**GROUP MEMBERS**

**Monica:** Worked on the line and scatter plot showing life expectancy in general in Scotland. The plot also gives comparison between male and female life expectancy over a period of time.

**BRIEF DESCRIPTION**

Scotland has the lowest life expectancy at birth of all UK countries. Life expectancy report on figures for administrative areas within Scotland (Council and NHS Board areas) and special areas (Community Health Partnership, Urban/Rural and Deprivation). Life expectancy data is also published for Scottish Parliamentary Constituency Areas and Scottish Council Areas split by Deprivation.

The life expectancy figures can be used understand and compare the pattern of mortality between zones, councils or even countries. The analysis will help monitor the health inequalities and shows if there are any correlation between deprivation and life expectancy. Also, another issue that Scotland is dealing with is drug use. Hence, it was interesting to see if drug use plays an important role in the life expectancy figures.

Our dashboard investigates the life expectancy of the Scottish population in different Health Board regions from 1993 to 2019. The dashboard consists of 3 tabs, namely -

**->Life Expectancy in General**

The life expectancy of the general population in Scotland has increased by 4.8 years between 1993 and 2019. This spatial plot demonstrates the difference in life expectancy within the different regions of Scotland. Over time, the pattern of the life expectancy indicates an improvement in all regions. Despite this improvement, regions such as Greater Glasgow, Clyde and Lanarkshire lags behind and remains the lowest life expectancy when compared to other regions.

A split in the population by gender indicated a difference in the life expectancy between female and male over the recorded period (1993 to 2019). The line plots below in Scotland details the life expectancy of males and females. It is notable that the life expectancy of females is greater than males for all recorded period. However, this difference decreases in life expectancy is shown to decrease over time. It was also interesting to note that the increase in life expectancy for both genders reached a plateau in 2014 and has remained constant ever since.

**STAGES OF THE PROJECT**

**Stage 1: Identifying the project goal**

Gather evidence to show if drugs and deprivation affects life expectancy.

**Stage 2: Data gathering**

Explored datasets (please find below the links within Data Source section) which will contain data required to plot graphs.

**Stage 3: Data preparation**

Filter the required fields from the dataset which are relevant to plot the graph. Data were also taken from more than two datasets.

**Stage 4: Data Visualisation**

Clean data was used to create various graphs. Line graphs to show the trend and also to **do** comparative analysis. Also used spatial data to give a demographic view.

**PROJECT WORKFLOW**

**Step 1**: Create Github repository and individual branches.

**Step 2**: To explore the available datasets to narrow down specific research questions.

**Step 3:** Work on MVP. Each member work on the assigned section of the application and merge into master when completed.

**Step 4:** Work on features. Each member to create a branch for each assigned feature of the application and merge into master when completed.

**Step 5:** Work on documentation.

**ANALYTICAL /OTHER TOOLS**

**\*\*RStudio\*\***

Created a shiny web application using RStudio. Below are the packages used within R :-

1.here

2.tidyverse

3.janitor

4.rmapshaper

5.sf

6.RColorBrewer

7.ggrepel

8.shiny

9.viridis

10.shinytheme

11.markdown

**\*\*Zoom\*\***

Daily zoom calls

**\*\*Excalidraw\*\***

Used this tool to design the project plan and project timeline

**\*\*Git/Github\*\***

Used this repository to share the work done each day by each members of the project team.