

Final_Project_Submission

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2023-12-08

Note: Only the Analysis is included in the Rmarkdown

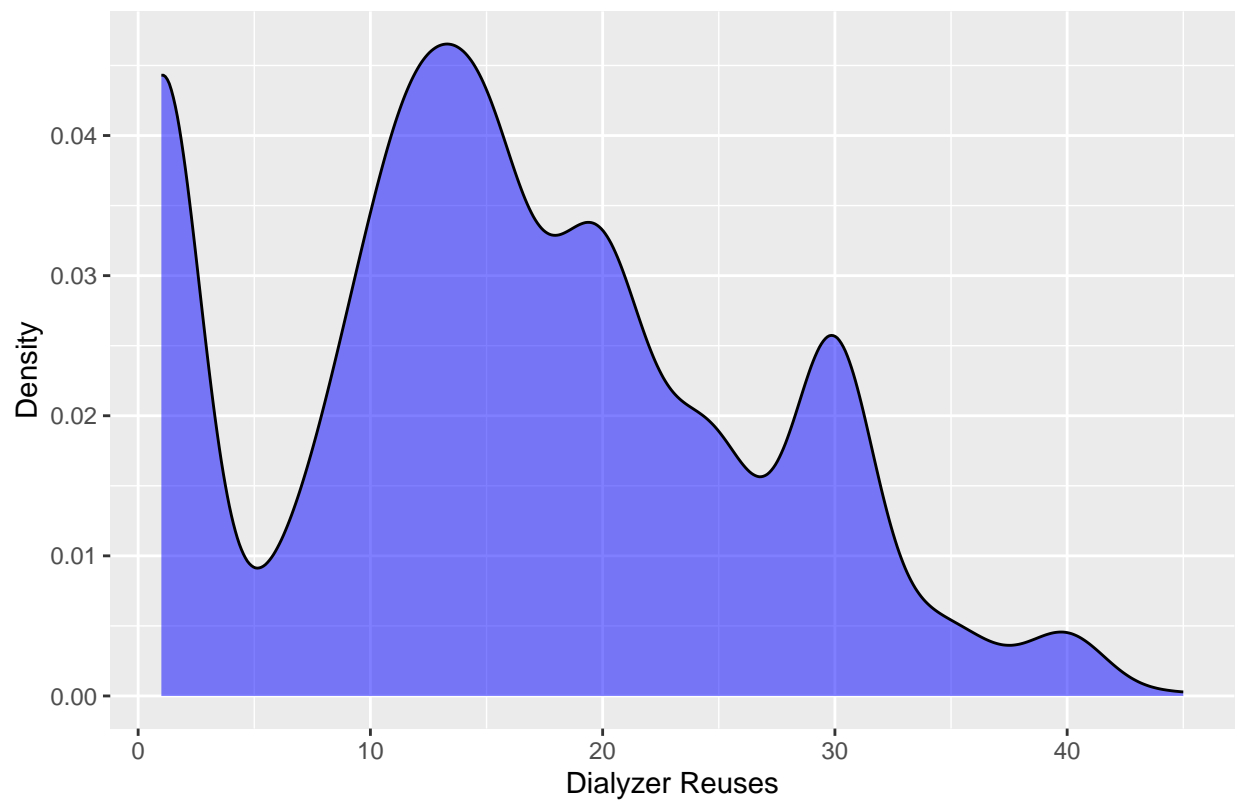
Analysis 1: Do chains change their dialyzers more often or less often than independents

##	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
##	1	10	15	338158	24	538976288

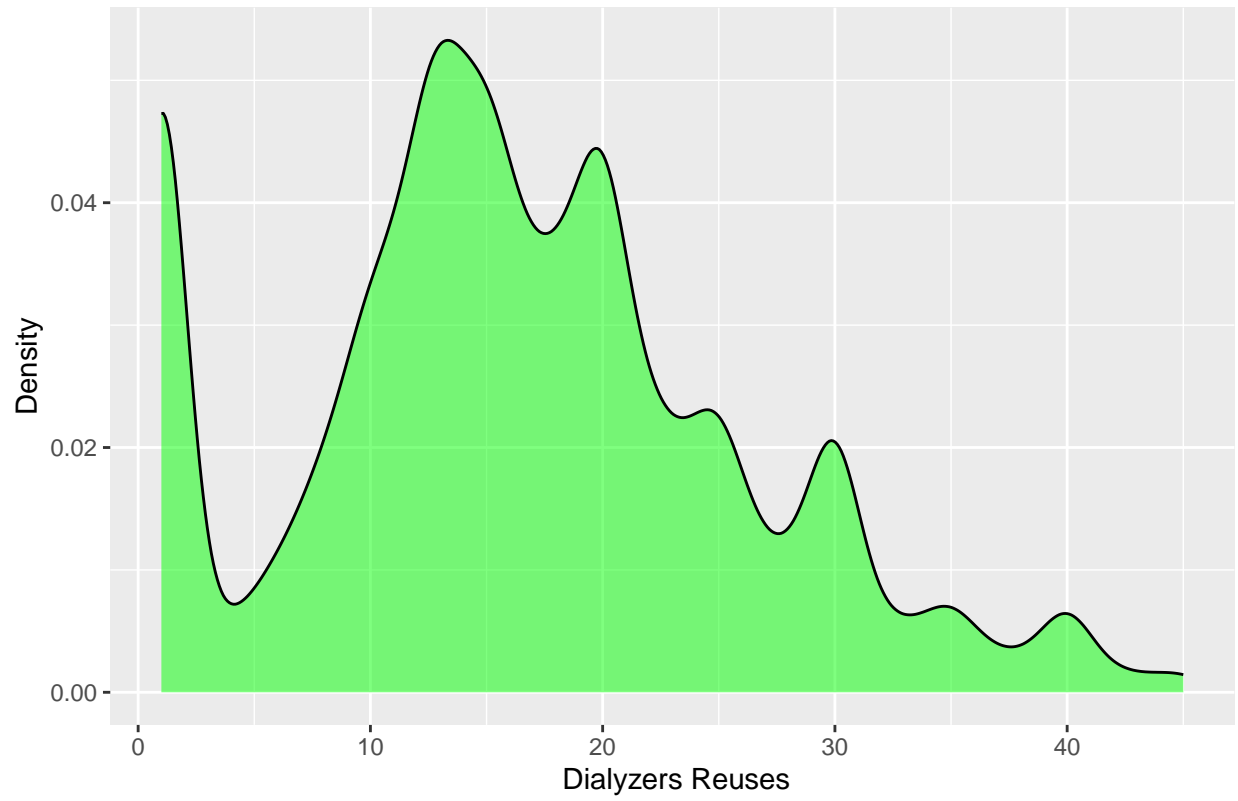
[1] 15.5891

##	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
##	1	10	16	70507	22	538976288

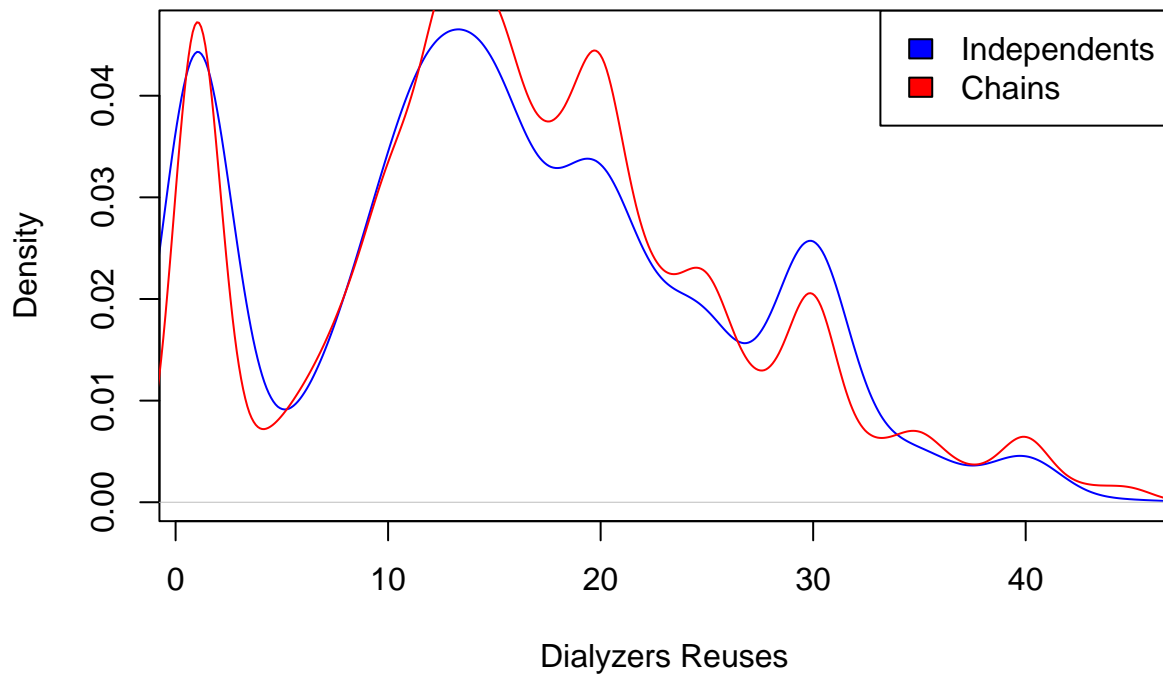
Independents Density Plot



Chain Density Plot



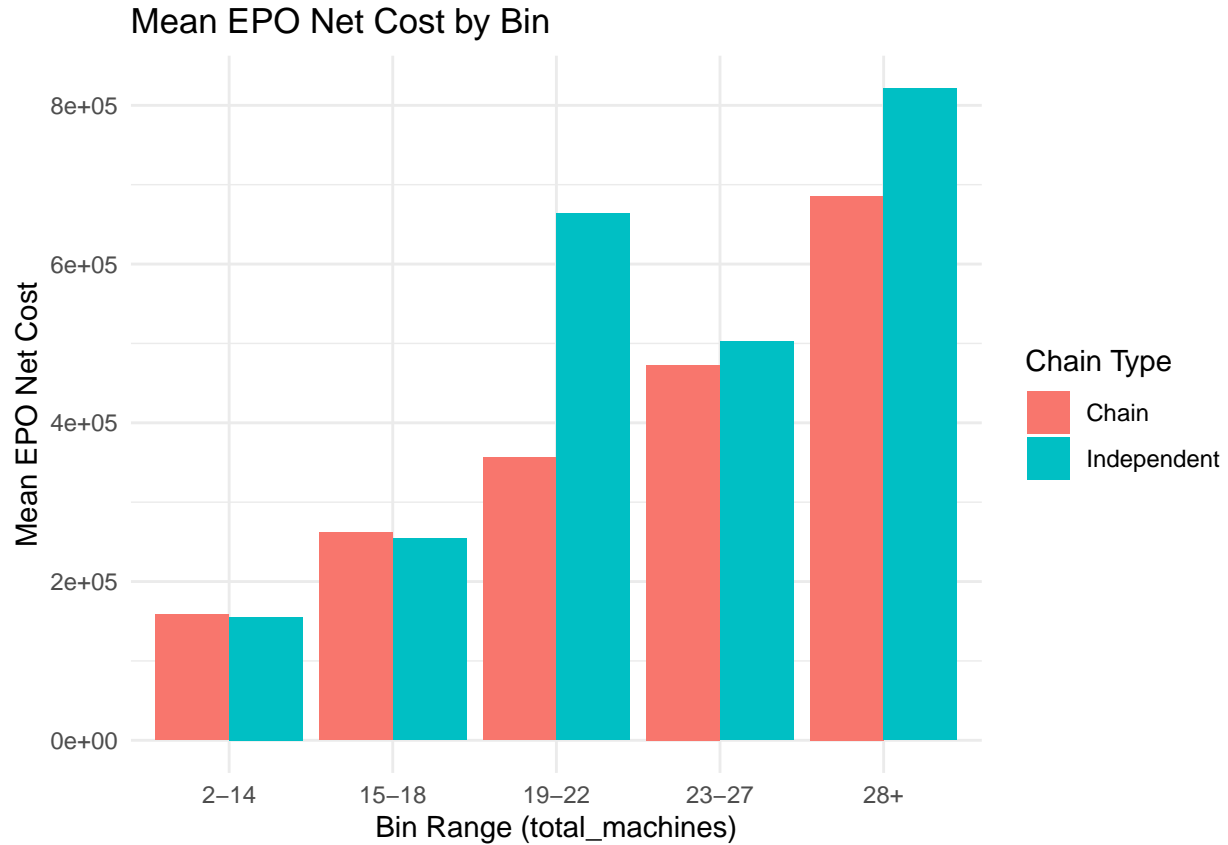
Overlaying Density Plots



Summary: We found that Independents and Chains reuse dialyzers about the same amount for low and higher levels of reuses. However around 10 reuses, Independents reuse more frequently.

##Analysis 2: Do chains use more epo than independents

```
## bins
## [ 2, 15) [15, 19) [19, 23) [23, 28) [28,1631]
##      12335      10226      8921      8087      8108
```

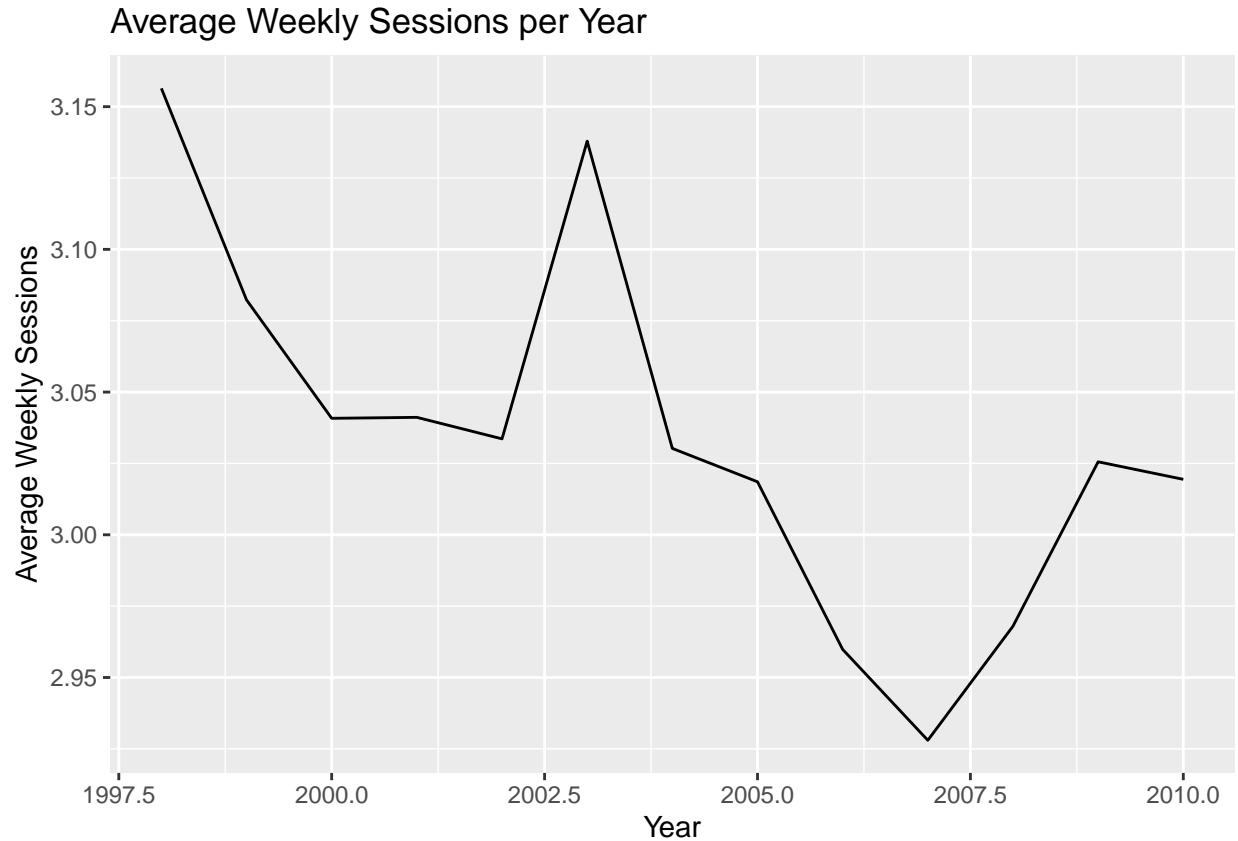


Our objective was to compare the EPO costs that were associated with both chains and independents across similar numbers of patients. We found that the total number of machines, calculated by adding regular machines with standby machines, would be an appropriate approximation to the patient capacity of the clinics.

We concluded that the EPO costs were very dependent on the total number of machines available in the clinic. For clinics with a total number of machines that were smaller, or less than 18, the mean EPO cost was higher for chains. However, if we increase the total number of machines above 18, the mean EPO costs become higher for independents.

##Analysis 3: How busy are clinics as a whole throughout the years.

For our next analysis question, we are interested in determining how busy the clinics tend to be as a whole. We are interested in this data because it will be useful in determining how the demand for dialysis has changed over the years.



The graph depicts fluctuations in the average weekly sessions per year, with a notable decline in the late 1990s, a sharp peak in the early 2000s followed by a significant dip, and a subsequent recovery by the early 2010s.

These variations could be attributed to a range of factors including regulatory changes affecting healthcare practices, economic conditions influencing patient attendance, technological advancements in medicine, demographic shifts in the patient population, or specific events impacting healthcare demand.

The peak and decline in the mid-2000s could suggest a temporary policy change or health crisis. To understand these trends comprehensively, one would need to investigate the historical context concerning healthcare policies, economic data, technological developments, demographic information, and notable events during the years of significant change.