Sober Up!!

A Deep Dive into America's Drinking Culture, Risks and Resources

Presented by

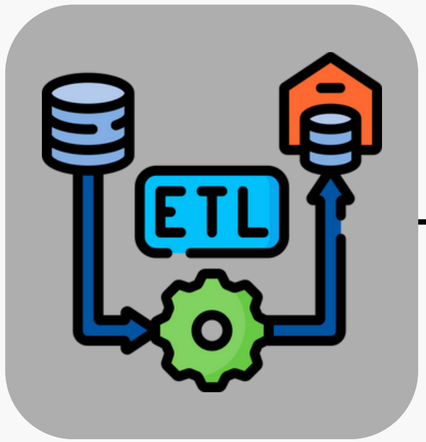
- **Mimi**
- **Fiza**
- **Katie**
- **Shipra**
- **Nivetha**

Goal

In 2022, it was found that around 63% of Americans regularly engage in drinking alcohol, be it socially or otherwise. In our project, we wanted to dig deeper into,

- How much alcohol did Americans consume in 2022?
- The adverse effects of alcohol, and how many people have died due to alcohol-related causes.
- What resources are in place for alcohol addiction?

Data & Delivery



Our data was procured through a range of CSVs and Web Scraping, focusing on public health data around alcohol consumption in the US in 2022. We extracted and transformed this data into readable JSON's

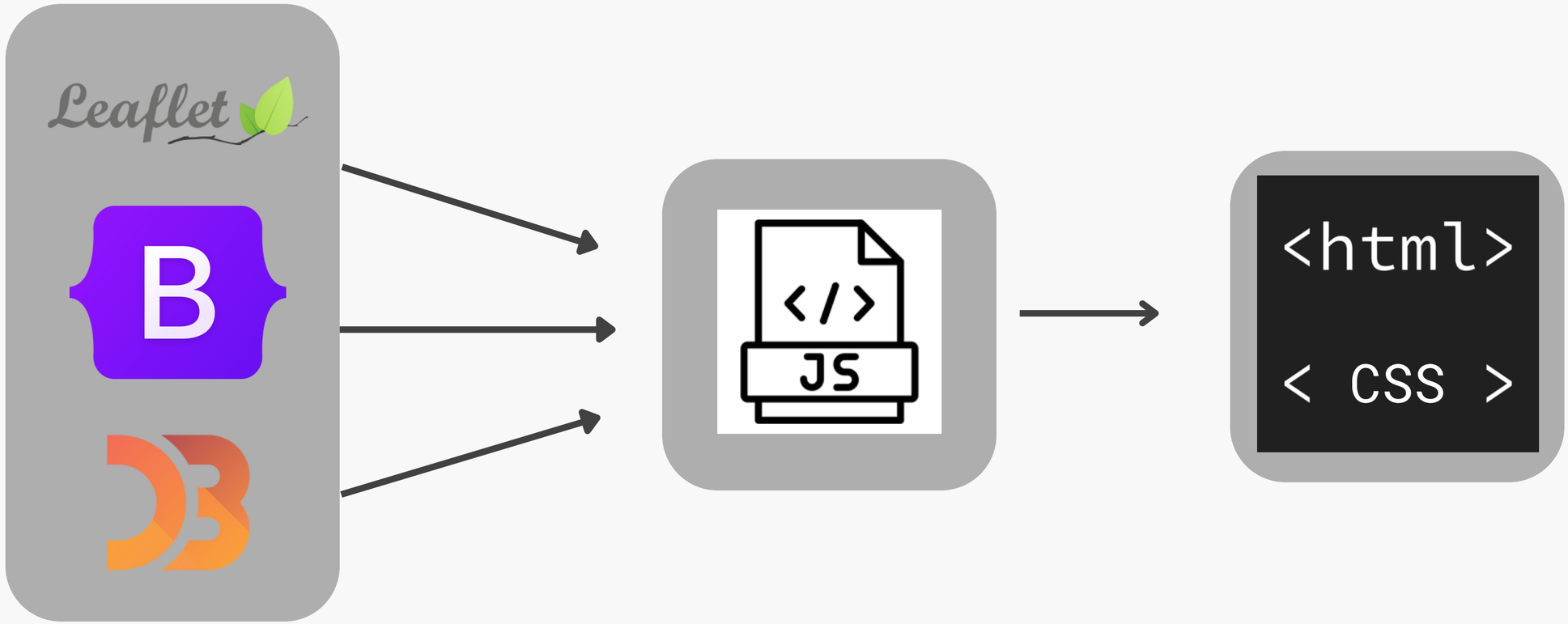
We decided to use Mongo DB to store our data, as the information we collected was mostly suited for a non-relational database

Our site is hosted on Flask. The primary elements that we considered were,

- Our home page would house our HTML code and in turn our main Javascript code.
- There would be API endpoints available to our users curious about our data

Continued..

Back End



We used a combination of Leaflet and D3 libraries for our visualizations. We even experimented with Bootstrap to house all our maps/plots into respective tabs

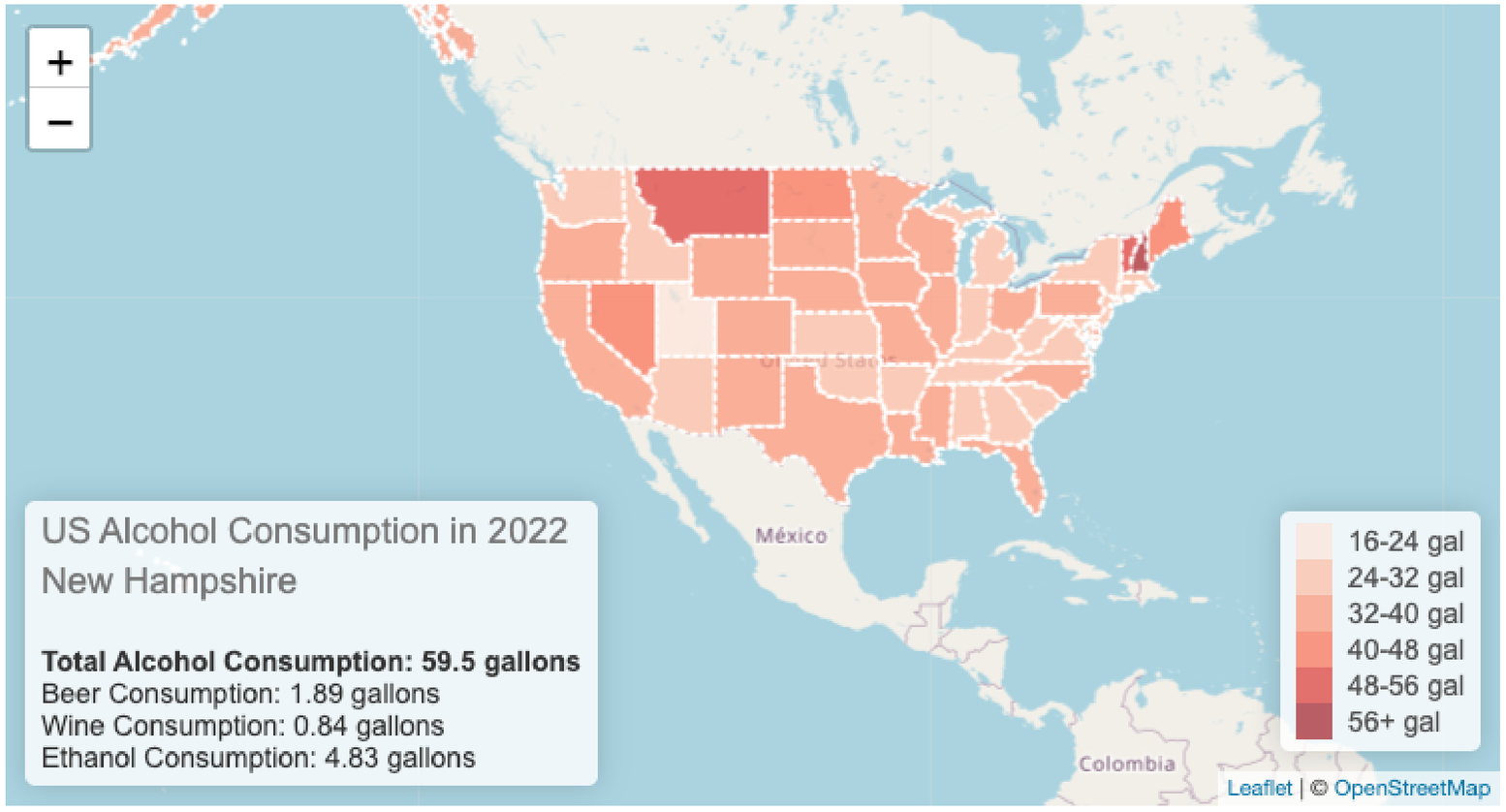
By creating separate JS scripts for each visualization, we were not only able to seamlessly attach them to our HTML, but it allowed us to debug any issues with our code without potentially affecting other visualizations

We used a preset CSS and HTML format available in W3 schools. This allowed us to have some style control. When creating additional elements into our visualizations, we hard-coded some CSS elements which made it easier to apply evenly across our site.

Demo Time

Alcohol Consumption

Type of Visualization - Gradient Map



Trends in Alcohol Consumption Across the US

States with the Highest Alcohol Consumption Per Capita

- New Hampshire - 59.5 gallons
- Vermont - 49.4 gallons
- Montana - 48.7 gallons

Contrary to the size of the state and its respective population, it's interesting to see that New Hampshire (1.4m in population) is the highest when it comes to alcohol consumption. This suggests there could be other factors in play, such as the age distribution and/or race..possibly even religion/faith.

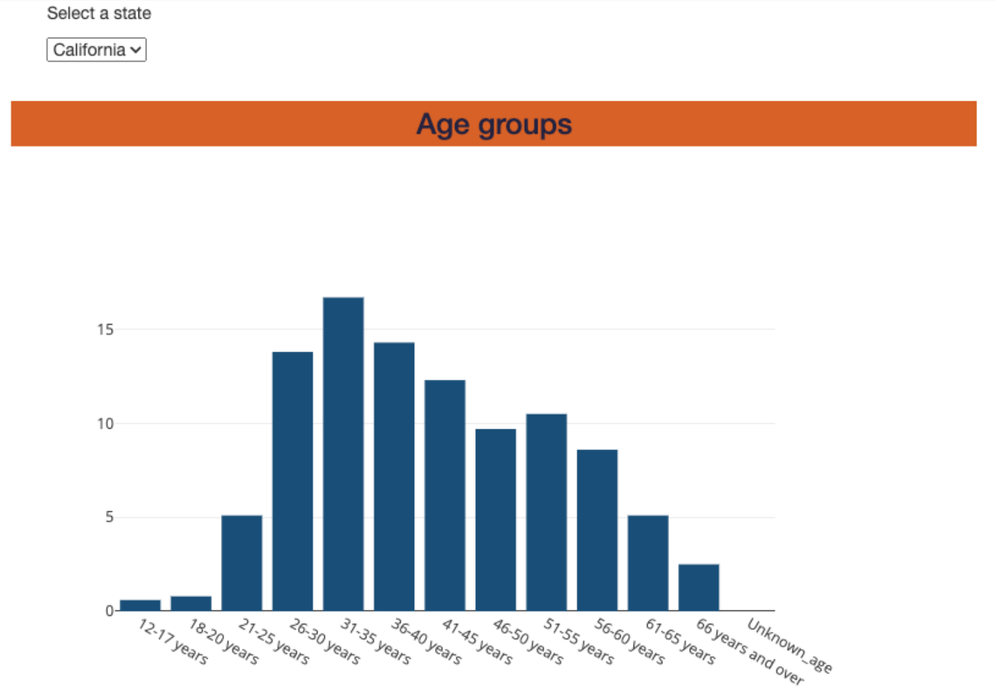
Distribution-wise, we see the most alcohol consumed per capita is mostly in Central US specifically Beer, perhaps due to a large white race majority or Catholic following.

Correlating our Data

So by now, in our research, we had sufficient information about the overall consumption statistics, fatalities caused, and available rehabilitation centers. However, with large datasets, it became necessary to focus on smaller samples of data, *especially for fatalities*. In a trend graph published here, the growth of alcohol consumption and alcohol-related deaths had noticeably increased since 2019 (ahem..lockdown).

- In order to avoid data skewed by potential outliers, we pared down our fatalities data to observe 3 states with similar population stats as well as consumption stats. Hence, we selected California, Texas, and Florida.
- We also found out these 3 states had the highest alcohol-related deaths per capita. Not only do these states have high populations, but they also have a high diversity index. So, we explored the demographics of these states.

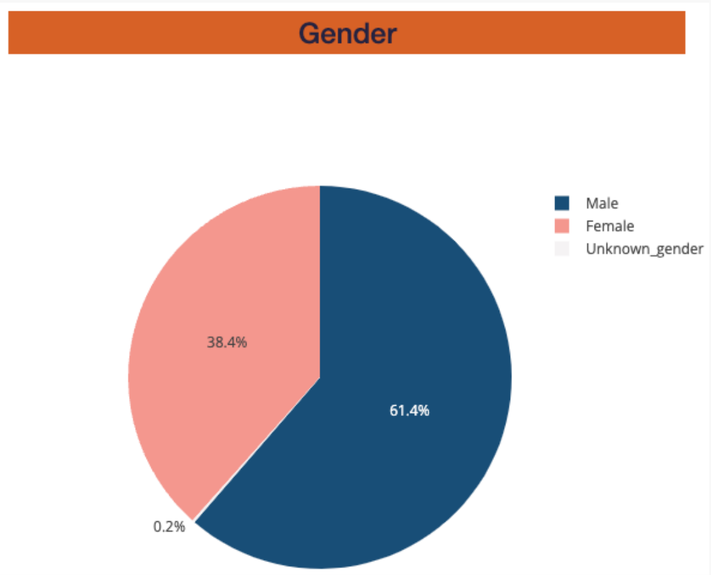
Demographic Information on Alcohol Fatalities

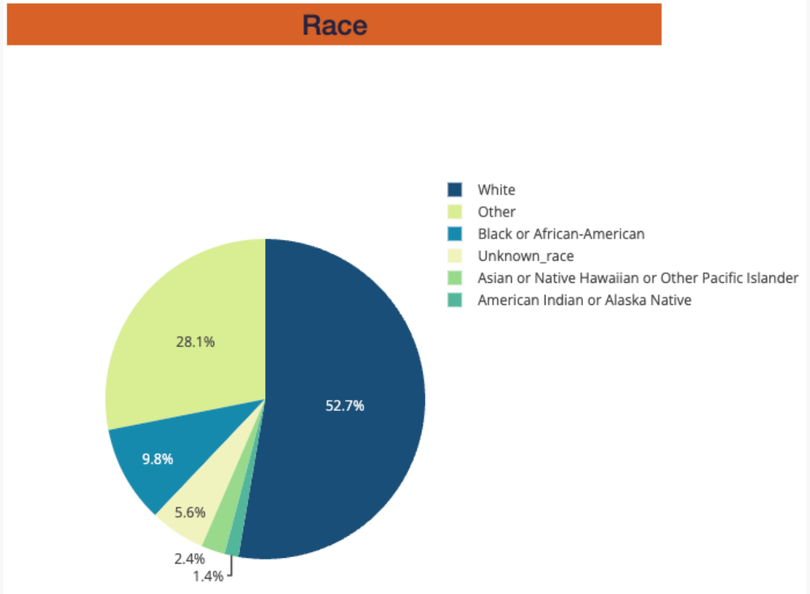


Type of Visualization - Dropdown Selection

Top 3 states with the highest fatalities per population in 2022:

- California
- Texas
- Florida





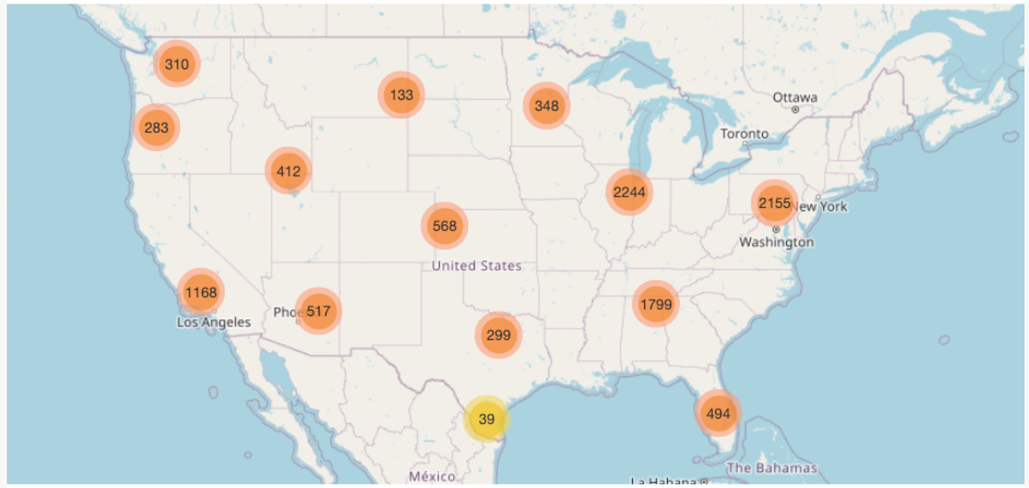
More than 50% of white males were the most affected by alcohol-related deaths.

The age range most affected by alcohol-related deaths were young adults between the age of 26-45 years old

Rehabilitation Facilities

<u>States with the highest number of facilities per capita:</u>

- Alaska
- Montana
- Maine

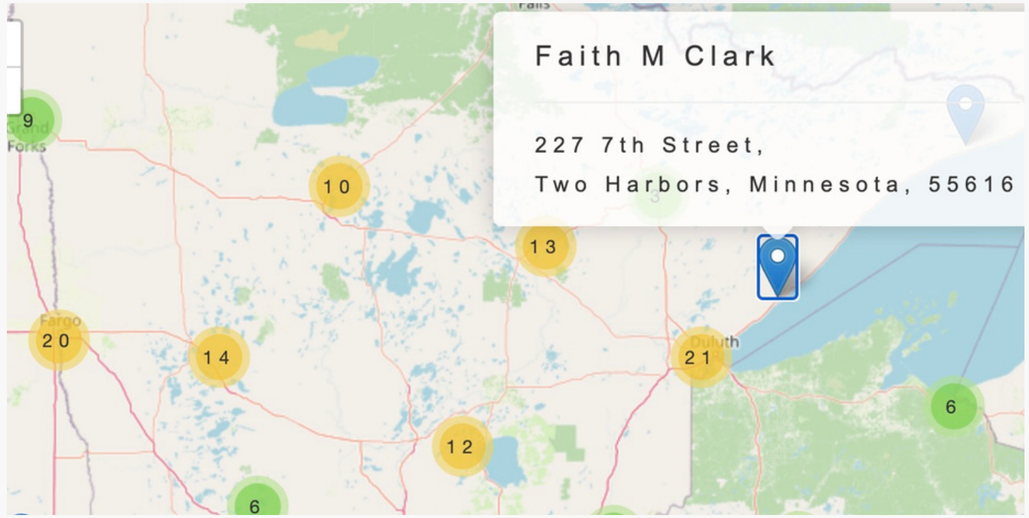


Type of Visualization - ClusterMarker Map

This map shows the number of available facilities per state. The zoom feature gives you more information on each facility such as its name and address.

<u>States with the lowest number of facilities per capita:</u>

- Texas
- Puerto Rico
- South Carolina



In the search bar, API state endpoint is used to get information about available facilities for the specific state requested by the user.

Conclusion

- Montana, which is one of the top three states with the highest alcohol consumption rate per capita, is also one of the top three states with the highest number of rehab facilities per capita.
- On the other hand, we cannot say the same for Vermont and New Hampshire which are also among the top three states with the highest alcohol consumption
- Despite California, Florida, and Texas having high populations and high alcohol-related fatality rates (post-2019), they were found to be in the band of states with the lowest number of rehab facilities. [averaging 0.001 per capita]
- The demographic most affected by alcohol-related deaths turned out to be white males [>60%]
- The age range most affected by alcohol-related deaths were young adults between the age of 26-45 years old

Limitations

- We were unable to find demographics on alcohol consumption, which we thought would aid us in the holistic storytelling of our data.
- It also would have been interesting to explore other assets and topics related to our topic to broaden our data scope, such as alcohol spending or alcohol vs. drug use in the US.
- With more time, we would have been able to implement more back-end resources to add to our data
- We started experimenting with a library called “Algolia Places” however we decided to move forward without implementing this library due to time constraints.
- Our data doesn’t specify the individuals who consume alcohol, are ones in need of rehabilitation.

Future work

- In our initial research, we found a javascript library called “Algolia Places”
    - Using GeoSearch, Algolia Places can create an autocomplete search option on our website that can aid those who are seeking help looking for rehab facilities in their area
- With the assistance of a TA (ty Andrew Smigaj), we found that though Algolia is compatible with different providers, however, we were unable to figure out the parameters needed to successfully use this library
- We hope that we can be well versed enough in using this library that we can use it to enhance our website for a better user experience

SAMHSA

Substance Abuse and Mental Health Services Administration

If You or Someone You Know is Struggling with Substance Abuse, Don’t Hesitate to Ask for Help

SAMHSA’s National Helpline, 1-800-662-HELP (4357)