

DAB402 - Capstone Project
Professor - Muhammad Shahid
Assessment1 - Business problem formulation

Mental Health

Problem Statement:

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.

Statistical coverage:

In any given year, 1 in 5 people in Canada will personally experience a mental health problem or illness. Currently more than 6.7 million people are living with a mental health condition in Canada. More than 28% of people aged 20-29 experience a mental illness per year. Suicide accounts for 24% of all deaths among 15-24-year olds and 16% among 25-44-year olds and rate of suicide in male is almost four times higher than female.

Vision:

“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.

Importance of Data Analytics in this project:

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 are 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 is 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.

Motivation:

We can design a solution looking at:

- how well we are meeting needs of persons living with mental health problems and illnesses
- how well we are promoting the mental health of Canadians
- accountability for funds spent on services
- degree to which mental health affected individuals
- advancing mental health promotion and illness prevention
- ensuring social inclusion for people living with mental health problems and illness

Methods:

- Data collection
- Data cleaning
- Exploratory Data Analysis
- Data Visualization
- Build and Apply best suitable algorithm(s)
- Design the outcome

Solution:

With the real time data that is collected and analysed, interpret and build the visualizations possible by translating knowledge of mental health data to address the gaps and develop a platform that can be accessed by all the individuals in the society.

Challenges:

Data Collection is the primary challenge followed by understanding the data and dimensionality reduction if necessary as of now.

Summary:

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.

References:

https://www.mentalhealthcommission.ca/sites/default/files/2018-11/Overview_of_Mental_Health_Data_in_Canada.pdf

<https://ontario.cmha.ca/wp-content/uploads/2016/10/CMHA-Mental-health-factsheet.pdf>

<https://cmha.ca/fast-facts-about-mental-illness>

Team:

Kavya Bulusu (0734186)

Vanita Patel (0734890)

Jinali Patel (0734623)