Mapping The Substance Use Recovery Infrastructure in Iowa

CRP 558: Final Project Proposal

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MAPPING THE SUBSTANCE USE RECOVERY INFRASTRUCTURE IN IOWA

Introduction:

Results from the National Survey on Drug Use indicated that 20.7 million people 12 and older were suspected of needing substance use treatment in 2017. Of those, only 4 million people received any type of substance use treatment, with only 2.5 million people receiving treatment from a facility specializing in substance use (Substance Abuse and Mental Health Services Administration, 2018b). These statistics indicate that 67% of the united states population in need of substance use intervention did not receive any type of treatment.

There are many barriers to treatment for Americans struggling with substance use. These barriers include lack of health care, concern regarding cost of treatment, stigma related to treatment, and concern regarding the impact treatment may have on individual's job. Additionally, many people struggling with substance use do not seek treatment because they do not wish to end their substance use (Substance Abuse and Mental Health Services Administration, 2018b). While there are numerous reasons for individual's not to seek treatment, the unique rural landscape of Iowa may also introduce barriers for those seeking treatment for substance use.

Specifically, the geographic and cultural makeup of Iowa indicates that substance use risks are greater across the state as the rate of alcohol use and binge alcohol use are above the national average and Iowan's report perceptions of lower risk associated with substance use than those in other states. (Governor's Office of Drug Control Policy, 2019; Iowa Department of Public Health, 2018; Substance Abuse and Mental Health Services Administration, 2018a & 2019). Additionally, the Iowa Department of Public Health (2016) has reported concern that decreased economic resources and increased social isolation related to the reductions in family farms has led to increased alcohol consumption and mortalities across the state. Because Iowa is a large rural state, those that are in need of services may also not have access to the treatment in their communities.

Project Proposal

Due to the above concerns, an Iowa State team is currently working with The Substance Abuse Bureau of the Iowa Department of Public Health, funded by the Substance Abuse and Mental Health Administration, to gather information about substance use recovery services across the state and country. One of the tasks of this team is to compile a list of agencies that are currently providing recovery services in Iowa. This project plans to map this data similarly to https://yourlifeiowa.org/finder in effort to provide a reader with a tool to analyze and search through the services that currently exist in Iowa's recovery environment.

In addition to mapping the data collected from the Iowa State team, this project proposes to add additional layers of data to the map in effort to visualize a variety of substance use barriers across Iowa counties. For example, this project proposes to add COVID-19 data to the map in effort to identify vulnerable areas across the state. COVID-19 is a valuable level of analysis to monitor as the pandemic is creating increased economic vulnerability and social isolation. These are of particular interest to the study of substance use as economic vulnerability and social isolation are both factors that predict the initiation and relapse of substance use (Dorius et al., 2020). This project may also add additional data such as substance induced mortality data, pain pill distribution data, and the locations of Iowa liquor stores in effort to visualize the location of recovery services in relation to these substance use data points.

Technology List

To complete this task, this project proposes to utilize Leaflet with GitHub and Brackets technologies to build this map. This project will also use QGIS and the MMQGIS plugin to geocode the list of substance use recovery services and export files as GeoJSON layers. This project will use JSONlint to verify the GeoJSON files. This project will also use ArcGIS online and ArcGIS JavaScript API to share the data files created for this project with the Iowa State team.

Data List

Table 1 below details the data this project plans to utilize. The data ranges from shapefiles, .csv files, to excel files. Some of the tools listed in the previous section will be utilized to transition these variables into mappable features.

Table 1: Data List

Data	Description	Source	Link	Year
List of substance use recovery services in Iowa	This file is an excel file that contains the names, addresses, services offered, and COVID-19 responses of substance use recovery houses across the state of Iowa	This file was created by an Iowa State team as part of an environmental scan in collaboration with The Substance Abuse Bureau of the Iowa Department of Public Health, funded by the Substance Abuse and Mental Health Administration	None	2020
COVID-19 cases	This file is a .csv file containing the state and county information of covid-19 active cases, recovered cases, and deaths. The dataset is updated daily.	Johns Hopkins	https://github.com/CSSEGISandData/COVID-19/blob/master/csse_covid_19_data/csse_covid_19_daily_reports/04-06-2020.csv	2020
Iowa drug and alcohol induced mortality rata	This data is downloaded from the Center for Disease Control WONDER system as a .txt file and contains county level crude rates of drug and alcohol mortalities per 100,000 in the state of Iowa	Center for Disease Control	https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=E861D78AE999EAC526834FF601E17F9A	2018
Liquor stores	This data is downloaded from data.iowa.gov and can be downloaded as a .csv, .kml, or shapefile. The dataset is also available through API as a JSON file. This file contains the point locations of active and inactivate liquor stores in Iowa	data.iowa.gov	https://data.iowa.gov/Regulation/Iowa-Liquor-Stores/ykb6-ywnd	2020
Pain pill distribution	This data is downloaded from the Washington Post and contains Drug Enforcement Administration's Pain Pill Distribution Data. This data contains the number of pain pills distributed by pharmacy location, county, city, state, and calculates this into a rate of the number of pain pills distributed per person per day. It is downloaded as a .csv file	Drug Enforcement Administration's Pain Pill Distribution Data-released by the Washington Post	https://www.washingtonpost.com/graphics/2019/investigations/dea-pain-pill-database/	2006-2014
Iowa counties	Shapefile of Iowa counties	Iowa Geodata	https://geodata.iowa.gov/dataset/county-boundaries-iowa	2020

Challenges

This project predicts additional challenges in mapping the COVID-19 data due to the rapidly changing climate and daily updates of COVID-19 data. This project also predicts additional challenges with mapping the pain pill distribution data, as these files are large and may be difficult to download on a personal computer. Another challenge of this project may be replicating the filtering tools used in https://yourlifeiowa.org/finder with html and JavaScript.

Conclusion

In conclusion, this project proposes to map substance use recovery services in Iowa in effort to support an Iowa State team analyze the recovery environment in Iowa. To do so, this project is interested in adding additional layers of data such as COVID-19 case data, substance induced mortality data, location of liquor stores, and pain pill distribution data in effort to visualize additional layers of data that impact substance use across the state. Finally, this map aims to build a map similar to https://yourlifeiowa.org/finder in order to provide readers the ability to visualize and search for available recovery services. Although, the goal of this project is clear, this project will need support in building the filtering tools and recommendations regarding technology tools that may benefit the efficiency of this project.

References

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