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Springboard Capstone Project Proposal

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Motivation: (What is the problem I’m trying to solve?)

Essentially, I am trying to see if there is a reliable way to identify civilians who need treatment for mental disorders or addictions, but haven't received it. In the process, it should become clear what the leading reasons are for these people not seeking treatment. My presentation will bring attention to these barriers to treatment and recommend potential courses of action to improve the proportion of individuals who get treatment.

* Can we predict whether or not someone will seek needed treatment for mental health issues?
* Can we predict whether or not someone will seek needed treatment for substance abuse/dependence?

Impact: (Who is my client? Why do they care?)

This project has the potential to impact anyone who is concerned with mental health or substance abuse in their family or community. In order to get this information to civilians who know someone or are themselves suffering from mental illness or substance abuse, my analysis should be shown to government or healthcare professionals with the power to raise awareness in their communities. What these professionals have that I don't have is the ability to disseminate this information on a larger scale among target groups where a need has been identified.

Data: (Which data am I going to use to do this?)

From the National Survey on Drug Use and Health, I will use mental health diagnostic variables, substance abuse/dependence diagnostic variables, mental health treatment variables, substance abuse/dependence treatment variables, and demographic information to identify any relevant differences between those who seek out treatment and those who don't.

Methods: (Briefly, what approach will I take to solve this problem?)

I will fit two logistic regression models, addressing the two questions posed at the end of the first section. Once I have identified the response variables for each model (0-1), it will mostly be a matter of experimenting with different predictors for seeking treatment. This can be broken down further into three basic steps:

1. Identify Response Variables and potential predictor variables

2. Check the correlation between response and predictors, between predictors for collinearity

3. Fit a variety of logistic regression models stepwise to identify the most predictive variables

End Product:

Primarily, the end product will be the two logistic regression models. I will also give the python scripts that make the relevant plots and models and a presentation that shows important plots and explains models in context of the problem. 12-year data may not be necessary for models, but can still be used for supplemental information in presentation to give audience an idea of the changing landscape of mental health disorders and drug abuse.