**Project Proposal**

**Prediction of mental health based on severity**

**Objective:**

“All people in Canada have the opportunity to achieve the best possible mental health and well-being”. Considering the development of technology, we are growing day by day but when it comes to mental health of an individual, it is becoming much narrower. Why can’t we use the development of our technology for an individual’s existence in this world is the question that should be raised in everyone’s mind. Needs identification and filling in the gaps is the most feasible solution we can take over besides the help of the technology. Our goal is to summarize the current status of the issue and offer some options and recommendations for advancing a mental health information agenda

Understand the impact of poverty, violence, civil conflict, and migration on mental, neurological and substance use disorders and reduce the duration of untreated illness by developing culturally sensitive early interventions for mental, neurological and substance use disorders across settings.

**Data Science Insight:**

Data is the fuel for any technical engine these days. Looking into any segment, we see data everywhere. Data has become a natural resource for everything. Meaningful information derived from the data, understanding it is the important components to cycle up the problem. Looking at a broader perspective, a wide range of audience gets interacted and impressed when you show them some graphs with numbers. This is the power that data has. The meaningful information and the insights from the data are possible only by analysing the data. The analysis process that we make, tools and techniques we use is all that declare the success rating of our project.

Our plan is to analyse the data that is available for mental health in our society and provide a platform to the mental health distressed candidates to come up with their condition to get coached up or treated according to their situation. In order to achieve our data analysis goals and business activities related to our problem statement, we would be following the below steps:

* Identify the affected candidates by taking into consideration analysis of various factors like age, sex, family history, work history, type of treatment, demographics etc.
* Build a supervised model based on the correlated data and training it to predict such cases in future according to the input data given by the person from the platform.
* Taking the benefits from the results derived, a platform (website) will be created and this acts as a source to take the input of any future data to the model to predict the seriousness of the person and looking at this, we try to raise awareness in improving the conditions for those mental health disorders.

Following methods and tolls will be used to execute this project:

* Data Collection
* Data Cleaning (MS Excel, SQL)
* Exploratory Data Analysis (Python)
* Data Visualization (Excel, Tableau, IBM Cognos)
* Build and apply suitable algorithms (Python)
* Design and outcome ( Website designed using word press)

**Data Requirements:**

Information is the powerful and necessary tool for creating positive change. Data on mental health services, outcomes and the impact of social determinants of health are critical if Canada wants to make significant improvements to its mental health system. There is a need to make significant process in our ability to understand what is working well to improve mental health and well-being and to use this expanded knowledge to measure progress in transforming the system and improving outcomes.

* Identifying the historical data from the resources observed
* Analysing the trends/deeper insights in the data by using the confirmed factors causing mental illness
* Training the model to predict the future data recorded in the platform provided (website)
* Giving respective solution based on the seriousness observed for mental illness condition

**Success Criteria:**

* A definitive appropriate model that predicts the different forms of future data recorded in the platform (website) by making use of the available tools and technologies
* Making the website readily available for public to use and creating an awareness to make use of it
* Providing right solution to respective users

**Expected Project Start and End Date:**

* Project Start Date is Jan 2020 and it ends on 24th Apr 2020.

**Expected Products:**

* Graduation level project.
* A website that is beneficial for society and is public in use.

**References:**

(2020). Retrieved 6 February 2020, from <https://www.ibm.com/garage/method/practices/discover/business-problem-to-ai-data-science-solution>

("Fast Facts about Mental Illness - CMHA National", 2020)