

Understanding Hospital Demand in New South Wales

Introduction: Business Problem

In order to provide better healthcare service it is imperative for every government to **understand and forecast the demand of healthcare services** as the population grows.

The issue is that it requires large amount of budget to maintain the existing healthcare infrastructure and to develop new ones. Therefore, governments generally struggle **to balance the available resources where the actual need is**.

In this project we will **identify the gaps** where there is requirement for more health services in the state of **New South Wales** in **Australia**.

Methodology

In this project we will start by **identifying the location of the existing public hospital within NSW**.

Once we will be able to plot the public hospital on the map, we will identify the boundaries of the **Local Health Districts** and super-impose the **population density of each district**. This will help us to identify the number of public hospitals in highly dense population areas.

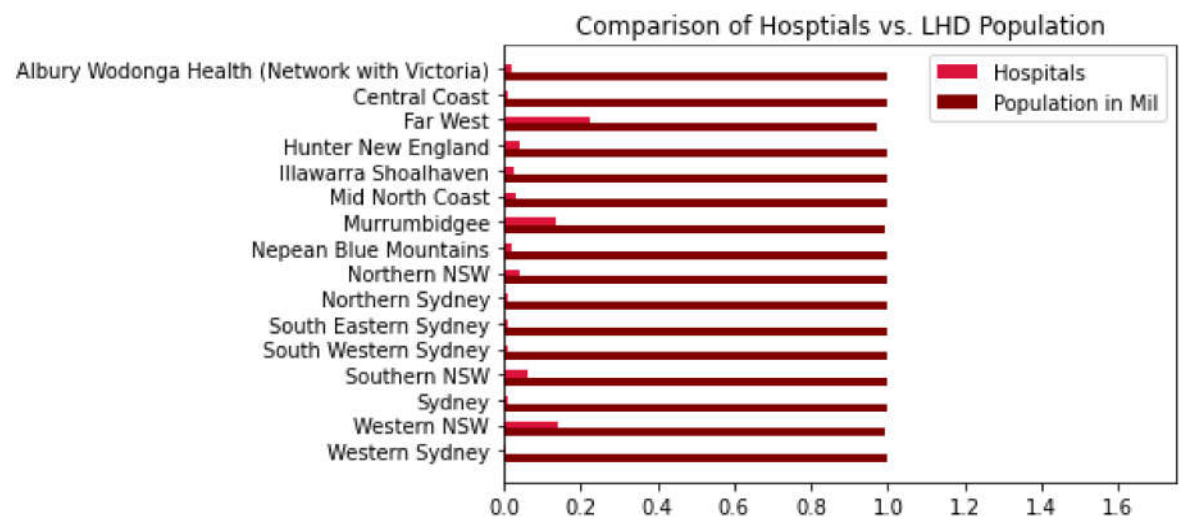
Then we will develop a **key progress indicator of beds / 1000 persons** to check the demand of beds vs. the population density. After that we will plot each district's **total number of beds per 1000 person**, and identify which district fall short of the required benchmark KPI.

Once the districts are identified we can predict that only these Local Health Districts require extra resources to increase the supply of healthcare services.

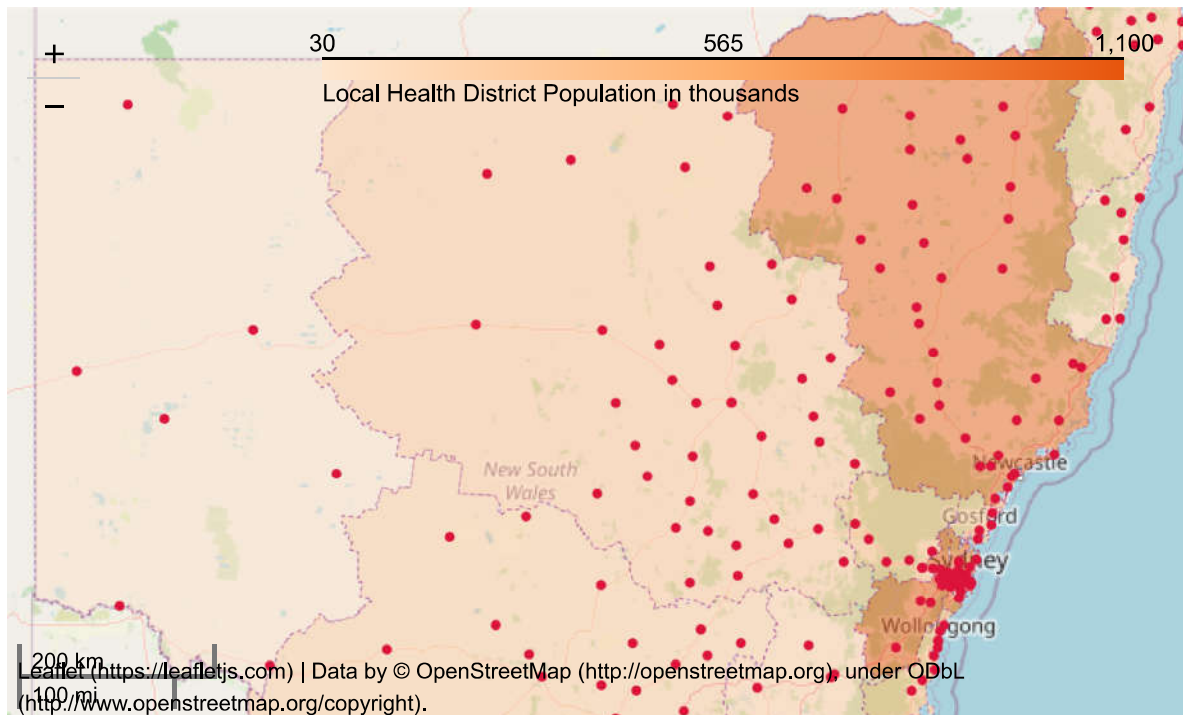
Analysis

Mapping public hospitals in NSW

Creating bar chart for visual comparison of Hospitals and LHD Population

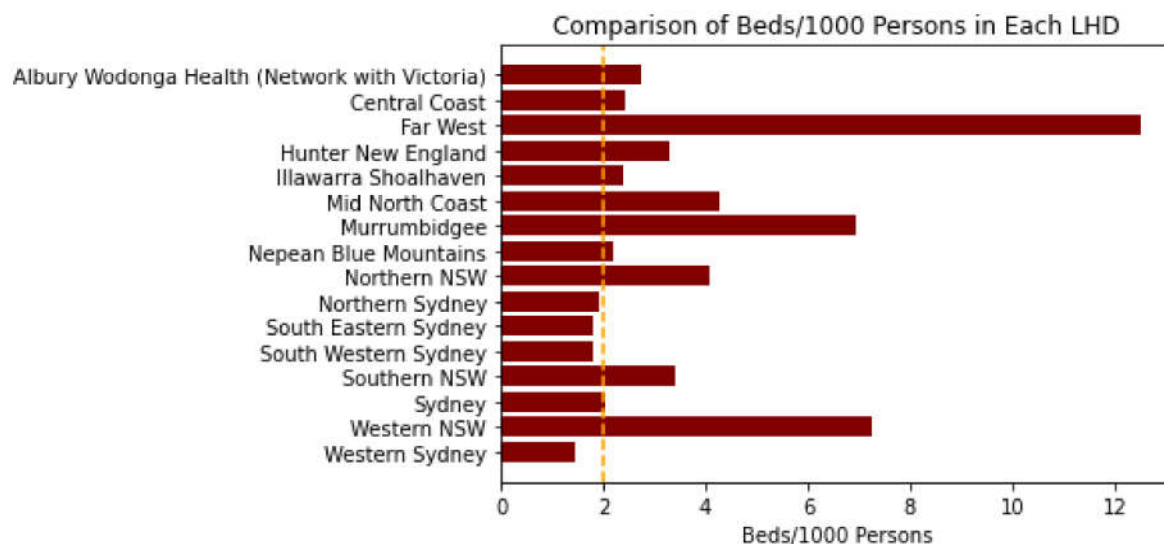


Geo-mapping of hospitals



Benchmarking and analysis

Plotting benchmark against hospitals KPIs



Results and Discussion

As we can see as from the map and the graph that the **below benchmark hospital availability** is mainly in the areas which are **densely populated**. However, low density areas have ample supply of healthcare services

Conclusion

The average ratio for hospital coverage should be 2 beds per 1000 persons in the coverage area.

The local health districts having ratio lower than this are:

Northern Sydney

South Eastern Sydney

South Western Sydney

Western Sydney

Therefore, these districts should be provided more hospitals to cover the shortage.

The lighter colour areas in the map below shows the areas of shortage.

Out[15]:

