Since the article covers the trends of mass shootings in the United States from the early 1900s to the present day, I decided to use a U.S. map broken up by states in order to show the different shootings for each year since I felt this would would provide the easiest way to observe the trend. Additionally, this helps users visualize trends not explicitly mentioned in the article, such as shootings by region (Northeast, Midwest, South, etc.), an easy way to compare the severity of shootings by comparing the radii of different events (a larger radius indicates a more sever shooting), and more. I also decided to give users the option to select different groupings of shootings; specifically, seeing all shootings at once with the "All Years" button as well as the different buttons that group shootings by decade. Doing so helps demonstrate the trend the number of shootings in the U.S. has dramatically increased over time, and that the treatment gap discussed in the article has yet to be properly addressed given this growing trend.

Along with the map, I also implemented a pie chart that describes the mental health of shooters for a given year, comparing whether or not they had a diagnosed mental illness or not. This helps the user by giving them a snapshot of the mental health of shooters to better highlight the trend that a little over half of the shooters had been diagnosed, and some shootings might be avoided if they were able to seek treatment first. To help clarify this point, users may select a shooting by hovering over a circle and selecting it, which will replace the pie chart with a description of the shooting, along with details about the shooter and the cause of the shooting. Giving users this level of examination allows them to see that many shooters were motivated by issues that may not necessarily classify as a mental illness but do suggest early indicators of violent behavior such as committing the shooting as a result of anger, frustrations at work, domestic disputes, and more. Finally, users can also group shootings by state by clicking on a

state with a shooting, which will provide a total for the number of victims and similar statistics, along with a listing of each shooting for that year or group of years to make it easier to examine a single state.

I decided to place the visualization just after the point where the article describes the treatment gap in the U.S. since at this point, the author had finished describing the basic statistics found within the U.S. (which the visualization focuses on) and the visualization helps makes some of these statistics and trends more visible. For example, the article cites a study where "at least 59%" of shooters were identified as either having a mental illness or showed signs of mental illness, both of which can be seen more clearly using the visualization. The 59% can be seen if a user selects "All Years" and notices that comparing the "Yes" and "No" for mental illness in the pie chart, the "Yes" is slightly over the halfway point and helps to illustrate this 59%. Similarly, users can explore the map and select different shootings to see that scenarios where a shooter may not necessarily have been diagnosed with issues, the cause of the shooting and the summary often indicate that they were at the very least showing signs of mental health problems, which helps to support the author's point in the article. The placement of the visualization is also after paragraphs mentioning the lack of care sought out by shooters (which is again highlighted by the lack of diagnosed shooters) and that 99% of mass shootings have been committed by males, which is highlighted in the map by having the color of the circles corresponding to either male or female shooters. A user glancing at the map will notice the lack of pink circles and will be able to quickly gather without diving too deeply into the visualization that most shootings have been committed by males, which shows how the visualization helps to complement the article by communicating the points of the author in an effective manner. Finally, I was also sure to include the visualization before the author switched topics in the

article since the visualization does not directly support the later points made; specifically, the

author begins to give their opinion on the issue as it relates to gun laws and uses fewer facts to

make their point. Because of this, the visualization would not help support these issues since the

dataset does not cover the relationship between shootings and gun laws, and as a result, placing

the visualization before this change in topic ensures that it maximize its benefit to the rest of the

article since it is more closely aligned with the earlier points.

Sources
- Article: http://www.latimes.com/opinion/op-ed/la-oe-duwe-rocque-mass-shootings-mental-illness-20180223-story.html
- Dataset: https://www.kaggle.com/zusmani/us-mass-shootings-last-50-years/data
  - Note: some data was manipulated on a case-by-case basis whenever issues were found
- US Map: adapted from http://bl.ocks.org/michellechandra/0b2ce4923dc9b5809922
  - US Map JSON: https://www.packtpub.com/mapt/book/web_development/9781785280085/12/ch12lvl1sec57/creating-a-map-of-the-united-states
- Pie Chart: adapted from https://bl.ocks.org/mbostock/3887193