Research in Health Economics- Homework 2

Alexia Witthaus Viñé

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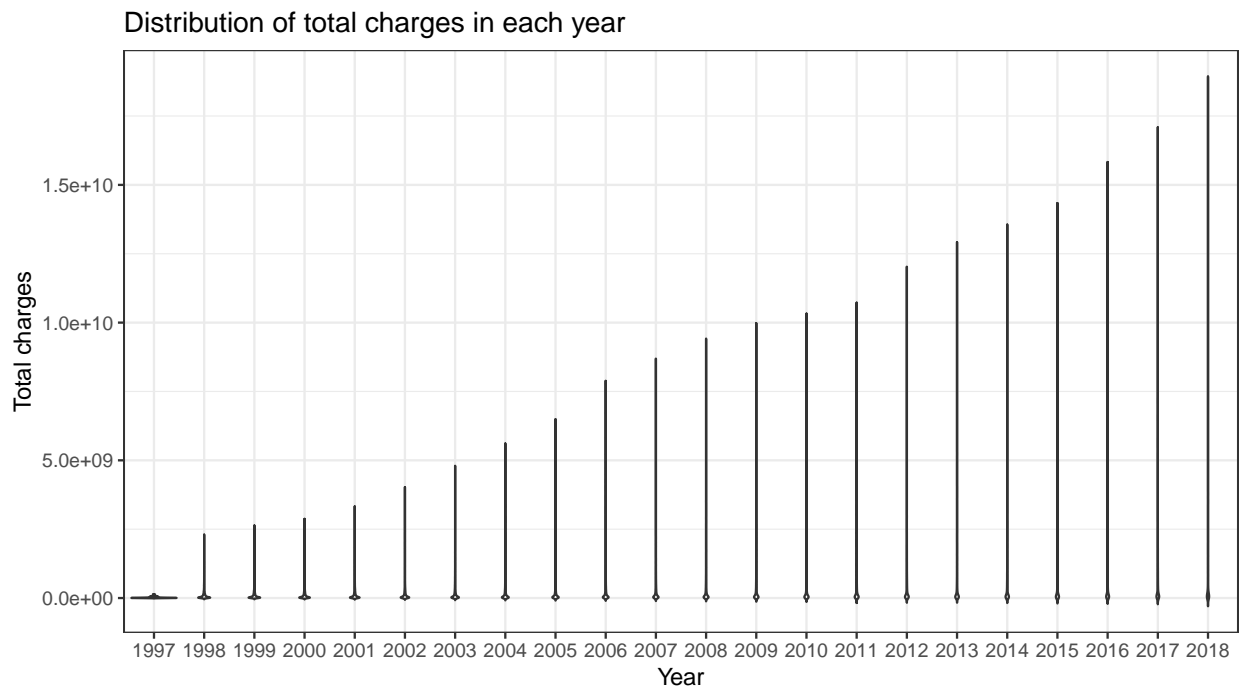
Question 1
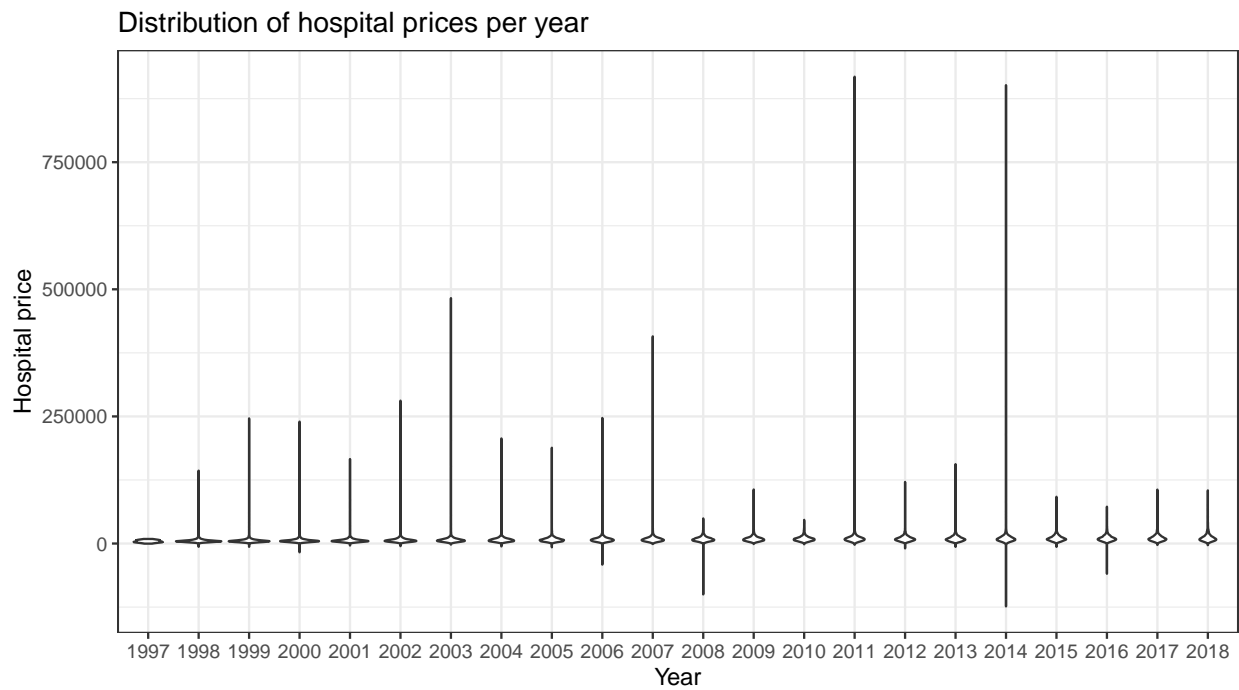
Number of hospitals that filed more than one report in the same year
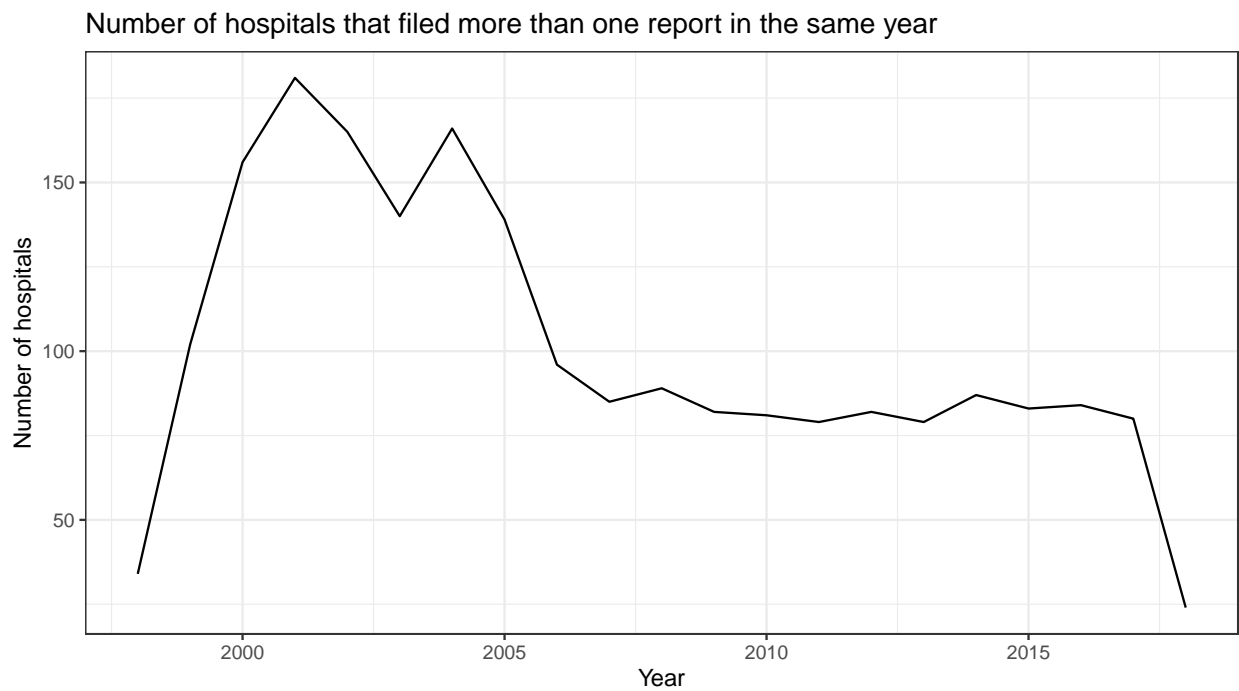
Question 2

There are 9323 unique hospitals in the data set.

Question 3

Distribution of total charges in each year

Question 4

Distribution of hospital prices per year

Question 5

```
## # A tibble: 2 x 2
##   penalty  price
##     <dbl>  <dbl>
## 1       0  9752.
## 2       1 10235.
```

Question 6

```
## # A tibble: 8 x 3
## # Groups:   quartile [4]
##   quartile penalty avg_price
##      <int>   <dbl>     <dbl>
## 1        1       0       NaN
## 2        1       1       NaN
## 3        2       0    10032.
## 4        2       1     6680.
## 5        3       0     8004.
## 6        3       1    10079.
## 7        4       0    11076.
## 8        4       1    11264.
```

Question 7

For KNN regression with inverse variance based on quartiles of bed size

```
##           [,1]
## [1,] 643.4647
```

For KNN regression with Mahalanobis distance based on quartiles of bed size

```
##           [,1]
## [1,] 643.4647
```

For inverse propensity weighting

```
## [1] 105.6059
```

For regression

```
## [1] 85
```

Question 8

I am pretty sure I made a mistake above, but I would expect the results to be similar, given that we are controlling for the same variables in all the estimators.

Question 9

I don't think I have a casual effect above, since I have only controlled for a few variables (quartiles, penalty). There are likely other variables such as the competition mentioned in class, not included in the estimators that bias the result.

Question 10

The hardest part for me was getting the data this time, as I had to do it manually. Apart from this, I have had a hard time figuring out how to code what we learned in class in regards to IPW. I understood the theory, but had a hard time putting it into practice.