NEXT GEN EMPLOYABILITY PROGRAM

CREATING A FUTURE-READY WORKFORCE

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CAPSTONE PROJECT SHOWCASE

Project Title

Health Care Data Driven Decisions using Power BI

Abstract | Problem Statement | Project Overview | Proposed Solution | Technology Used | Modelling & Results | Conclusion | Q&A

Abstract

1. Firstly, Import and pre-processing of datasets.
2. Learned to use DAX Functions.
3. Visualize the Dataset.
4. By utilizing Power BI, healthcare organizations can improve decision-making, patient outcomes, and operational efficiency.

Problem Statement

- **Data Fragmentation:** How can healthcare organizations integrate fragmented data from various systems and departments for comprehensive analysis?
- **Limited Data Accessibility:** What strategies can be implemented to improve accessibility to healthcare data for informed decision-making?
- **Suboptimal Patient Outcomes:** What measures can be taken to address longer hospital stays and increased readmission rates?
- **Lack of Predictive Analytics:** How can predictive analytics anticipate future healthcare trends?
- **Limited Operational Visibility:** What methods enhance operational efficiency through data analysis in healthcare?

Project Overview

- **Data Collection, Data Cleaning and Data Pre-Processing**
- **Using DAX Expressions**
- **Visualizations(Cards, Slicers, Charts)**
- **Formatting of Report**
- **Testing**
- **Storytelling**

Proposed Solution

- **Data Fragmentation:** Implement data integration pipelines within Power BI to consolidate data from disparate systems and departments, creating unified datasets for comprehensive analysis.

- **Limited Data Accessibility:** Develop user-friendly dashboards and reports within Power BI to provide healthcare professionals with easy access to critical data, enabling informed decision-making without the need for complex data retrieval processes.

- **Suboptimal Patient Outcomes:** Create performance dashboards within Power BI to monitor key patient care metrics in real-time, enabling healthcare providers to identify trends, intervene proactively, and improve patient outcomes.

- **Lack of Predictive Analytics:** Develop predictive analytics models within Power BI using historical healthcare data to forecast patient trends, disease outbreaks, and resource demands, empowering proactive decision-making and planning.

- **Limited Operational Visibility:** Create operational dashboards within Power BI to visualize key performance indicators, such as patient wait times, bed utilization rates, and staffing levels, enabling healthcare administrators to identify inefficiencies and streamline operations.

Technology used

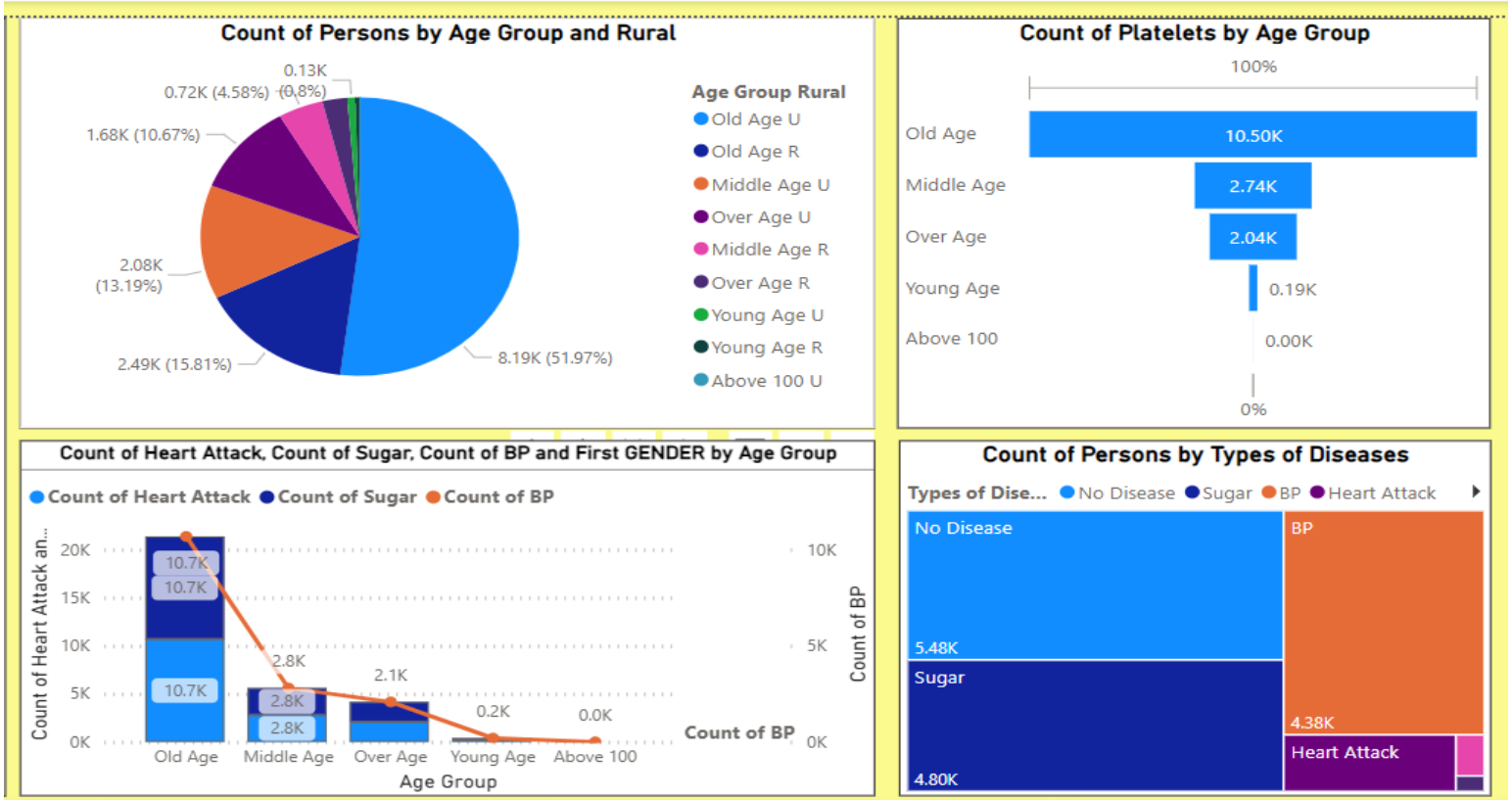
- **SPREADSHEETS**

  Format of Datasets(.xls)

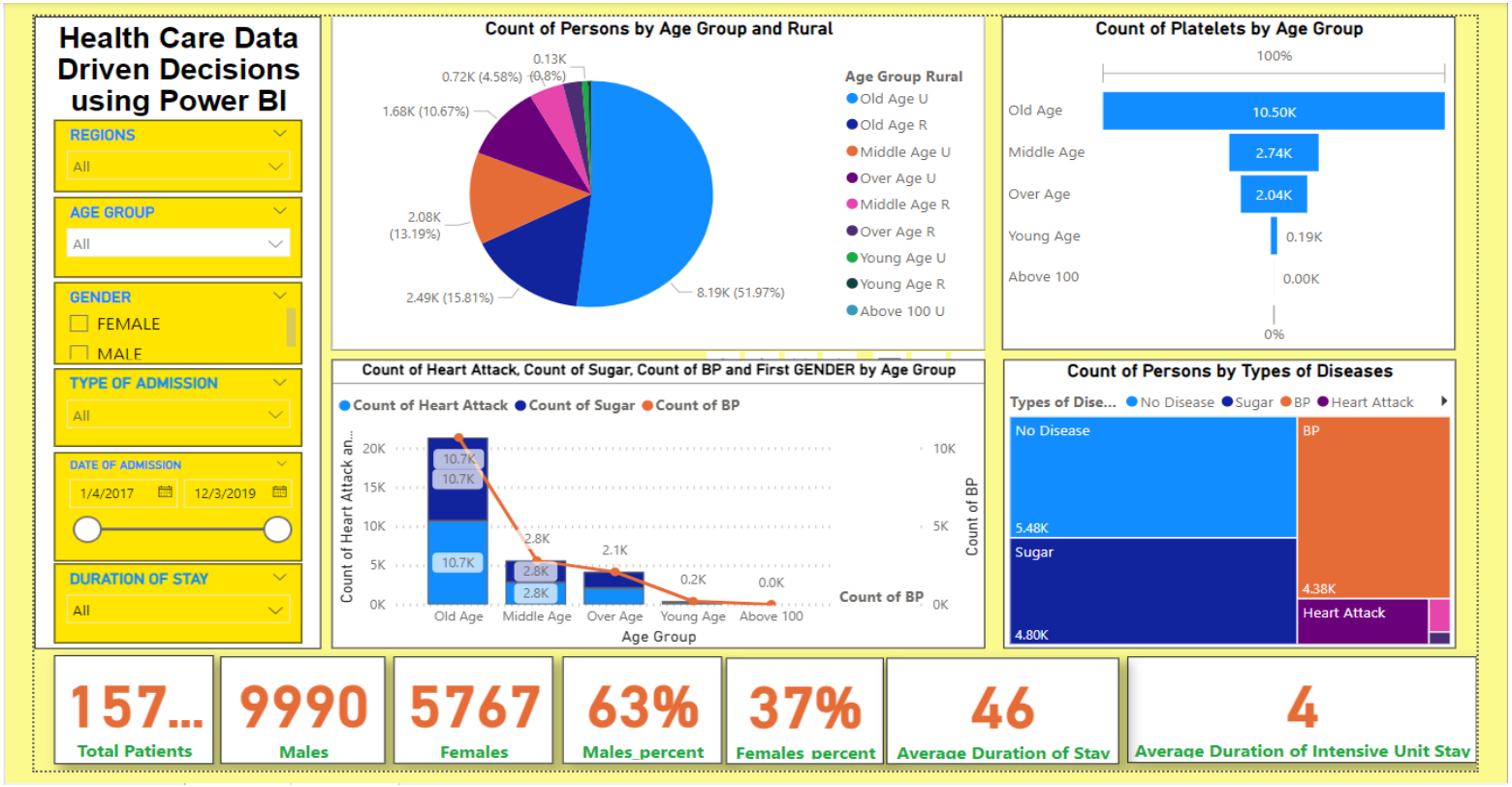
- **POWER BI**

  For Visualizing Dataset and creating Dynamic Dashboard

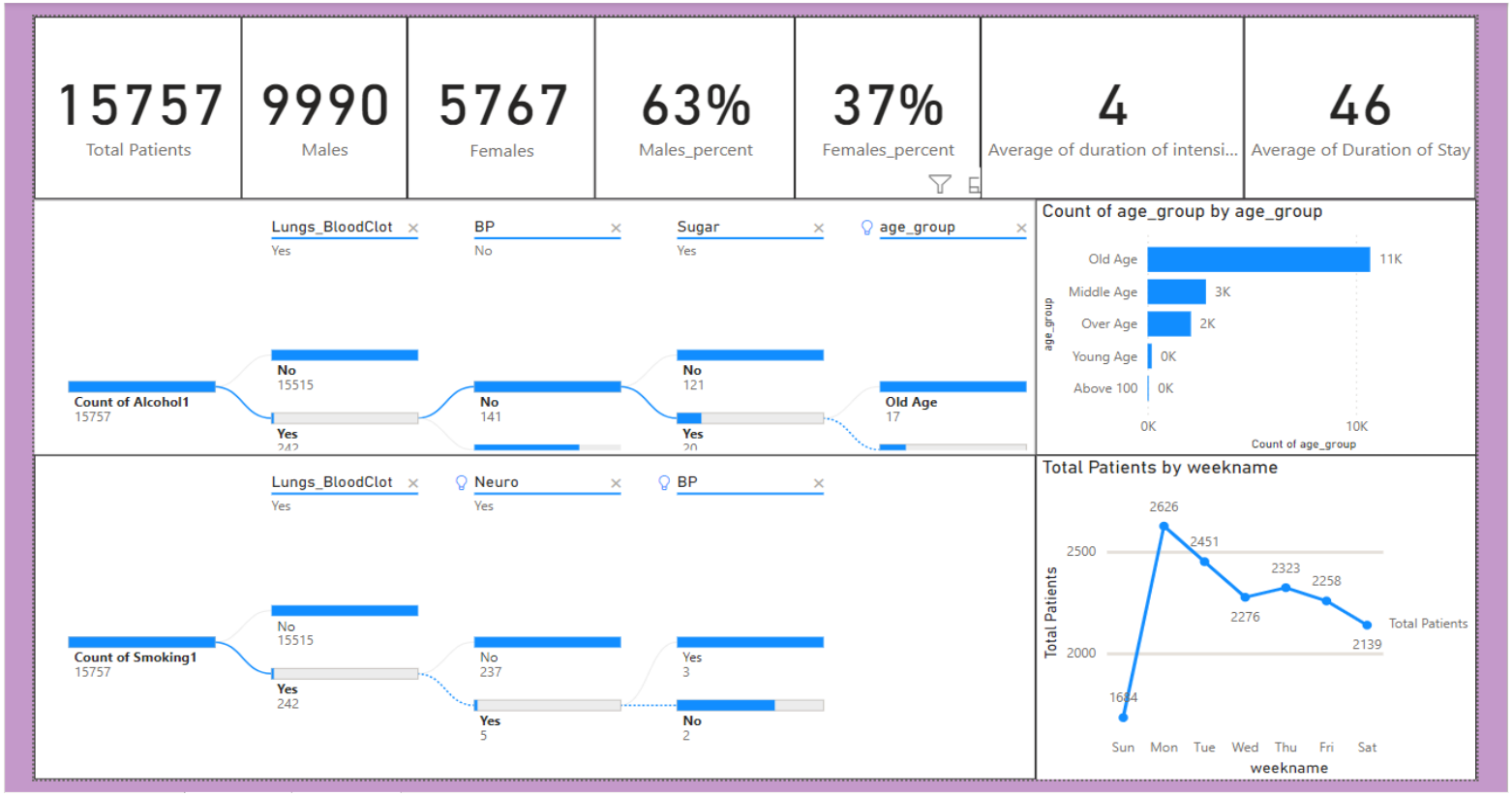
Modelling & Result



Dashboard - 1

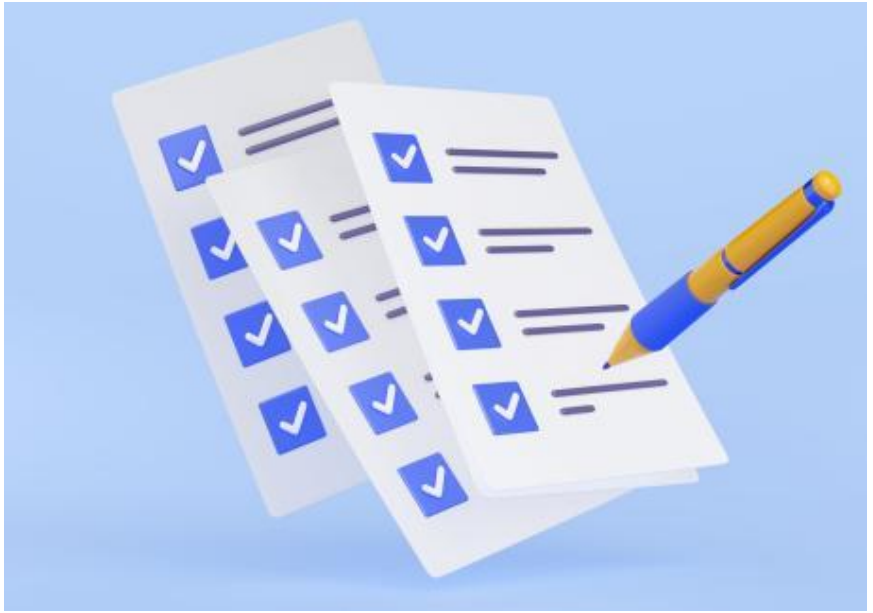

Health Care Data Driven Decisions using Power BI
REGIONS
All
AGE GROUP
All
GENDER
FEMALE
MALE
TYPE OF ADMISSION
All
DATE OF ADMISSION
1/4/2017
12/3/2019
DURATION OF STAY
All
Count of Persons by Age Group and Rural
0.13K (0.8%)
0.72K (4.58%)
1.68K (10.67%)
2.08K (13.19%)
2.49K (15.81%)
8.19K (51.97%)
Age Group Rural
Old Age U
Old Age R
Middle Age U
Over Age U
Middle Age R
Over Age R
Young Age U
Young Age R
Above 100 U
Count of Platelets by Age Group
100%
Old Age
10.50K
Middle Age
2.74K
Over Age
2.04K
Young Age
0.19K
Above 100
0.00K
0%
Count of Heart Attack, Count of Sugar, Count of BP and First GENDER by Age Group
Count of Heart Attack
Count of Sugar
Count of BP
Count of Heart Attack an...
20K
15K
10K
5K
0K
10.7K
10.7K
10.7K
2.8K
2.8K
2.8K
2.1K
0.2K
0.0K
10K
5K
0K
Count of BP
Old Age
Middle Age
Over Age
Young Age
Above 100
Age Group
Count of Persons by Types of Diseases
Types of Dise...
No Disease
Sugar
BP
Heart Attack
No Disease
5.48K
Sugar
4.80K
BP
4.38K
Heart Attack
157...
Total Patients
9990
Males
5767
Females
63%
Males_percent
37%
Females percent
46
Average Duration of Stay
4
Average Duration of Intensive Unit Stay

Dashboard - 2


15757
Total Patients
9990
Males
5767
Females
63%
Males_percent
37%
Females_percent
4
Average of duration of intensi...
46
Average of Duration of Stay
Lungs_BloodClot
Yes
BP
No
Sugar
Yes
age_group
Count of Alcohol1
15757
No
15515
Yes
242
No
141
No
121
Yes
20
Old Age
17
Count of age_group by age_group
Old Age
11K
Middle Age
3K
Over Age
2K
Young Age
0K
Above 100
0K
age_group
0K
10K
Count of age_group
Lungs_BloodClot
Yes
Neuro
Yes
BP
Count of Smoking1
15757
No
15515
Yes
242
No
237
Yes
5
Yes
3
No
2
Total Patients by weekname
2626
2451
2323
2258
2276
2139
1684
2500
2000
Total Patients
Sun
Mon
Tue
Wed
Thu
Fri
Sat
weekname

Conclusion

- By leveraging Power BI's interactive visualizations, stakeholders gained a deeper understanding of healthcare processes and trends, allowing for more informed decision-making.
- Power BI has provided valuable insights that have empowered healthcare organizations to optimize resource allocation, enhance patient care outcomes, and improve operational efficiency.



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