

Homework 2

Research Methods, Spring 2025

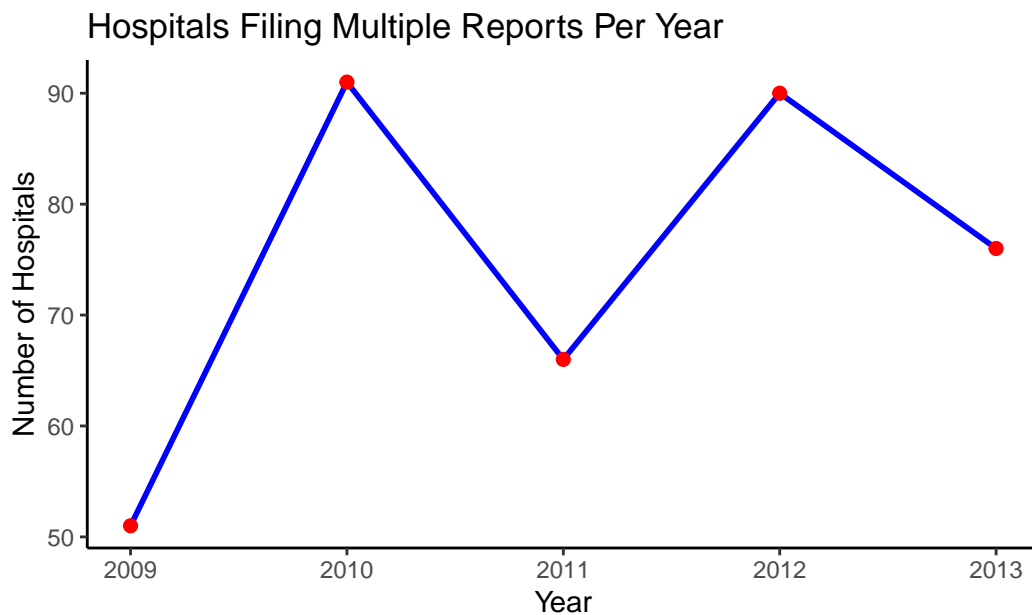
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Here is a link to my repository (<https://github.com/bemur3/hmwk2>)

Question 1

Warning: Using ``size`` aesthetic for lines was deprecated in ggplot2 3.4.0.
i Please use ``linewidth`` instead.

Table 1: Number of Hospitals Over Time

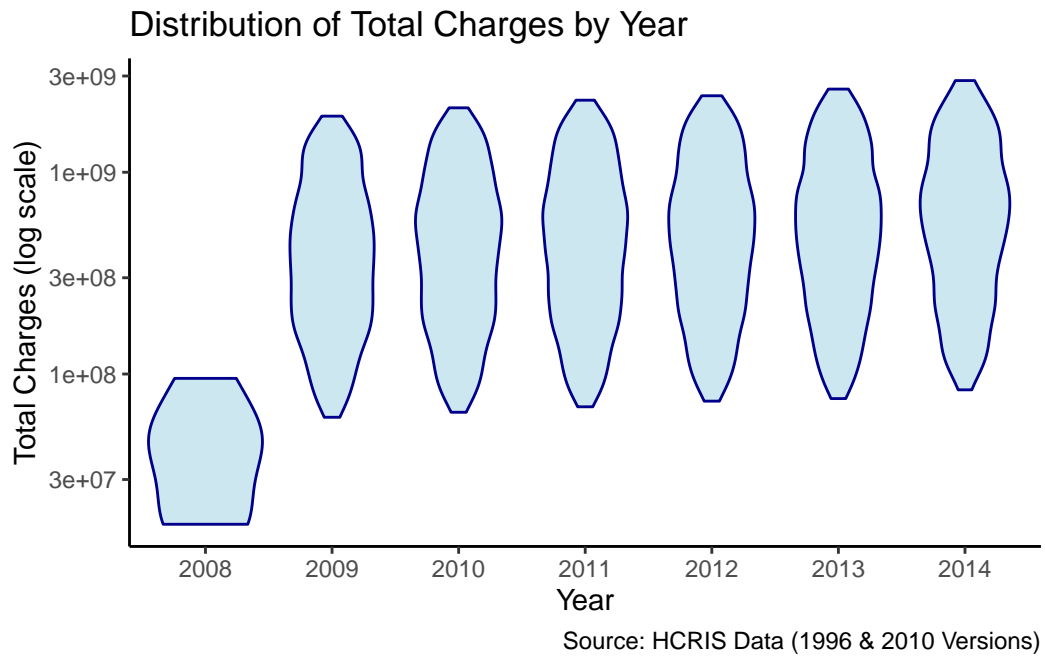


Source: HCRIS Data (1996 & 2010 Versions)

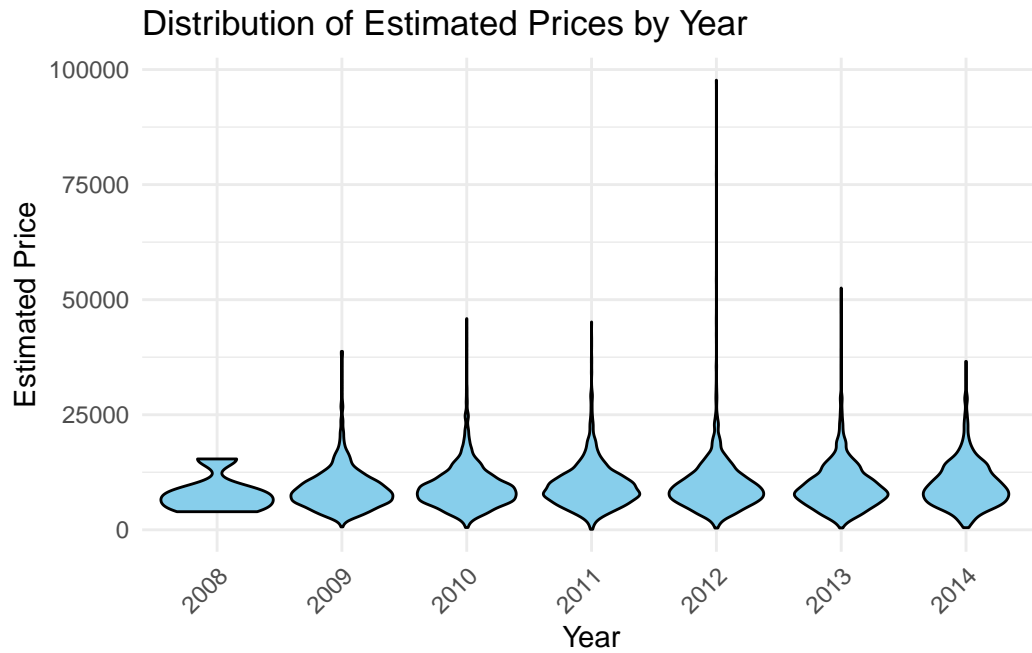
Question 2

Number of unique hospital IDs (Medicare provider numbers): 2690

Question 3



Question 4



Question 5

[1] 9747.04

[1] 9464.08

Question 6

```
# A tibble: 4 x 3
  bed_quartile `No Penalty` Penalty
  <chr>         <dbl>     <dbl>
1 Q1           8358.     9320.
2 Q2           8662.     9992.
3 Q3           9772.    11374.
4 Q4          11033.    11927.
```

Question 7

```
knitr::kable(ate_estimates,
  caption = "ATE Estimates from Different Methods",
  col.names = c("Method", "ATE Estimate"))
```

Table 2: ATE Estimates from Different Methods

| Method | ATE Estimate |
|-----------------------------------------|--------------|
| Nearest Matching (Inverse Variance) | 422.8078 |
| Nearest Matching (Mahalanobis Distance) | 246.4557 |
| Inverse Propensity Weighting (IPW) | 521.2677 |
| Linear Regression | 521.2677 |