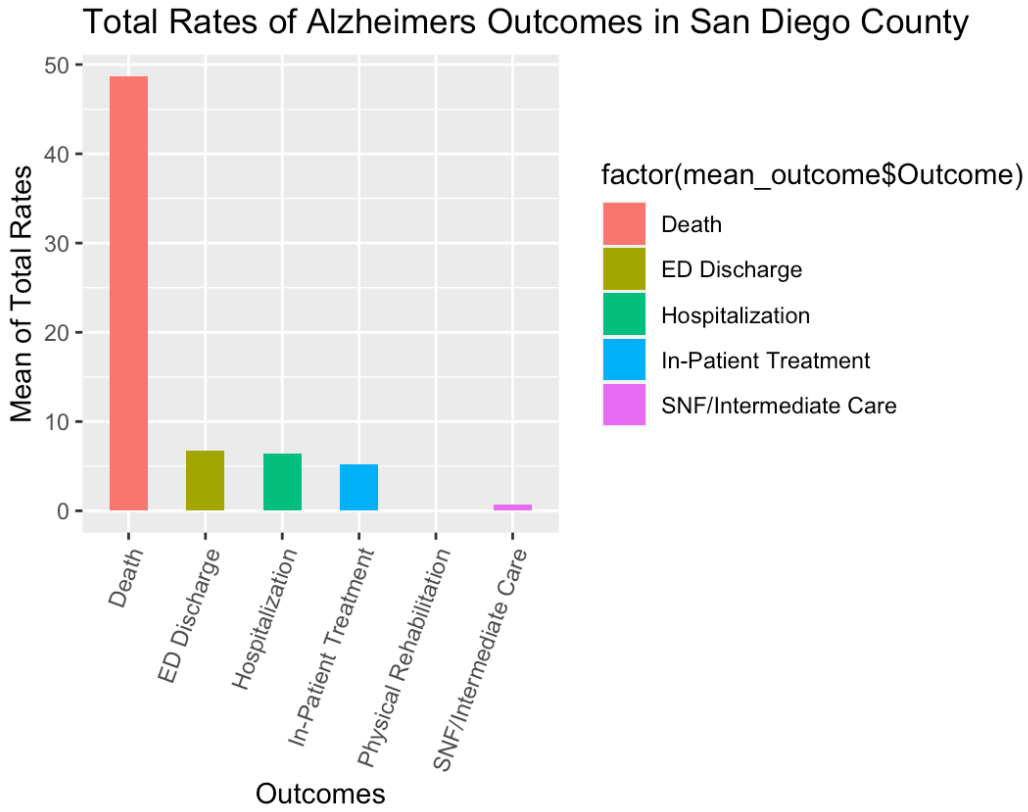
LAB 2

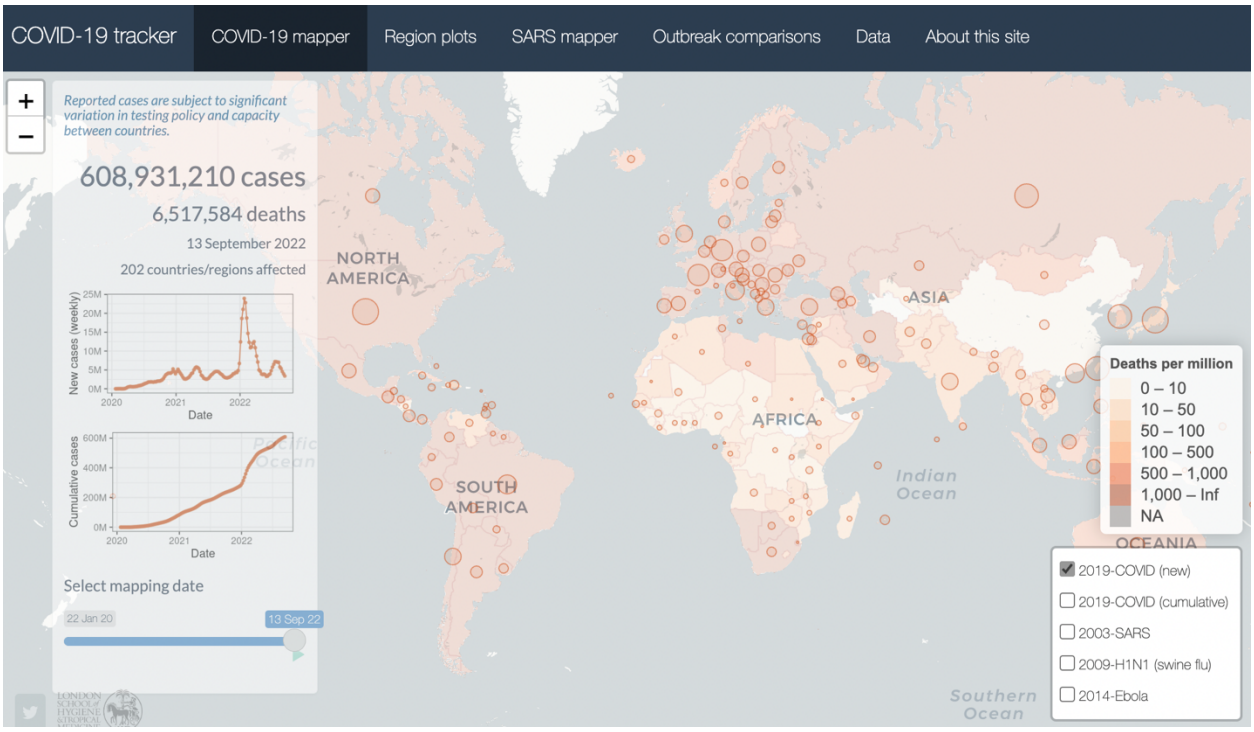
1.

2. This example uses data following Alzheimers within San Diego County. In this data set I wanted to calculate the outcomes, such as death, based on total rates, female rates, and male rates. To do this I calculated the mean outcome of all the data, and grouped it together in a table. When it came to graphing, I had a lot of trouble trying to do anything outside of a bar chart. I used a bar chart similar to the one in the example, graphing which outcomes were more common.



3. I created a word cloud from the espn play by play webpage. I used a dataminer to scrap the date from the webpage and create a csv file using it. The stop words I used included: “NFL", "nfl", "CHI","chi", "shotgun", "sfchi", "yards", and "at".

4. R shiny is a package within R that allows users to create web apps using R. This makes it easier to process and present your data from one place (R studio) using one type of code. Utilizing HTML to create a visual interface can add another layer of work, shiny allows developers to simplify their steps in order to create innovative projects. Shiny provides the ability to design and build an app within R, allowing data science to fuse with data visualization. Along with creating webpage apps, shiny also allows you to make embedded R markdown documents. You are also able to enhance your app with HTML,CSS, and Javascript however it is not needed. This will allow people with experience in those languages to personally customize their work. Upon further reading, I found that R-shiny uses “reactive programming” to allow live updates of outputs and inputs.
One example of an R-Shiny application is this Covid-19 Tracker. This was a cool example of using javascript to create the orange overlays on each country.



5. Plotly R:
Plotly R works with several languages, I am familiar with the Python version. However, it can also be used in R to create high-quality interactive plots and graphs. This package allows you to create interactive web maps using javascript libraries. This allows for the visualization of data without having to externally create javascript programs. The variety of graphs and plots allows for several types of data to be interpreted and transformed. One of my personal favorites are 3D charts, this makes your data easier to digest and overall beautiful.

Tidyr:
Tidyr allows you to tidy up data. This does so by transforming data in every column to a variable, every row into an observation and ensuring every cell is a singular value. This allows data to be easier to read, faster to navigate through and essentially allow for the developer to create more with that same data. Creating tidy data rids of the hassle behind having to use more packages and tools to make sorting through data easier. The steps Tidyr takes is reshaping data, split cells, expand tables, and handle missing values. It organizes tabular data to a consistent structure.

Ggplot2:
Ggplot2 is one of the most popular packages for data visualization, which compartmentalizes scales and layers. It takes care of the small details in order to create a graphic, aesthetically pleasing plot within R. It simplifies the building of graphs by taking data sets, geoms, and coordinates which can then be crafted into data points. Ggplot2 takes Aes into consideration, which includes the aesthetics of the graph. Geoms represent the data that will be used within

the graph, representing variables and returning a layer. You can also build a layer by using stats. Following this, Scales can be used to map values to the Aes function.