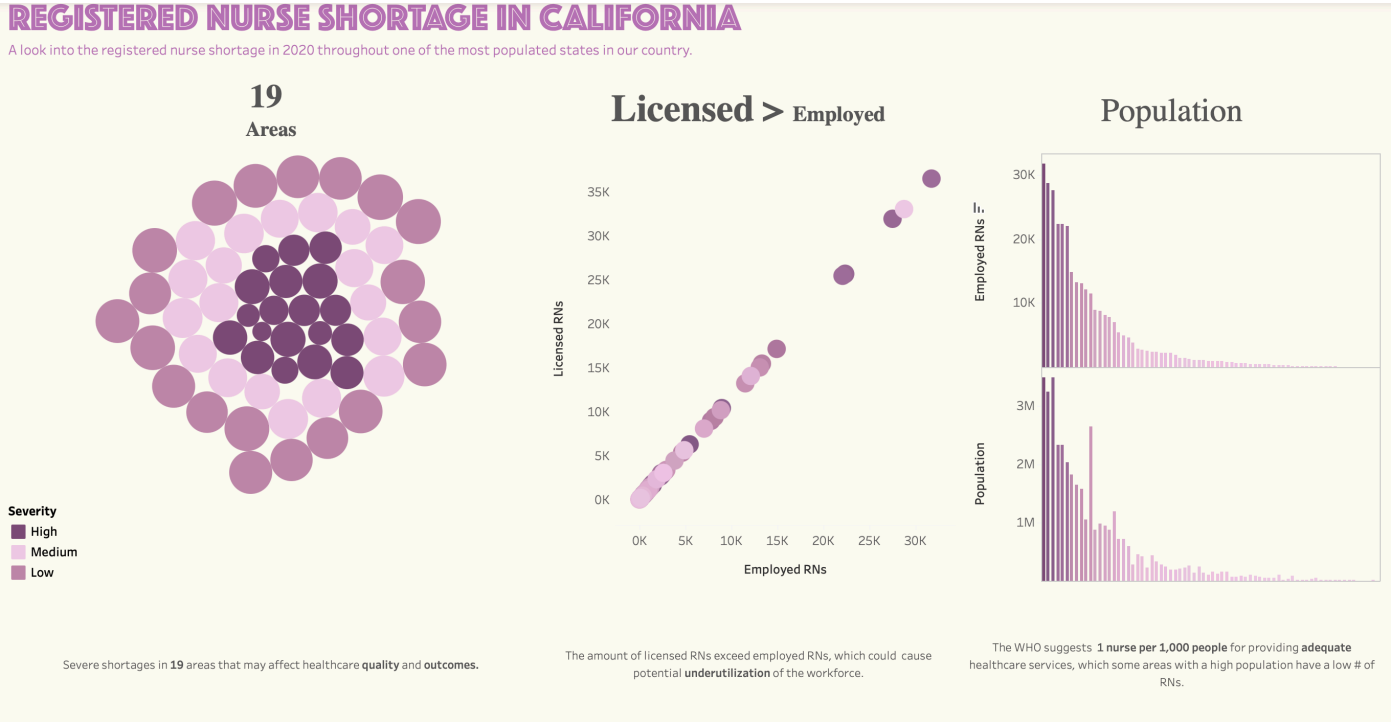
Tableau Dashboard



Executive Summary

This report analyzes the registered nurse (RN) workforce shortage across California using publicly available workforce and population data. The objective of this analysis is to assess the severity of RN shortages across multiple regions, compare licensed versus employed nurses, and evaluate how population distribution impacts healthcare staffing adequacy.

The analysis identifies **19 regions** experiencing varying levels of RN shortages and highlights a recurring gap between licensed and actively employed nurses. Findings suggest potential workforce underutilization in some regions and elevated healthcare risk in high-population areas with comparatively low RN employment levels.

Data Source and Scope

The analysis utilizes publicly available data related to:

- Number of licensed registered nurses
- Number of employed registered nurses
- Regional population counts
- Geographic regions across California

The dataset represents workforce and population conditions for the year **2020** and includes **19 distinct regions** within the state.

Analysis Objectives

The primary objectives of this analysis were to:

- Identify regions experiencing registered nurse shortages
- Categorize shortage severity levels
- Compare licensed RN counts to employed RN counts
- Examine population size relative to RN employment
- Assess potential healthcare staffing risks

Regional Shortage Severity

The dashboard categorizes RN shortages into **High**, **Medium**, and **Low** severity levels across 19 regions.

Key Findings

- Several regions fall into the **high-severity** shortage category, indicating a critical imbalance between healthcare demand and workforce availability.
- Medium-severity regions show early warning signs of staffing strain.
- Low-severity regions maintain relatively balanced RN availability but may still face future risk due to population growth.

This classification enables targeted analysis of regions most vulnerable to staffing challenges.

Licensed vs. Employed Registered Nurses

A comparison of licensed versus employed registered nurses reveals a consistent trend where **licensed RN counts exceed employed RN counts** across multiple regions.

Key Insights

- The presence of licensed but unemployed RNs suggests potential workforce underutilization.
- Factors such as job availability, working conditions, regional cost of living, and burnout may contribute to employment gaps.
- Regions with larger disparities may benefit from targeted retention or workforce re-entry initiatives.

This gap represents an opportunity to strengthen healthcare capacity without relying solely on new workforce pipelines.

Population Impact Analysis

Population distribution was analyzed alongside RN employment levels to assess healthcare coverage risk.

Key Observations

- High-population regions do not consistently have proportionally higher numbers of employed RNs.
- Some densely populated areas fall below recommended RN-to-population ratios.
- According to World Health Organization guidance, adequate care requires approximately **1 nurse per 1,000 people**.

Regions failing to meet this benchmark may experience reduced care quality, increased workload for healthcare staff, and longer patient wait times.

Overall Findings

The analysis indicates that California's RN shortage is influenced by both **workforce availability** and **population pressure**.

Key themes include:

- Uneven regional distribution of employed RNs
- Underutilization of licensed nurses
- Increased risk in high-density population areas
- Potential strain on healthcare quality and outcomes

These findings suggest that addressing RN shortages requires a combination of workforce optimization and strategic planning.

Recommendations

Based on the analysis, the following actions may support improved workforce outcomes:

1. Investigate barriers preventing licensed RNs from entering or remaining in the workforce.
2. Implement regional retention and re-engagement initiatives in high-severity areas.
3. Align workforce planning with population growth trends.
4. Monitor RN-to-population ratios as a key healthcare capacity metric.
5. Use data-driven dashboards to support ongoing workforce and policy decisions.

Conclusion

This project demonstrates how workforce and population data can be leveraged to assess healthcare staffing challenges at a regional level. Through data visualization and structured reporting, the analysis provides actionable insights into RN shortages, workforce gaps, and population-driven healthcare risks across California.

This report supports informed decision-making for healthcare administrators, workforce planners, and policy stakeholders.