

# Lab 12 - Statistics, Coordinates, Facets, and Themes

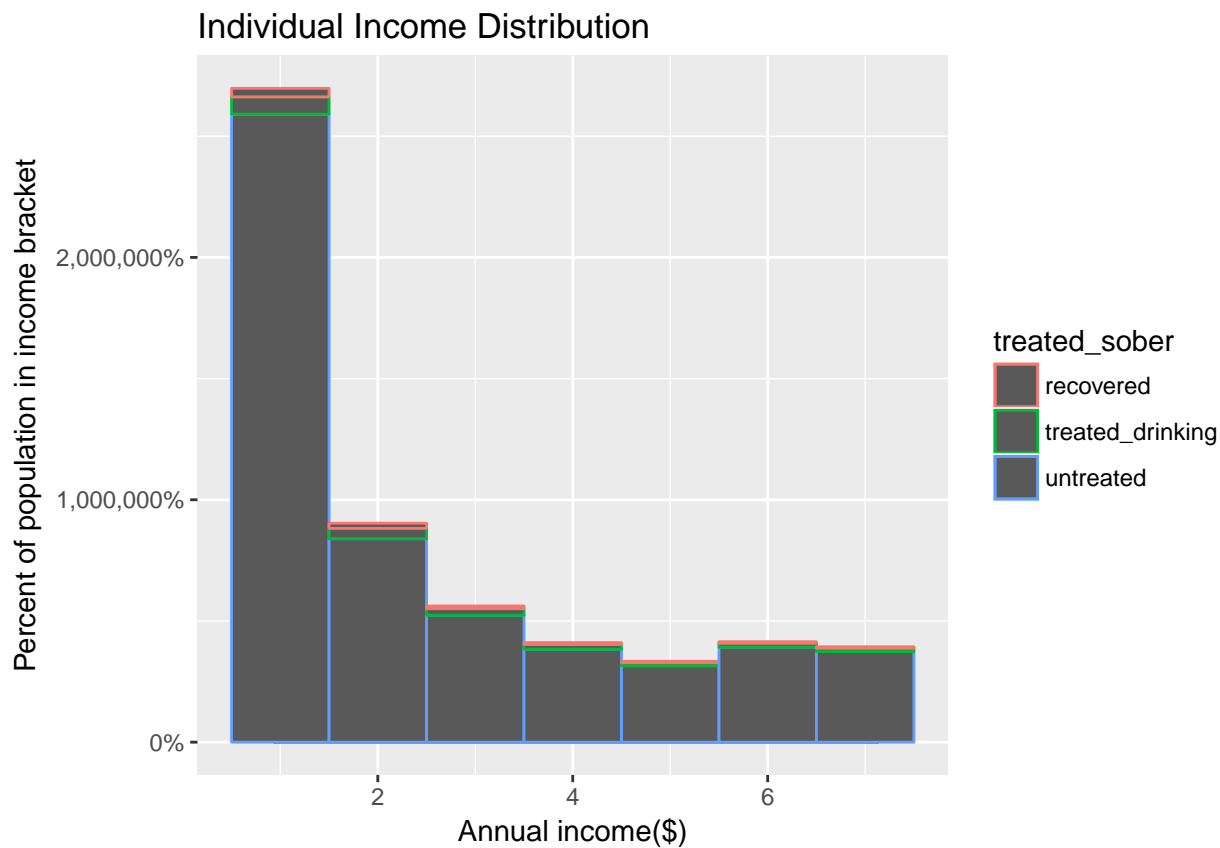
*George Rhodes*

*November 21, 2017*

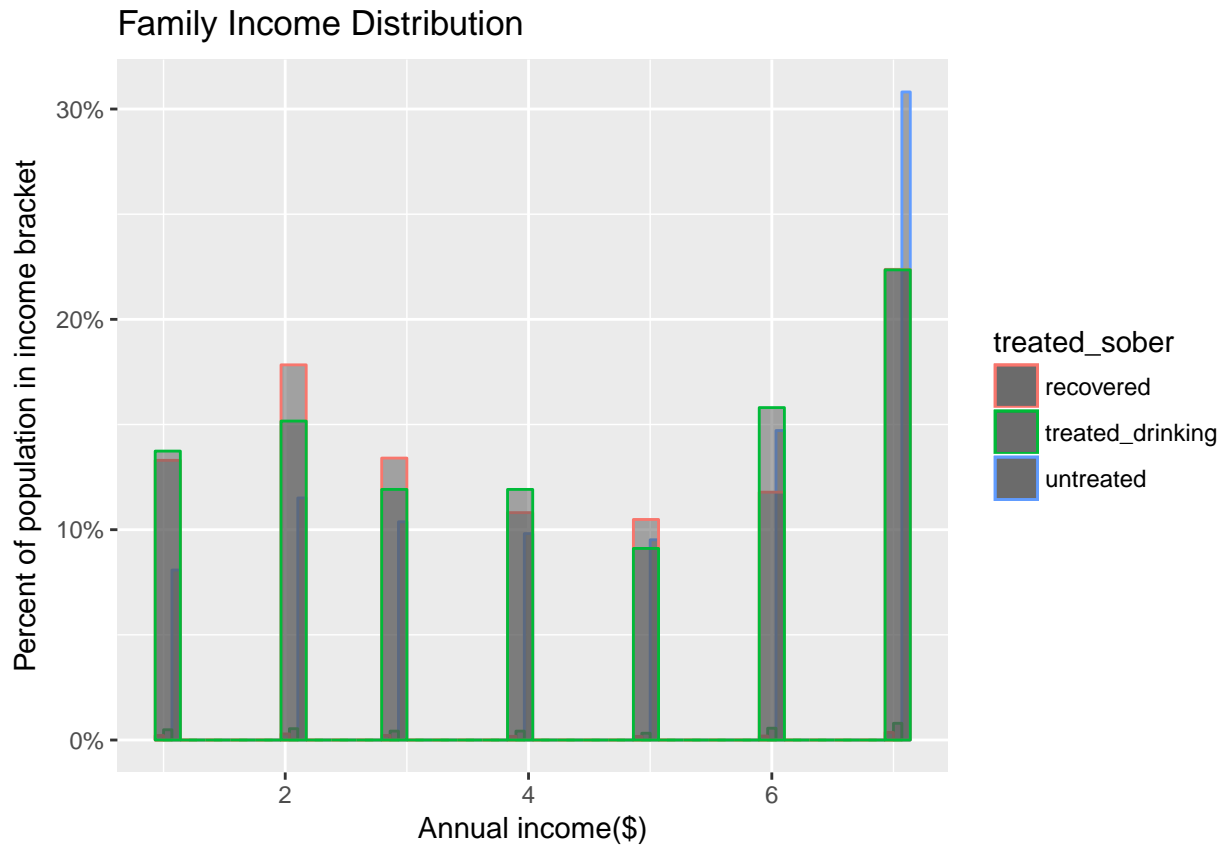
Complete the following exercises below. Knit together the PDF document and commit both the Lab 12 RMDfile and the PDF document to Git. Push the changes to GitHub so both documents are visible in your public GitHub repository.

```
## Warning: package 'dplyr' was built under R version 3.4.2
```

1. Choose one or more graphics you created for Lab 11 and either experiment with the underlying statistical layer if it already has one (i.e. if you made a histogram experiment with different bin widths) or add a separate statistical layer to your plot (i.e. a smoothing curve). Choose something you think will offer meaningful insight and describe why you made the choice you did. What additional information does this provide viewers of your graphic?



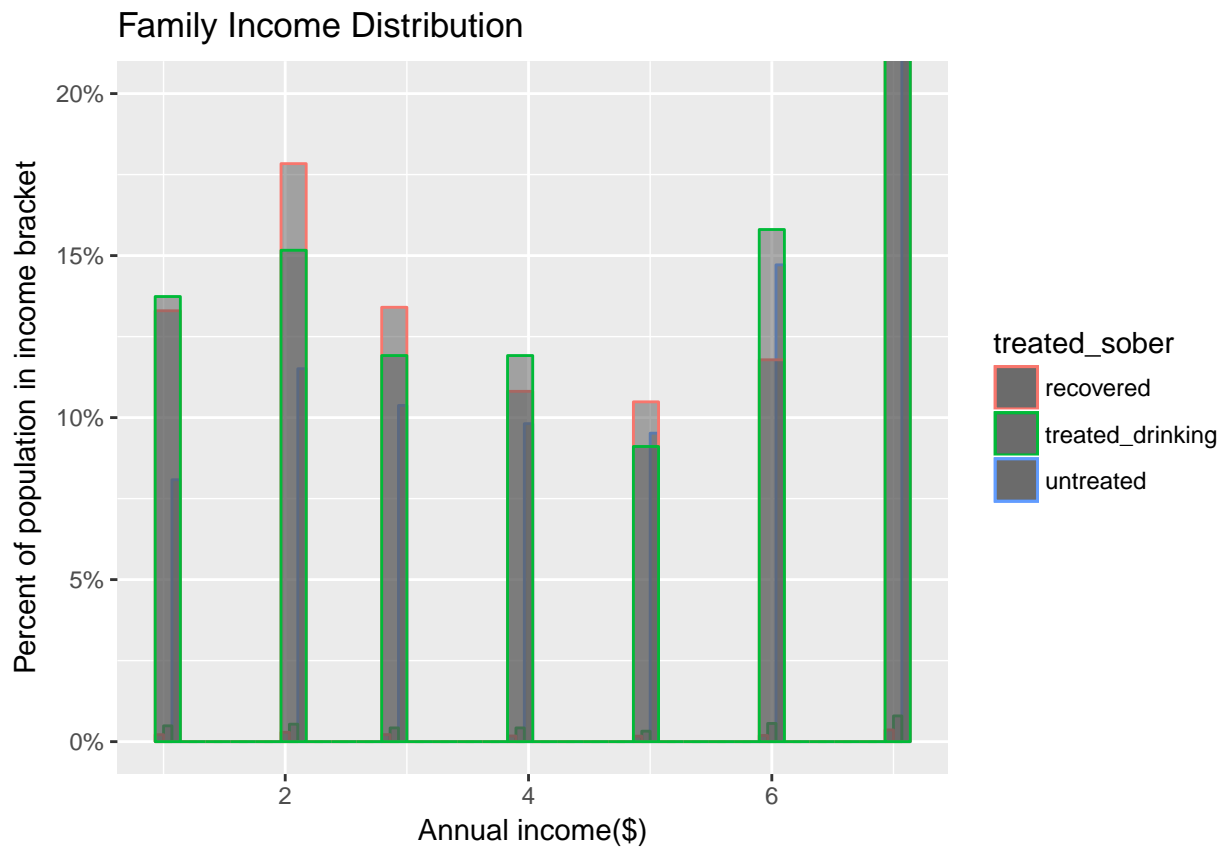
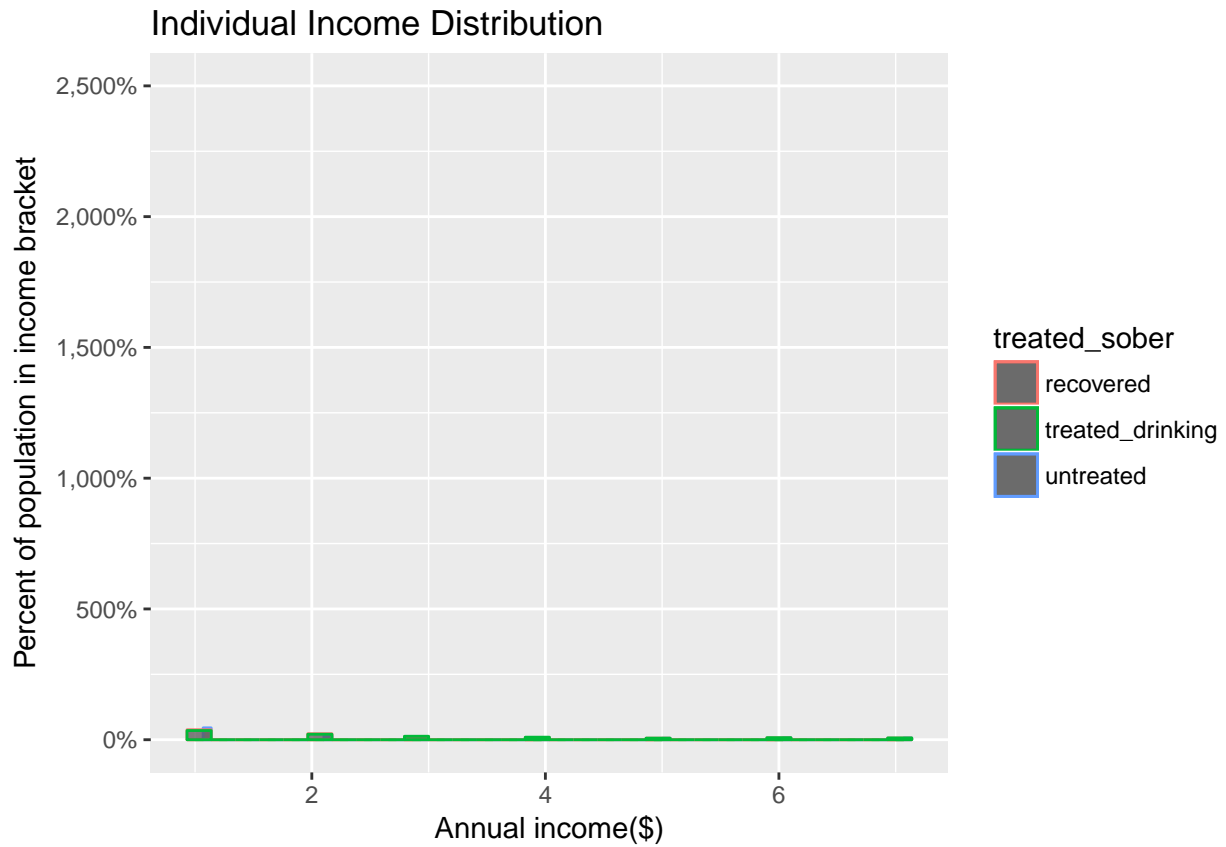
```
## geom_density: na.rm = FALSE
## stat_density: na.rm = FALSE
## position_identity
```



I have spent so much time cleaning, reworking, and failing to separate each bar within the histogram. I don't have time to finish this lab. The above visualizations are the best I have so far. I still need to separate each bar, and find a way to add the income brackets. Both of which are proving very difficult.

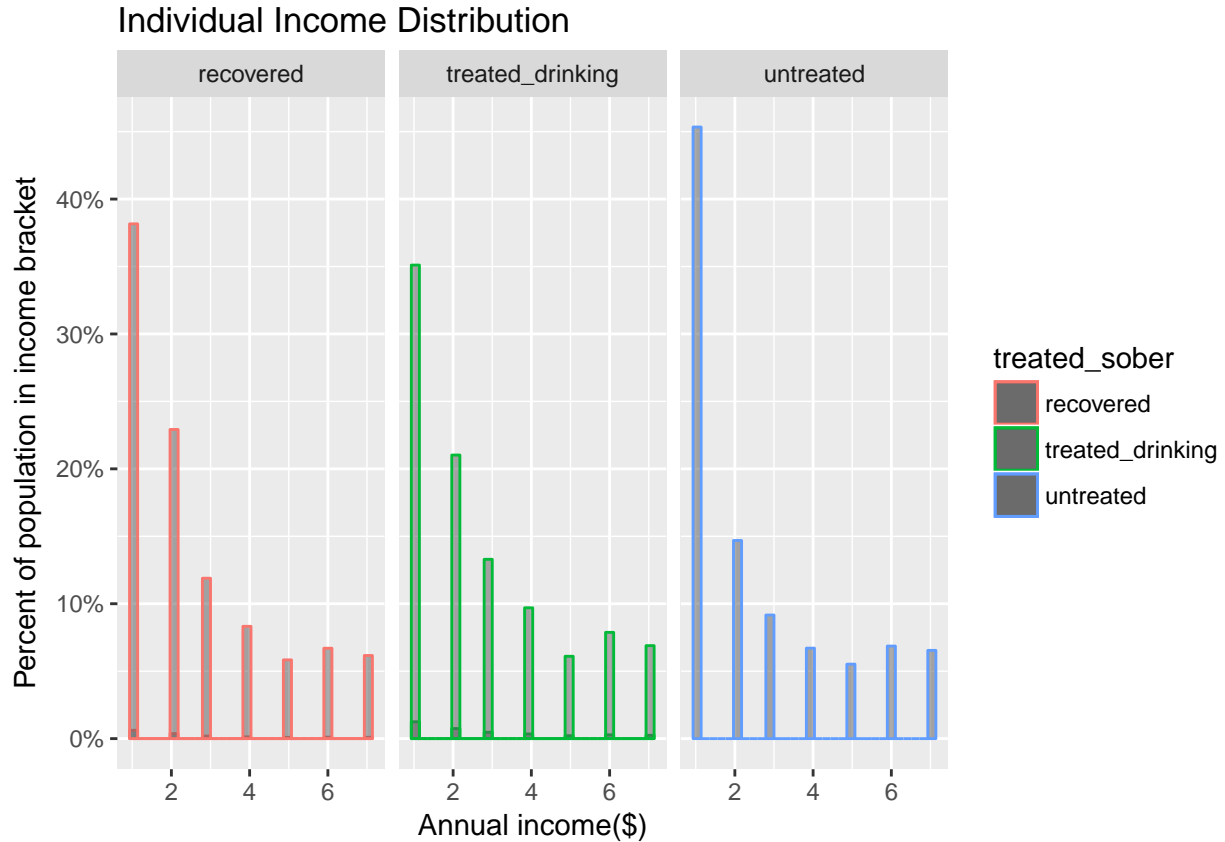
I am unable to change the binwidth and don't really understand where it goes. I will want to change the width of the bars once they are separated to make this more aesthetically pleasing. I wouldn't mind a smooth curve connecting them, but have failed many times while playing with various stat functions.

2. With the same or a different plot created in Lab 11, experiment with zooming in on specific areas of your graphic and changing the aspect ratio. Are there any benefits/drawbacks with either or both of these approaches for the visualizations you've created? What are they?

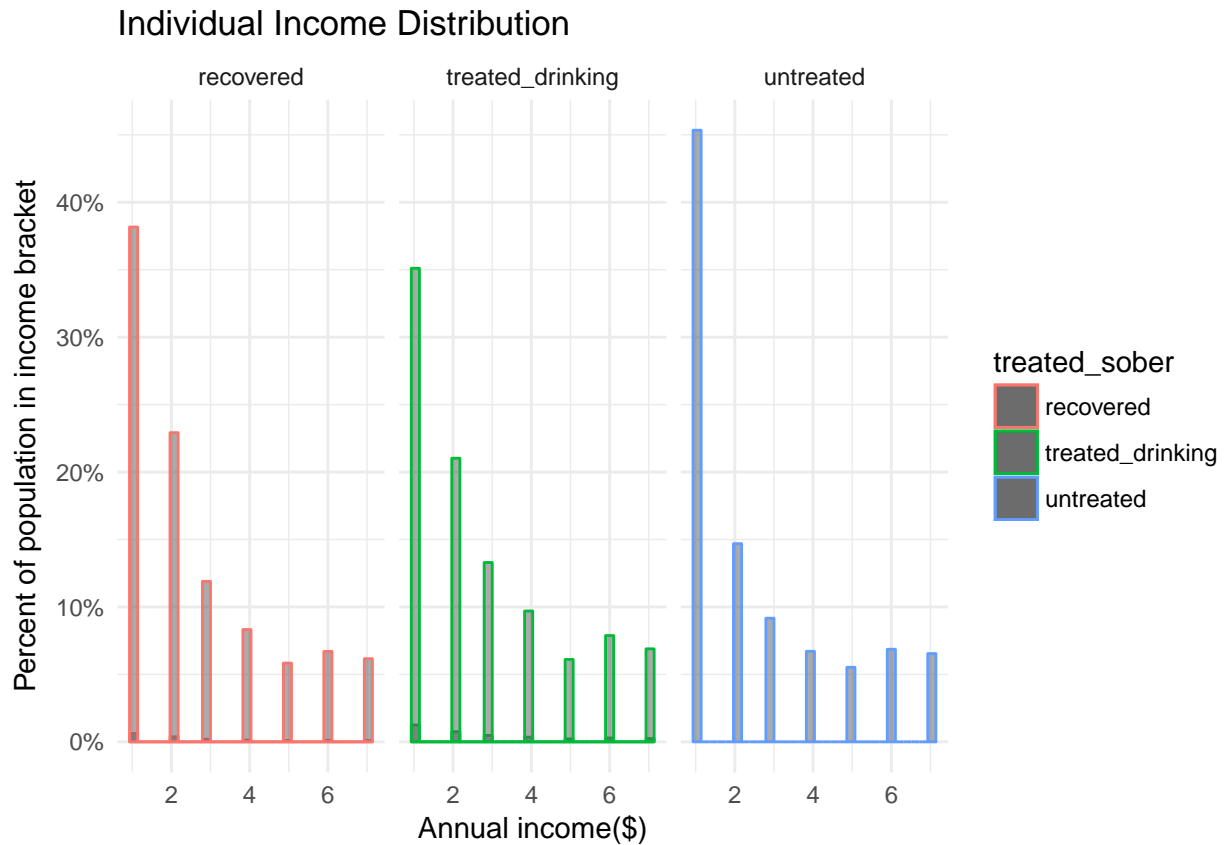


Once my visualizations show 3 distinct bars for each income bracket, I don't think I will not need to zoom in/out or change the aspect ratio. However, this is helpful and painless.

3. Try facetting a plot you have made by another categorical variable in your data (this can even be as simple as Male/Female). What is the difference between `facet_wrap()` and `facet_grid()`? How might facetting be useful in data visualization?

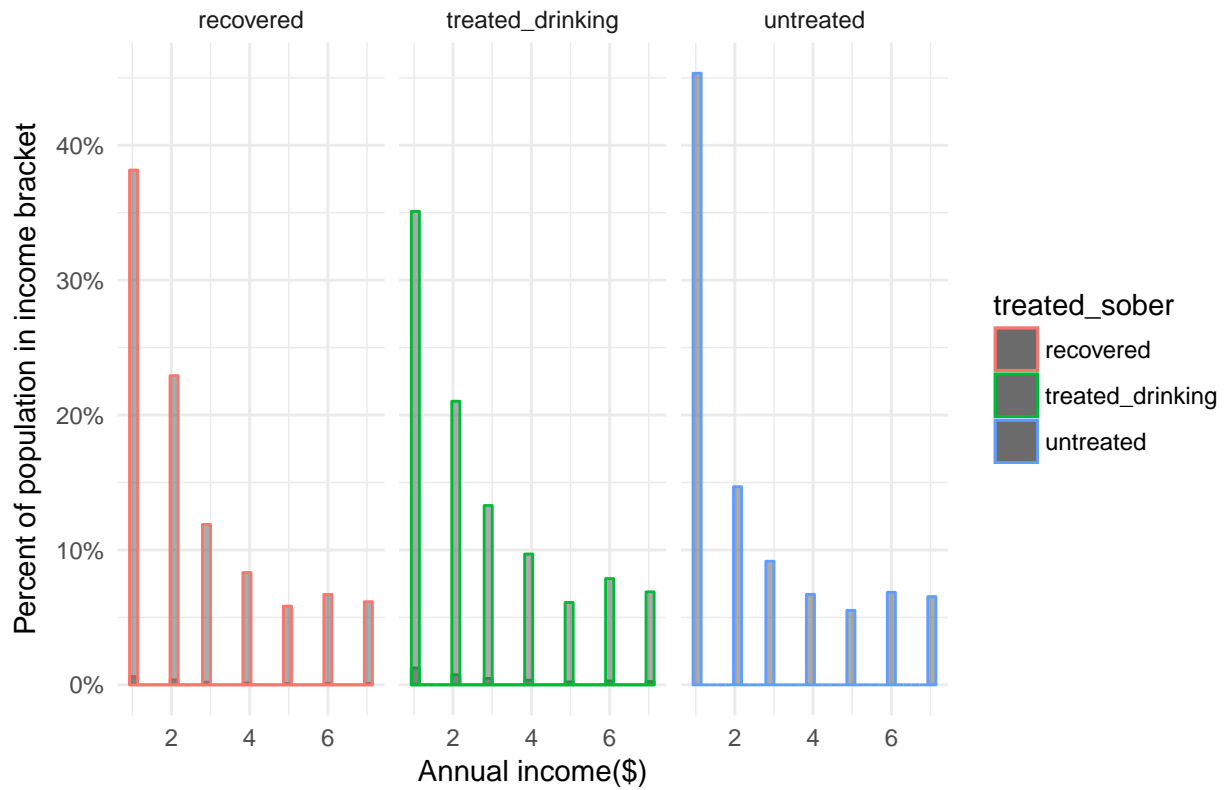


4. Use the `theme()` layer to change the appearance of a plot of your choice including the
  - plot, axes, and legend titles
  - axes tick marks
  - text size
  - legend position

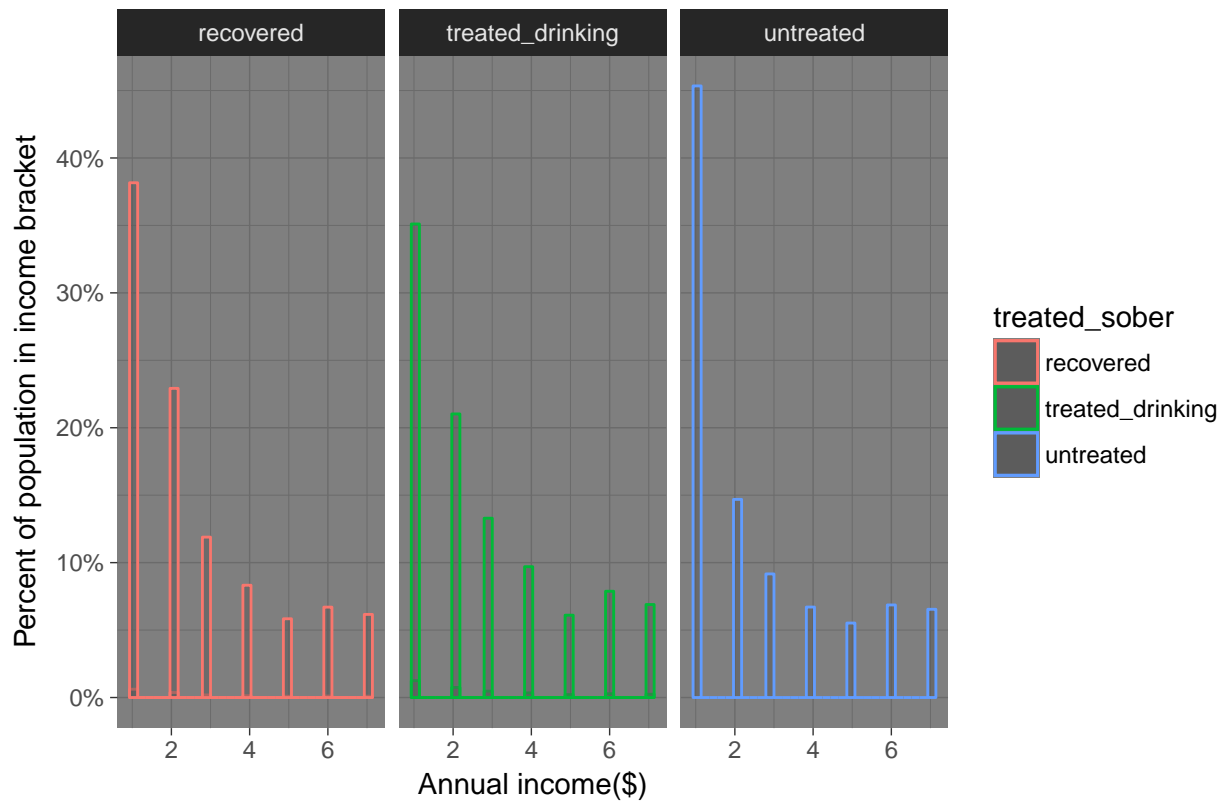


5. Create three versions of a graphic of your choice using different built-in themes or a theme created from **ggthemes**. Which ones do you think are best for presenting in an academic journal? A poster session? What are the qualities of the themes that you choose that you think make them more appropriate for presentation?

# Individual Income Distribution



# Individual Income Distribution



## Individual Income Distribution

