Bhasin-S-hw2-1

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R Markdown

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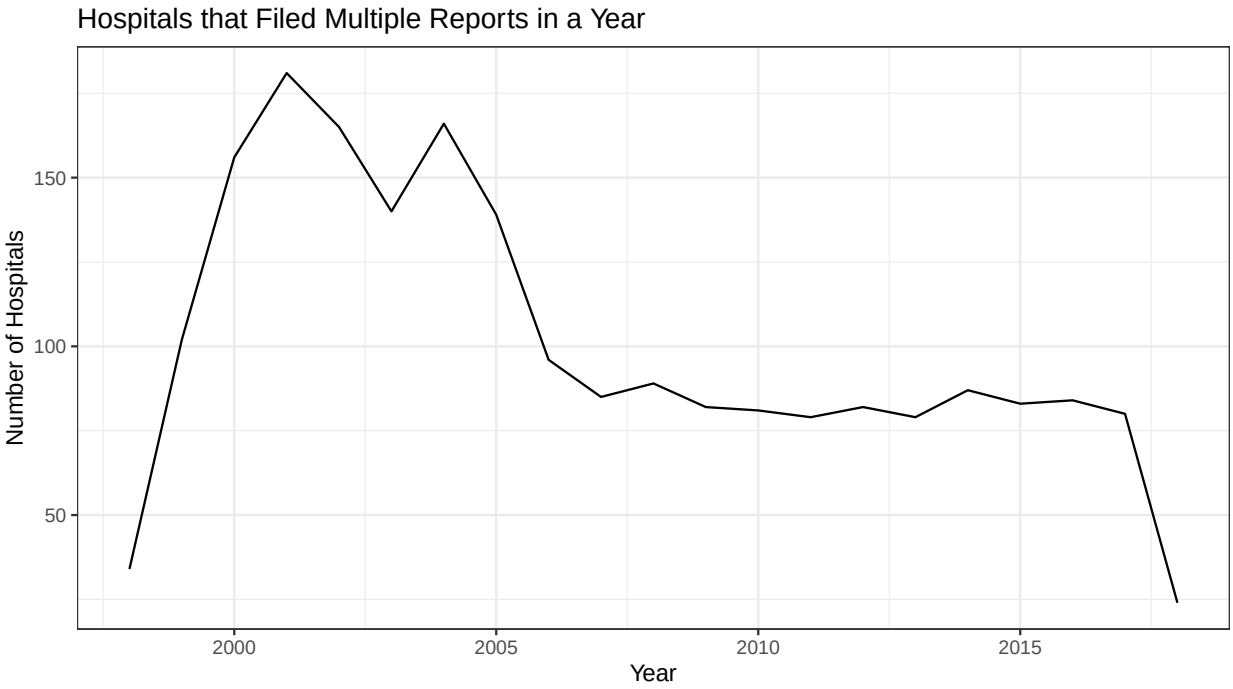
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

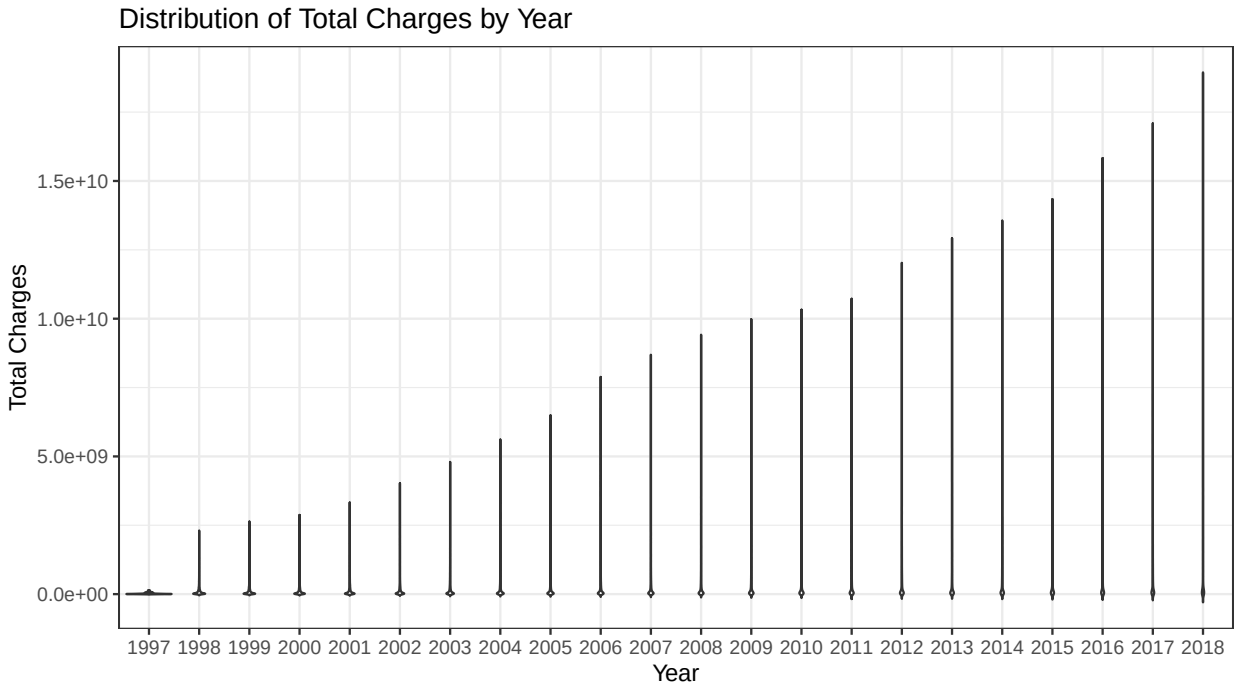


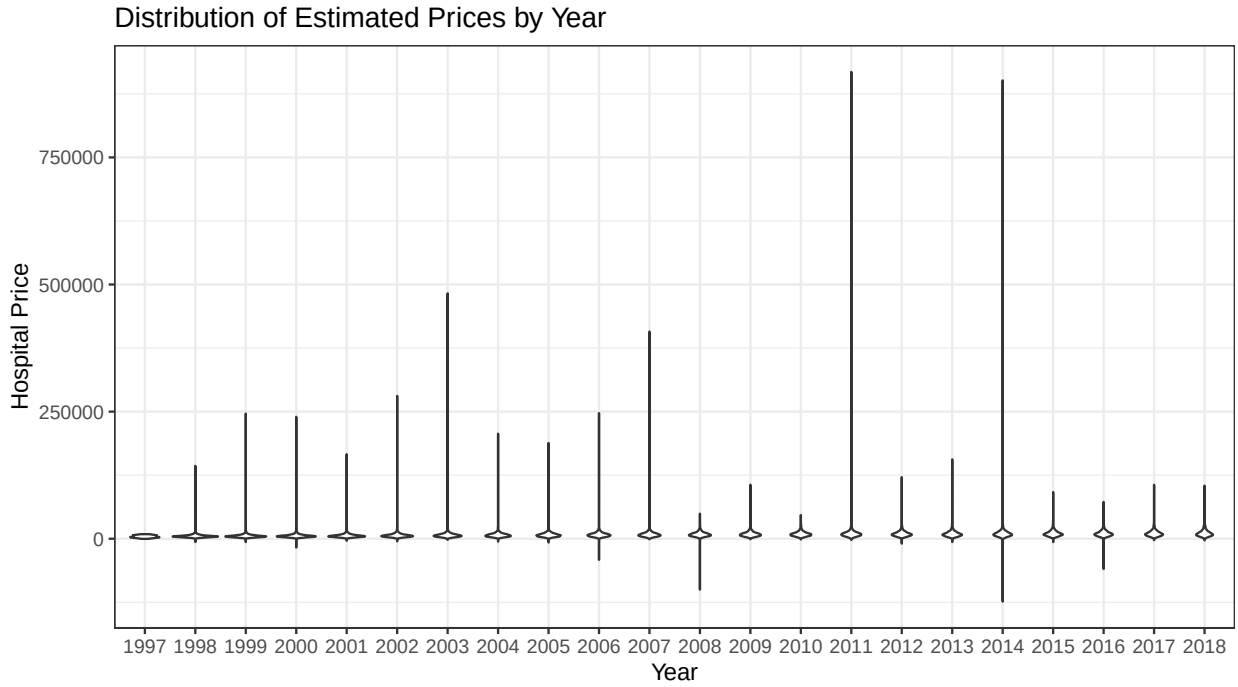
Question #1

Question #2

There are 9323 unique hospital IDs in the data.

Question #3





Question #4

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.
```

7

I am not sure how to do this as I kept getting an error. Given our discussion in class, I would assume first we have to stimulate our data. Then, we have to use the MatchIt package and the "Matching::Match" function. To differentiate between the inverse variance distance and Mahalanobis distance, weight would be set to 1 for the inverse variane distance and 2 for the Mahalanobis distance. For the inverse propensity weighting, we would have to code for a logistic regression model using model <- glm(D~X, family=binomial, year_2012). To make the simple linear regression, we would use the following code reg1.dat <- year_2012 %>% filter(d==1) reg1 <- lm(y ~ x, data=reg1.dat)

regression_2012 <- year_2012 %>% filter(d==0) reg0 <- lm(y ~ x, data=regression_2012) pred1 <- predict(reg1,new=year_2012$beds$)$pred0 < -predict(reg0, new = year_2012quartile) mean(pred1-pred0)

8 Since I was unable to run the code for #7,I was not able to get results for the previous question. I would guess that the estimators are similar.

9 I think I have estimated a casual effect of the penalty through matching,weighting, and running linear regression. These methods allowed us to control potential confounding variables in the study, suggesting a causal effect.

10

I found working with this data challenging. I learned how to create a dummy variable and quartiles the data set. I was aggravated when trying to run the code to find the average treatment.