**Project Objectives**

1. **Evaluate Average Waiting Time:** Analyze and visualize the average waiting time for patients to identify trends and areas for improvement.
2. **Monthly Patient Visits:** Track and report patient visits on a monthly basis to monitor patterns and fluctuations in patient traffic.
3. **Total Visits by Department Referral:** Aggregate and display the total number of patient visits categorized by department referrals to understand departmental load.
4. **Patient Visits by Age Group:** Breakdown patient visits by age group to identify demographics and tailor services accordingly.
5. **Average Satisfaction by Age Group and Race:** Determine and visualize average patient satisfaction scores segmented by age group and race to identify disparities and areas for enhancement.
6. **Average Wait Time by Age Group and Race:** Analyze and present the average wait time data categorized by age group and race to uncover any patterns or inequalities in waiting times.

**Advanced DAX Functions Utilized**

To enhance our Power BI project,I leveraged a range of powerful DAX functions to create robust measures and insights:

* **DIVIDE()**: For precise division calculations, avoiding errors from division by zero.
* **COUNTROWS()**: To count the number of rows in a table, providing a clear view of dataset size.
* **FILTER()**: To apply dynamic filters, refining data for more specific analysis.
* **BLANK()**: To handle missing or null values effectively, ensuring data integrity.
* **CALCULATE()**: To perform calculations with modified filters, allowing for flexible and contextual analysis.
* **AVERAGE()**: For calculating mean values, essential for understanding central tendencies in our data.
* **SWITCH()**: To create conditional logic, facilitating complex data categorizations and classifications.
* **CALENDARAUTO()**: To automatically generate a date table, streamlining time-based analyses.
* **YEAR()**: To extract year information from dates, aiding in trend analysis and reporting.
* **FORMAT()**: For custom formatting of data, enhancing readability and presentation of results.

These DAX functions were instrumental in transforming raw data into actionable insights, driving more effective decision-making.

1.% Administrative Schedule =

DIVIDE(

    COUNTROWS(

        FILTER(

            'Patients Dataset',

            'Patients Dataset'[patient\_admin\_flag] = TRUE()

        )

    ),

     [Total Patients]

)

2. % No Rating =

var \_NoRating =

CALCULATE(

    [Total Patients],

    'Patients Dataset'[patient\_sat\_score] = BLANK()

)

RETURN

DIVIDE(

    \_NoRating,

    [Total Patients]

)

3. % Non - Administrative Schedule =

DIVIDE(

    COUNTROWS(

        FILTER(

            'Patients Dataset',

            'Patients Dataset'[patient\_admin\_flag] = FALSE()

        )

    ),

     [Total Patients]

)

4. Average Satisfaction Score =

CALCULATE(

    AVERAGE('Patients Dataset'[patient\_sat\_score]),

     'Patients Dataset'[patient\_sat\_score] <> BLANK()

    )

5. Average Wait Time = AVERAGE('Patients Dataset'[patient\_waittime])

Group the age in new column called age buckets

Age Bucket =

SWITCH(

    TRUE(),

    'Patients Dataset'[patient\_age] <= 10 , "0-10",

    'Patients Dataset'[patient\_age] <= 20 , "11-20",

    'Patients Dataset'[patient\_age] <= 30 , "21-30",

    'Patients Dataset'[patient\_age] <= 40 , "31-40",

    'Patients Dataset'[patient\_age] <= 50 , "41-50",

    'Patients Dataset'[patient\_age] <= 60 , "51-60",

    'Patients Dataset'[patient\_age] <= 70 , "61-70",

    "70+")