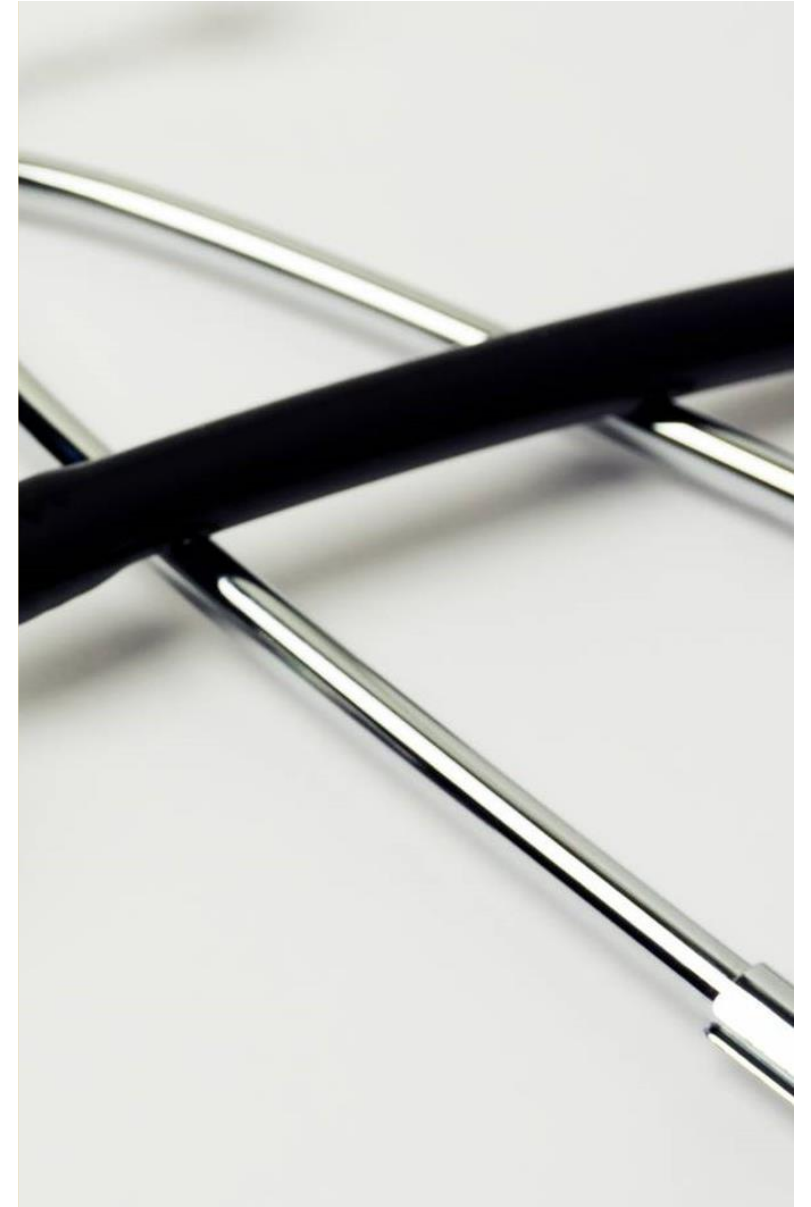


A medical stethoscope with a black tube and silver chest piece is resting on a light blue clipboard. The clipboard holds a white patient registration form with fields for 'NEW PATIENT REGISTRATION', 'PLEASE PRINT', 'Work Phone', 'Home Phone & Address', 'Insurance', and 'Reason for visit'. A black pen is also on the clipboard. The entire setup is on a reflective light blue surface.

MEDICAL INSIGHTS AND COST STATEMENT

INTRODUCTION

Healthcare institutions deal with vast amounts of patient and cost-related data. The goal of this project is to analyze medical conditions, patient population, medication costs, and admission expenses to derive meaningful insights that can help improve healthcare management and cost efficiency.





TOOLS USED: MYSQL (DATA CLEANING & PROCESSING), POWER BI (VISUALIZATION & INSIGHTS).

OBJECTIVE

To identify trends in patient conditions, costs, and hospitalization to optimize healthcare operations.



DATA CLEANING PROCESS (SQL)

Steps taken to clean the data

- Removed duplicates
- Filtered Data by Date range
- Handled missing / null values
- Standardized data formats

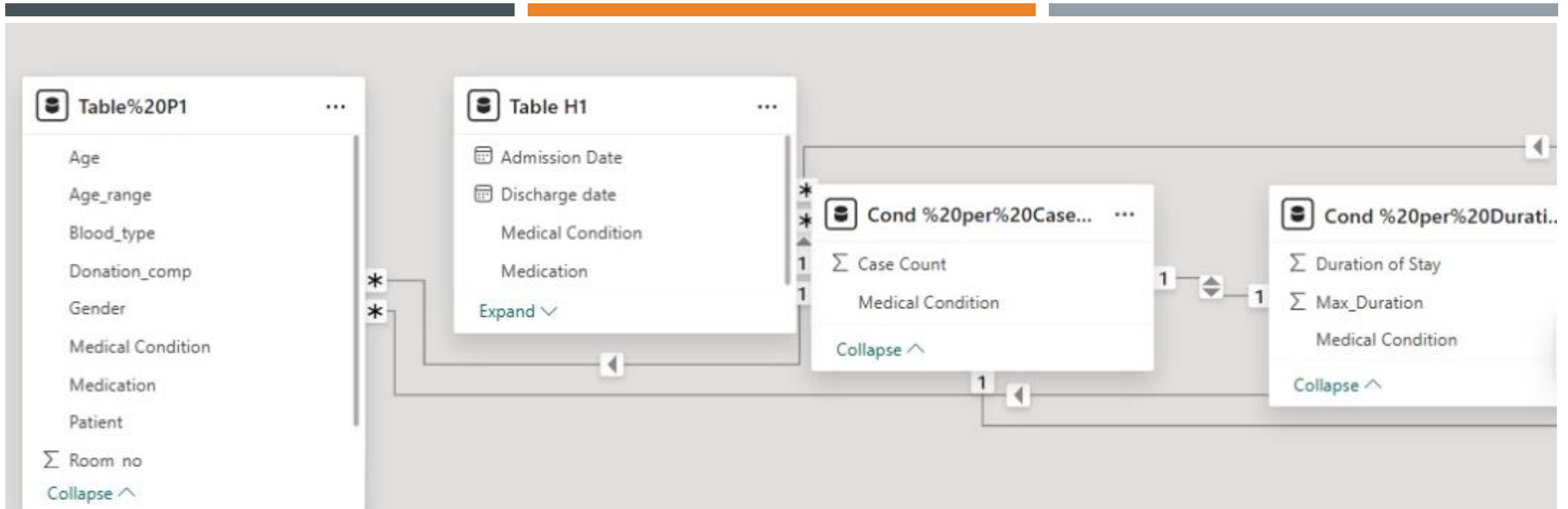
```
Disch_date
FROM hospitaldataset
WHERE Date_of_Adm BETWEEN '2023-01-01' AND '2024-1
WHERE Date_of_Adm BETWEEN '2023-01-01' AND '2024-1
SELECT DISTINCT h.Hosp_name, d.Doc_name
FROM hospitaldataset h
LEFT JOIN hospitaldataset d ON h.Room_no = d.Room_
WHERE h.Hosp_name IS NOT NULL AND d.Doc_name IS NO
SELECT DISTINCT Doc_name
FROM hospitaldataset
FROM hospitaldataset;
```



FINDINGS

Key Takeaways:

- High patient count for **Cancer (180 cases)** and **Diabetes (167 cases)**.
- Arthritis has the longest hospital stay (**15.8 days**).
- Ibuprofen & Penicillin have the highest costs (**≈78M**).
- Admission costs fluctuate over time, with a total spend of **25.7M**.



DATA MODEL

- THIS DATA MODEL REPRESENTS THE RELATIONSHIP BETWEEN DIFFERENT TABLES CREATED WITH MYSQL USED IN THE **MEDICAL INSIGHTS & COST ANALYSIS** DASHBOARD.
- IT ENSURES DATA INTEGRITY AND ENABLES EFFICIENT QUERYING FOR PATIENT INFORMATION, MEDICAL CONDITIONS, AND TREATMENT COSTS.



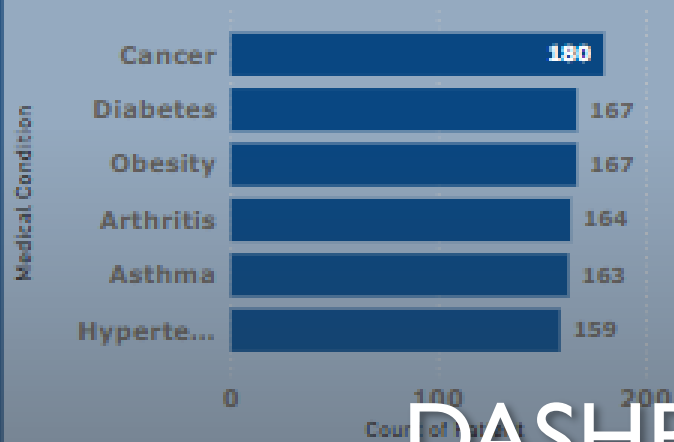
Medical Insights & Cost Analysis

379.8M

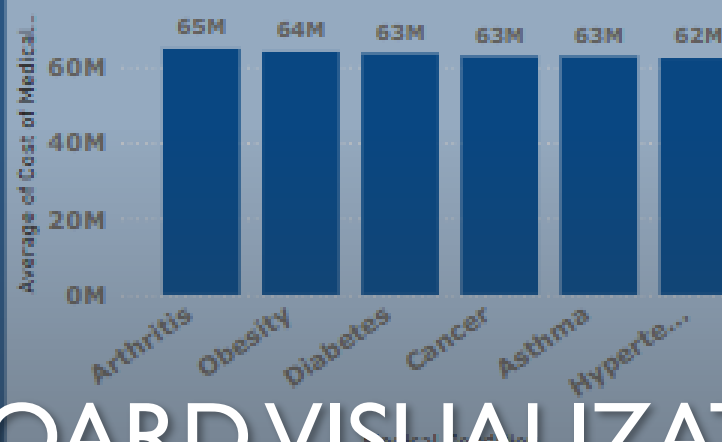
497K

901

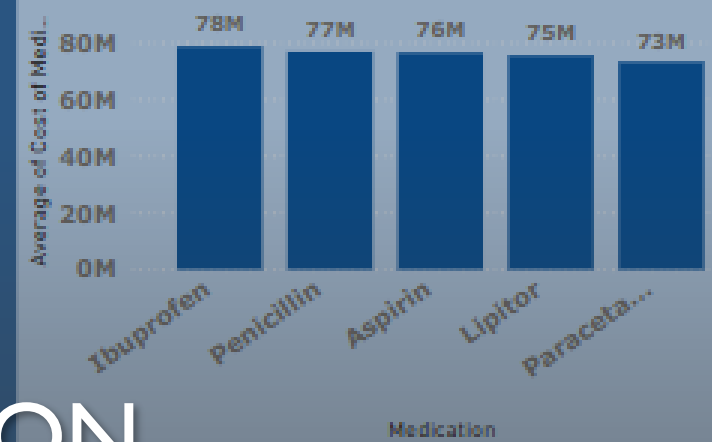
Count of Patient by Medical Condition



Average Cost of Medical Condition

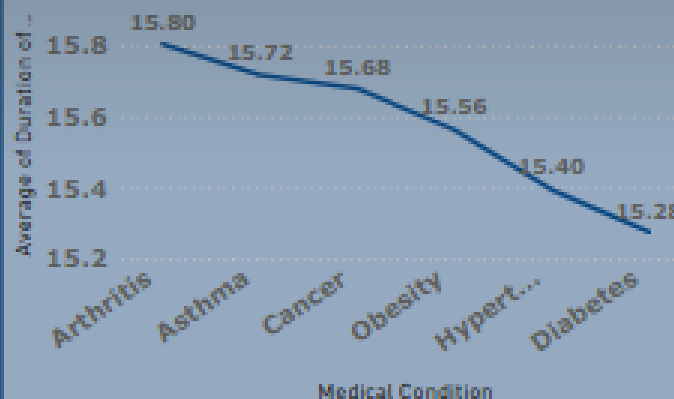


Average Cost of Medication

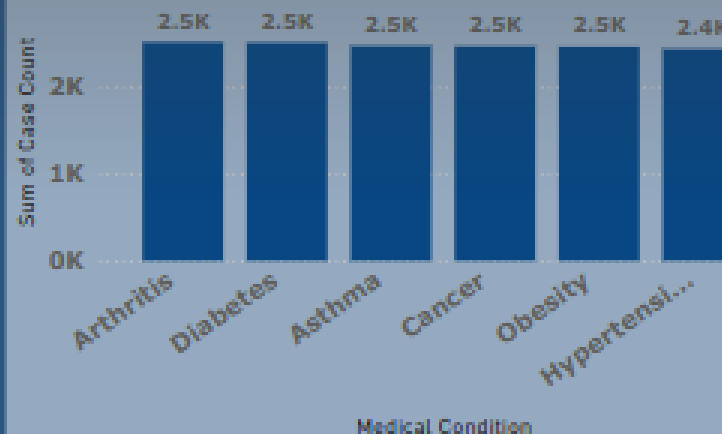


DASHBOARD VISUALIZATION

Average Duration of Stay by Medical Condition



Sum of Case Count by Medical Condition

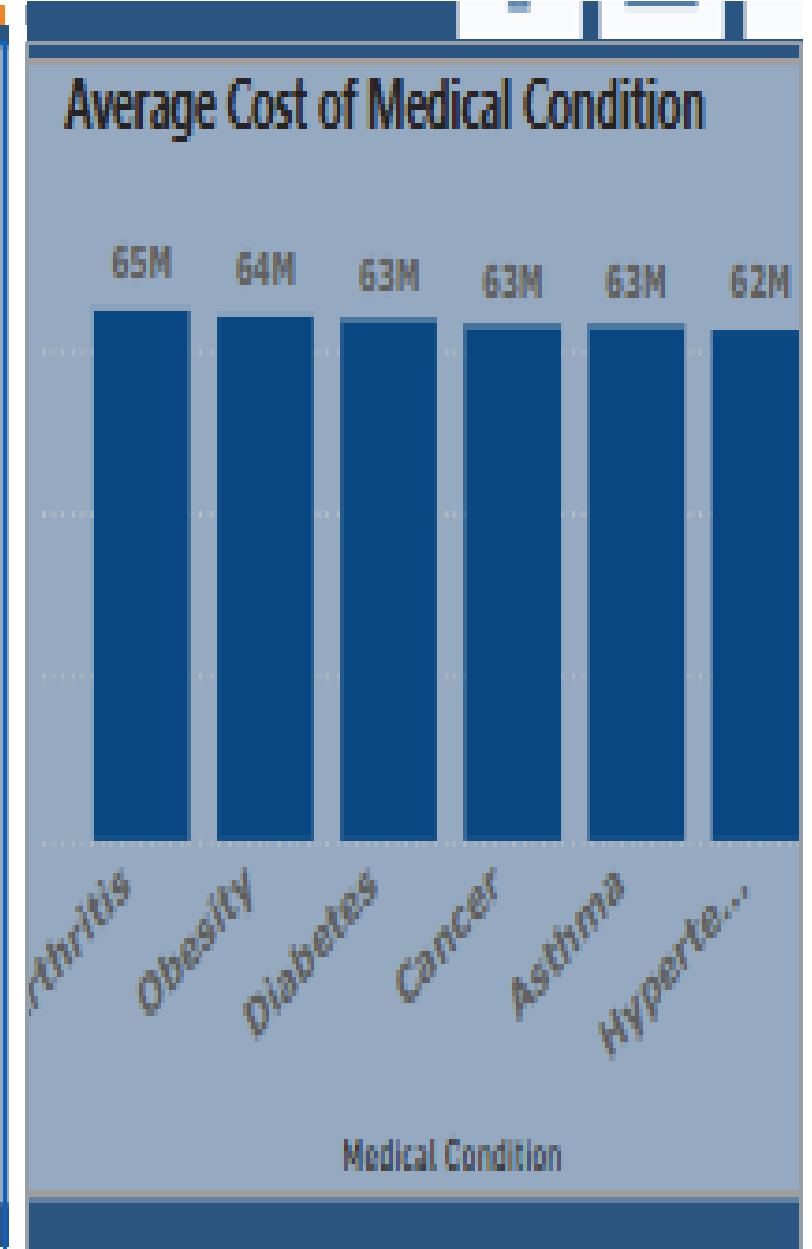
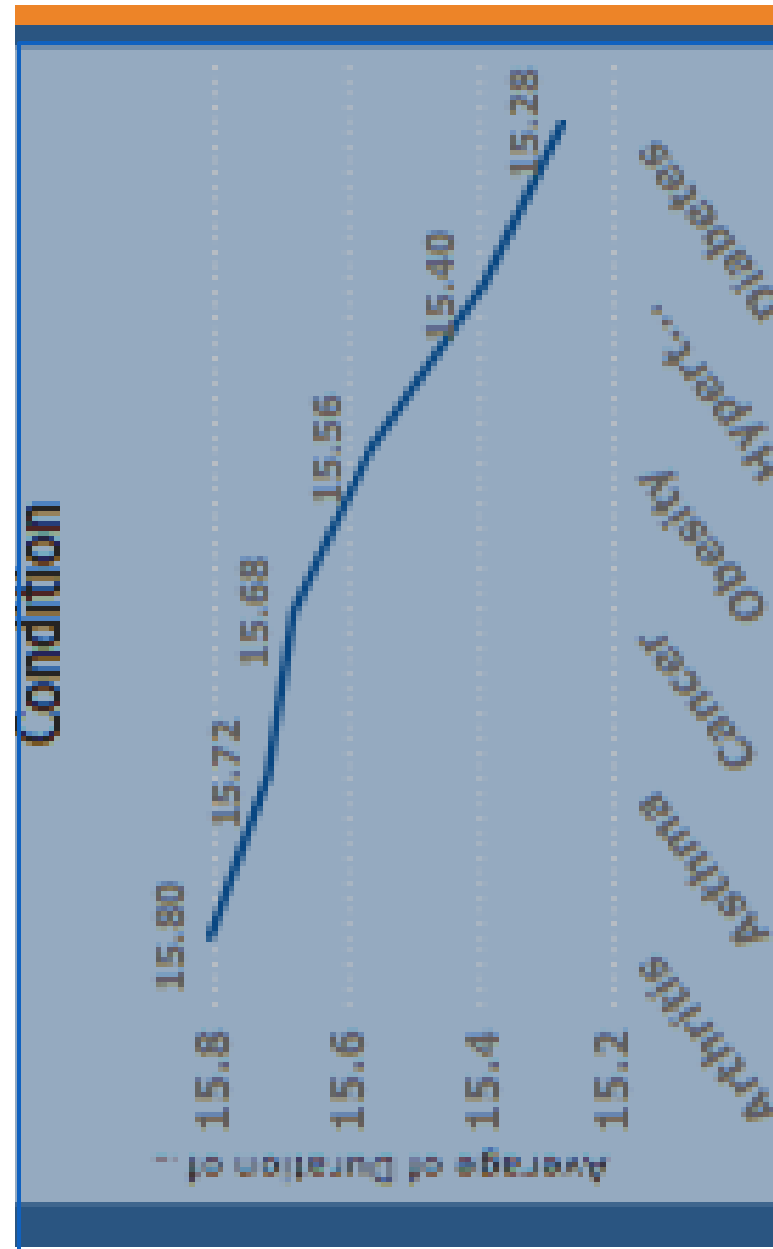


Amount per Admission Date

Year	Month	Sum of Amount
2019	July	637555
2023	August	615744
2020	December	611231
2020	January	595331
2022	February	586964
2022	December	581054
2020	April	575724
2020	October	571706
Total		25713717

CHARTS VISUALS

The first chart shows the duration of stay based on the different medical conditions displayed while the second chart shows the average cost spent on different medical conditions.



RECOMMENDATION



- Optimize **medication procurement strategies** to reduce high costs.
- Explore **alternative treatment methods** to lower expenses.
- Reduce hospital stay through **better outpatient management**.
- Implement **early discharge plans & home care support** for Arthritis patients.
- Forecast **seasonal trends in admissions** to optimize budget allocation.
- Implement **cost control strategies** for peak months.



BUSINESS IMPACT & NEXT STEPS

Business Impact:

- *Optimizing healthcare costs could reduce total spend by 10-15%.
- *Enhancing preventive care could lower hospitalization rates.
- *Better supply chain strategies can control medication costs.

Next Steps:

- Automate real-time monitoring of patient admission trends.
- Conduct a deeper cost-benefit analysis of treatments & medications.
- Implement AI-driven predictive models for disease management.

THANK YOU

Data Analyst Oghenefejiro Joan

Email:

Oghenefejirojoan9@gmail.com

