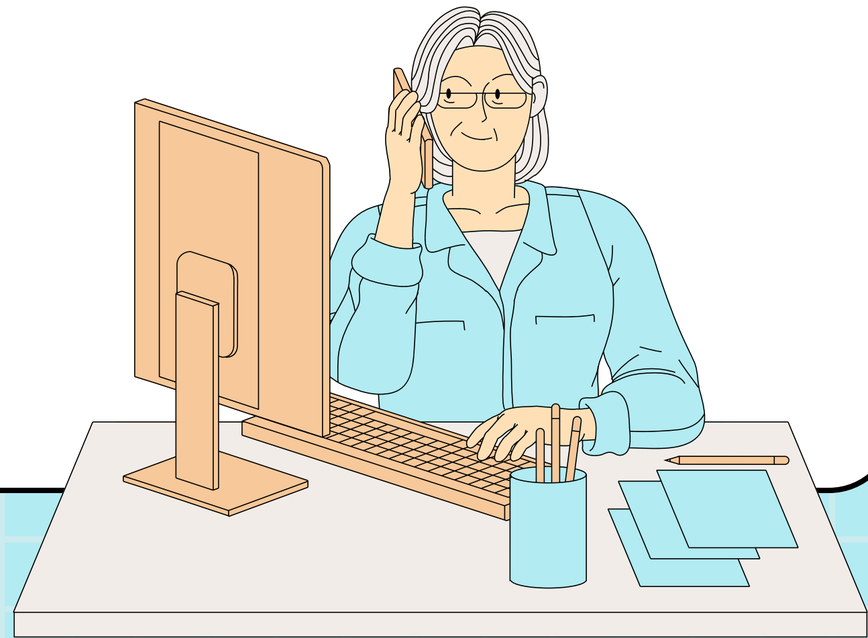
WELCOME TO BPL HOSPITAL READMISSION 2025 ANALYSIS

: DATA-DRIVEN INSIGHTS FOR IMPROVING PATIENT CARE

Tools Used: Miro, Snowflake (SQL) & Power BI
then submitted on GitHub

“This project analyzes hospital readmission data to identify patterns and provide actionable insights to improve patient care and hospital performance.”



PROJECT OBJECTIVE

Objective

- Analyze patient readmission patterns
- Identify high-risk groups
- Support data-driven decision making
- Improve hospital efficiency and patient outcomes

DATA OVERVIEW

Dataset Overview

- Patient demographics (Age, Gender)
- Clinical information (Admission Type, Length of Stay)
- Readmission indicator (Yes / No)

Key Dimensions

- Age Group
- Gender
- Admission Type

Key Metric

- Readmission Rate (%)

“I structured the data using dimensions for grouping and a central metric called the readmission rate, calculated as a percentage.”

TOOLS & METHODOLOGY

Tools Used

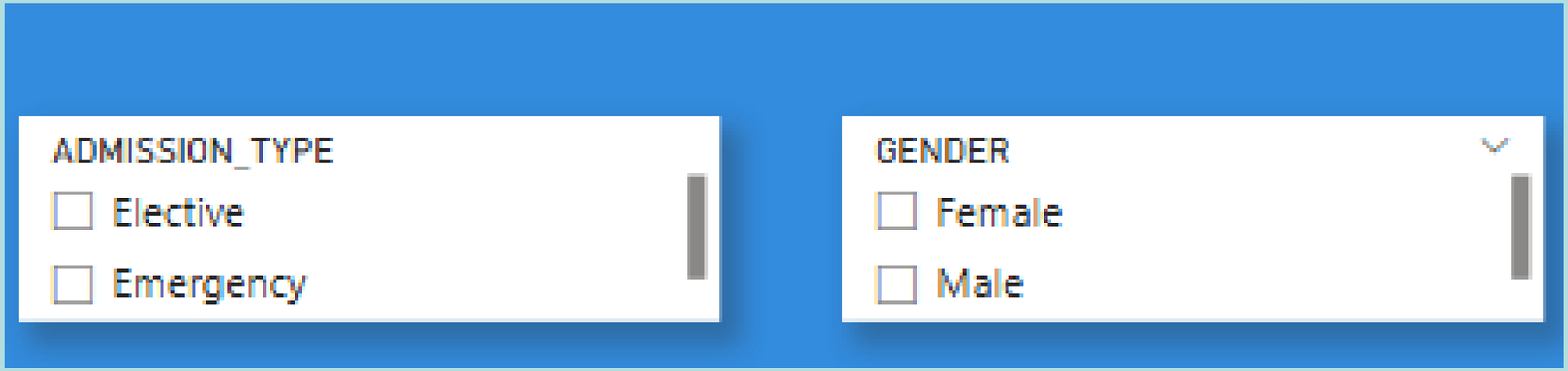
- Snowflake: Data cleaning and SQL calculations
- Power BI: Measures, KPIs, visuals, and slicers

Method

- Created readmission flag (Yes = 1, No = 0)
- Calculated readmission rate using averages
- Built interactive visuals

INTERACTIVITY (SLICERS)

- Age Group slicer
- Gender slicer
- Admission Type slicer



these two slicers show: (1) two types of admission type elective and emergency
(ii)gender type Male or Female

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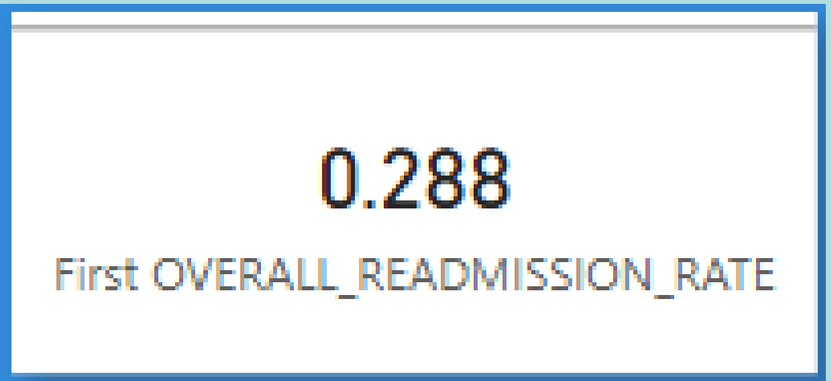
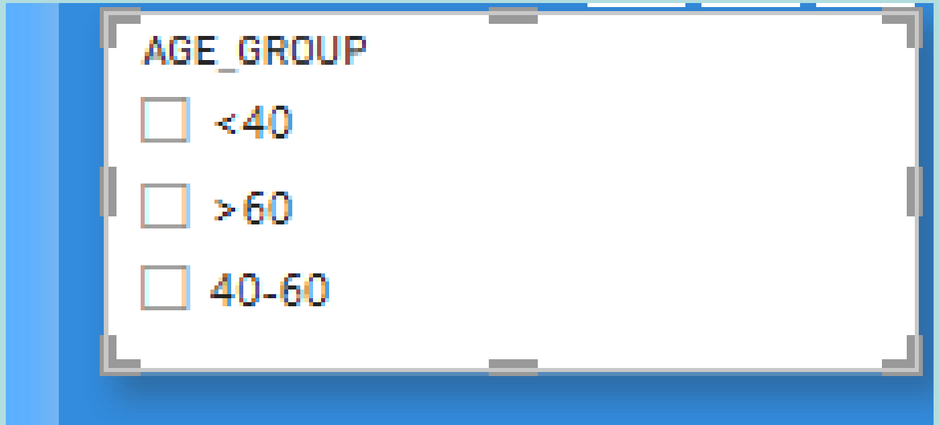
Slicers allow hospital management to explore readmissions dynamically by filtering patient groups in real time.
below two slicers shows (i)Overal admission rate with a rate of 0.288 *100 =28.8%
(ii) age group range





READMISSION_RATE_BY_ADMISSION_BY_AGE_GROUP & READMISSION_RATE_BY_ ADMISSION_TYPE

These two charts below shows Readmissiom rates by age group and admission type.

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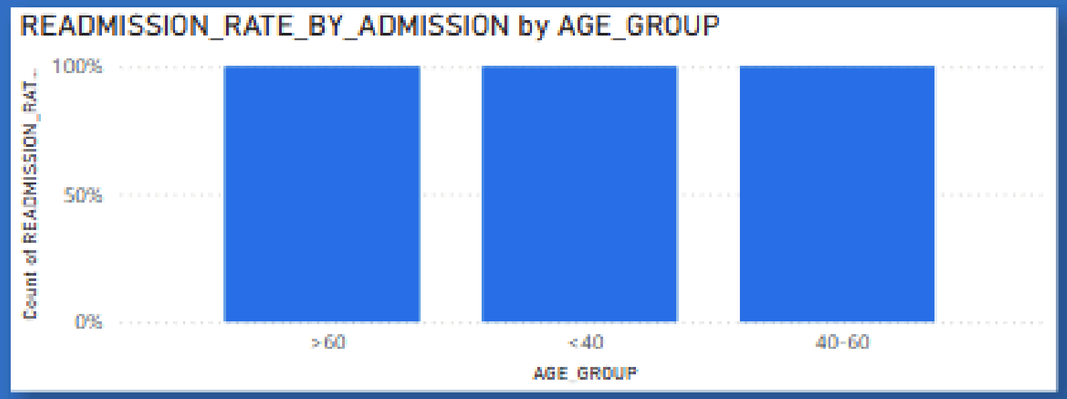

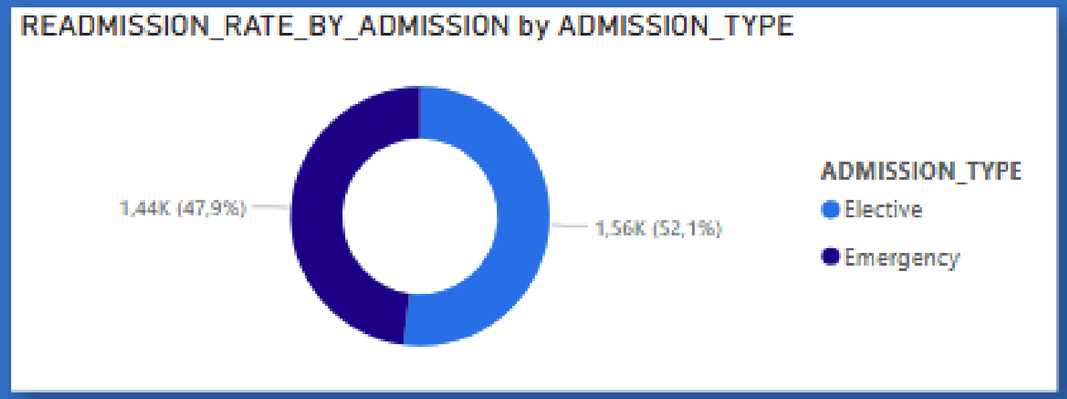

Readmission rates remain consistently high (~30–35%) across all age groups, with no clear increase in older patients in this sample. This suggests that age alone may not be the dominant driver of readmissions — other clinical or social factors (e.g., comorbidities, discharge planning) likely play a larger role."(If the rates actually rise with age in your real data, change to: "Readmission rates increase with advancing age, peaking in the 60+ group. This aligns with literature showing higher frailty and multimorbidity in elderly patients, highlighting the need for targeted transitional care in older adults.)

READMISSION_RATE_BY_ADMISSION_TYPE "Emergency admissions account for the majority (~52%) of readmissions, despite elective cases showing a slightly lower readmission percentage (1.44% vs 1.58%). This pattern emphasizes the higher risk associated with unplanned emergency care, possibly due to acute illness severity, incomplete stabilization, or limited follow-up planning."

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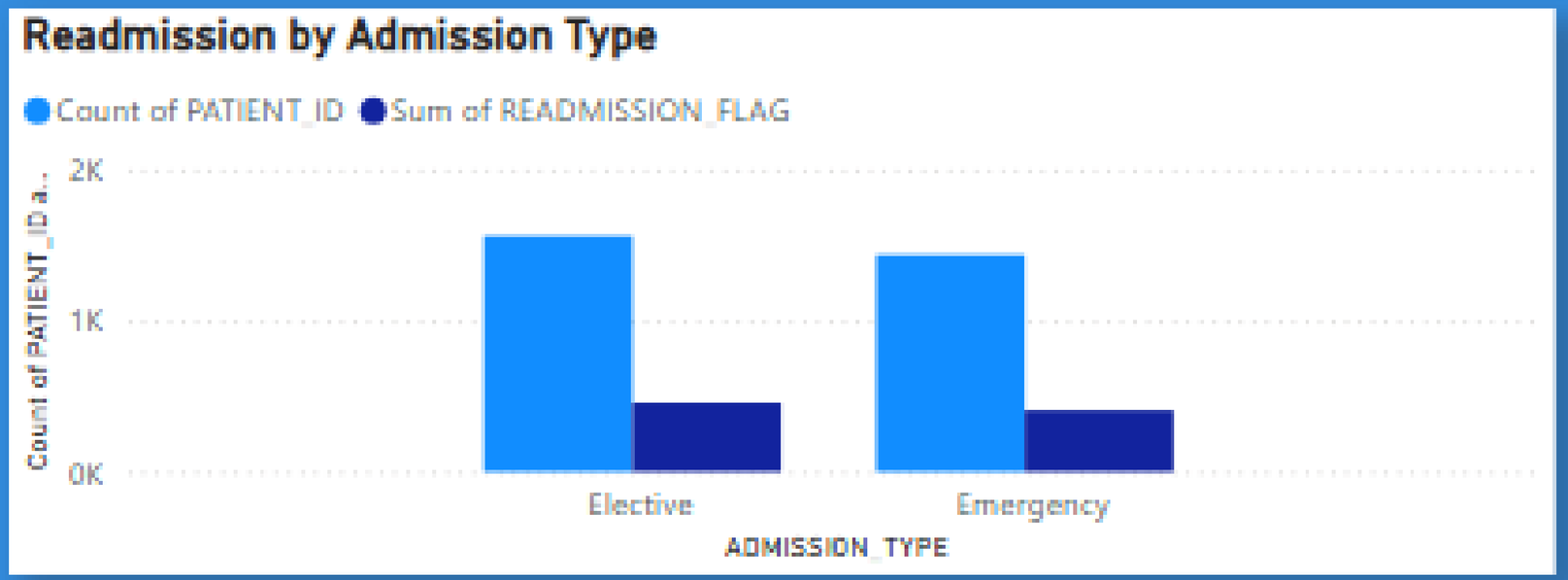
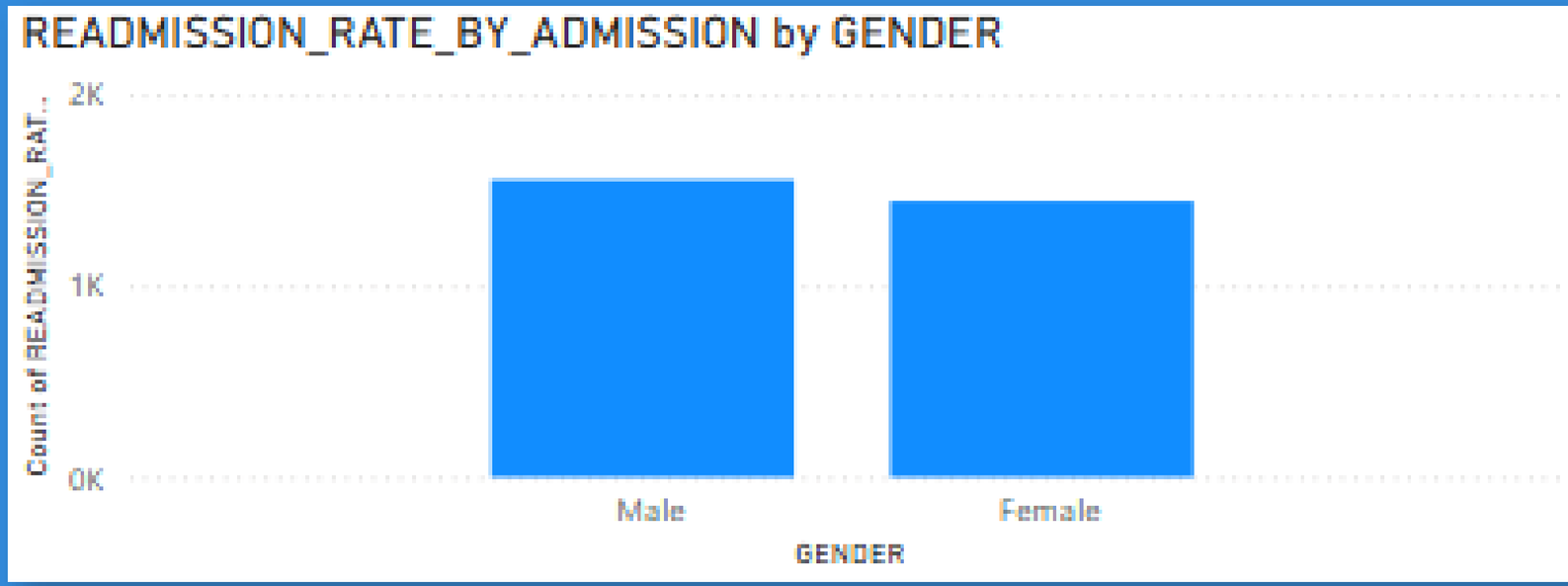


Readmission by Admission Type
(Bar chart: Count of PATIENT_ID vs ADMISSION_TYPE — Electives much higher count, Emergencies lower but still substantial."The total volume of elective admissions far exceeds emergency admissions; however, emergency cases contribute a disproportionately high share of readmissions relative to their volume. This highlights opportunities to improve discharge processes and post-acute support specifically for emergency patients to reduce preventable returns.

READMISSION_RATE_BY_ADMISSION BY GENDER
Readmission counts are comparable between males and females, with males showing a modestly higher volume in this dataset. Literature frequently reports slightly higher adjusted readmission risks in males across many conditions — potential factors include differences in health-seeking behavior, comorbidities (e.g., cardiovascular), and adherence to follow-up care.



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Conclusion: Key Insights on Hospital Readmission Patterns

This analysis highlights preventable aspects of readmissions and supports evidence-based strategies to enhance hospital care quality and reduce healthcare costs.

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Thank You

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Q&A

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