






## Emergency Room Visits Analysis

### Main Problem or Objective:

Analyze the Emergency Room's performance to identify patterns, improve patient experience, and reduce wait times.

### Possible Analytical Questions:

-  Overall Performance:
  - How many patients visited the Emergency Room this month? Has it increased or decreased compared to last month?
  - What is the average patient satisfaction score? Has it improved compared to the previous month?
  - What is the average wait time? Has it gone up or down?
-  Time Distribution:
  - Which days of the week are the busiest?
  - What are the peak hours during the day?
  - Which specific day and time experience the highest volume of visits?
  - (Answer from the dashboard: Thursday at 11:00 PM)
-  Patient Demographics:
  - What is the gender distribution of patients (male vs. female)?
  - Which age group visits the ER the most? (Children, Adults, Seniors)
-  Patient Satisfaction:
  - How does patient satisfaction vary by race, gender, or age?
  - Example: White patients have the highest satisfaction (6.05), while Native American/Alaska Native patients have the lowest (4.17).
-  Wait Time by Referral Department:
  - Which department has the longest average wait time?
  - (Answer: Neurology – 38 minutes)
  - Which departments need operational improvement to reduce wait times?

## Sample Description You Can Use in Your Portfolio:

### Emergency Room Visits Analysis

In this project, I analyzed Emergency Room visit data to support decision-making related to performance improvement. The dashboard identifies time-based visit patterns, peak hours, bottlenecks such as long wait times by department, and variations in patient satisfaction by demographic group.

### Hospital ER Power BI Measures Documentation

#### Patient Visit

1-Patients Visits = COUNTROWS('Hospital ER')

2-Patient Visits PM = CALCULATE([1-Patients Visits], PREVIOUSMONTH('Calendar'[Date]))

3-Patient visits Variance = [1-Patients Visits] - [2-Patient Visits PM]

4-patients Visists Growth = DIVIDE([3-Patient visits Variance], [2-Patient Visits PM])

5-Patients Visits Growth with Arrow = IF(ISBLANK([1-Patients Visits]), BLANK(), IF([3-Patient visits Variance] >= 0, ROUND([4-patients Visists Growth] \* 100, 1) & "% △", ROUND([4-patients Visists Growth] \* 100, 1) & "% ▽"))

6-Patient visit Growth Color = IF([4-patients Visists Growth] >= 0, "Green", "Red")

7-Patients Visits Min Value = VAR \_value = MINX(ALL('Calendar'[Day]), [1-Patients Visits])  
VAR \_check = IF(\_value = [1-Patients Visits], \_value, BLANK()) RETURN \_check

8-Patients Visits Max Value = VAR \_value = MAXX(ALL('Calendar'[Day]), [1-Patients Visits])  
VAR \_check = IF(\_value = [1-Patients Visits], \_value, BLANK()) RETURN \_check

9-Patients Visits Dummy = 600

10-Busiest Day = CALCULATE(MAXX(TOPN(1, SUMMARIZE('Hospital ER', 'Calendar'[Day Name], "Total Patients", [1-Patients Visits]), [Total Patients], DESC), 'Calendar'[Day Name]))

11-Busiest Time = CALCULATE(MAXX(TOPN(1, SUMMARIZE('Hospital ER', 'Hospital ER'[Start of Hour], "Total Patients", [1-Patients Visits]), [Total Patients], DESC), FORMAT('Hospital ER'[Start of Hour], "h:mm AM/PM")))

### Avg Wait Time

1-Avg Wait Time = AVERAGE('Hospital ER'[Wait Time])

2-Avg Wait Time PM = CALCULATE([1-Avg Wait Time], PREVIOUSMONTH('Calendar'[Date]))

3-Avg Wait Time Variance = [1-Avg Wait Time] - [2-Avg Wait Time PM]

4-Avg Wait Time Growth = DIVIDE([3-Avg Wait Time Variance], [2-Avg Wait Time PM])

5-Avg Wait Time Growth With Arrow = IF(ISBLANK([1-Avg Wait Time]), BLANK(), IF([4-Avg Wait Time Growth] >= 0, ROUND([4-Avg Wait Time Growth] \* 100, 1) & "% △", ROUND([4-Avg Wait Time Growth] \* 100, 1) & "% ▽"))

6-Avg Wait Time Color = IF([4-Avg Wait Time Growth] >= 0, "Green", "Red")

7- Avg Wait Time Min Value = VAR\_value = MINX(ALL('Calendar'[Day]), [1-Avg Wait Time])  
VAR\_check = IF(\_value = [1-Avg Wait Time], \_value, BLANK()) RETURN \_check

8- Avg Wait Time Max Value = VAR\_value = MAXX(ALL('Calendar'[Day]), [1-Avg Wait Time])  
VAR\_check = IF(\_value = [1-Avg Wait Time], \_value, BLANK()) RETURN \_check

### Avg Satisfaction Score

1-Avg Satisfaction Score = AVERAGE('Hospital ER'[Satisfaction Score])

2-Avg Satisfaction Score PM = CALCULATE([1-Avg Satisfaction Score], PREVIOUSMONTH('Calendar'[Date]))

3-Avg Satisfaction Score Variance = [1-Avg Satisfaction Score] - [2-Avg Satisfaction Score PM]

4-Avg Satisfaction Score Growth = DIVIDE([3-Avg Satisfaction Score Variance], [2-Avg Satisfaction Score PM])

5-Avg Satisfaction Score Growth with Arrow = IF(ISBLANK([1-Avg Satisfaction Score]), BLANK(), IF([4-Avg Satisfaction Score Growth] >= 0, ROUND([4-Avg Satisfaction Score Growth] \* 100, 1) & "% △", ROUND([4-Avg Satisfaction Score Growth] \* 100, 1) & "% ▽"))

6-Avg Satisfaction Score Color = IF([4-Avg Satisfaction Score Growth] >= 0, "Green", "Red")

7- Avg Satisfaction Min Value = VAR \_value = MINX(ALL('Calendar'[Day]), [1-Avg Satisfaction Score]) VAR \_check = IF(\_value = [1-Avg Satisfaction Score], \_value, BLANK()) RETURN \_check

8- Avg Satisfaction Max Value = VAR \_value = MAXX(ALL('Calendar'[Day]), [1-Avg Satisfaction Score]) VAR \_check = IF(\_value = [1-Avg Satisfaction Score], \_value, BLANK()) RETURN \_check

9-Score Rating = REPT("★", [1-Avg Satisfaction Score])

### Calendar Table

Calendar = VAR \_MinDate = MIN('Hospital ER'[Date]) VAR \_MaxDate = MAX('Hospital ER'[Date]) RETURN ADDCOLUMNS(CALENDAR(\_MinDate, \_MaxDate), "Year", YEAR([Date]), "Month", FORMAT([Date], "mmm"), "MonthNum", MONTH([Date]), "Day", DAY([Date]), "Weekday", FORMAT([Date], "ddd"), "Day Name", FORMAT([Date], "dddd"), "Weeknum", WEEKDAY([Date]), "Qtr", "Q-" & FORMAT([Date], "Q"), "Weektype", IF(WEEKDAY([Date], 2) >= 6, "Weekend", "Weekday"))

Hour = FORMAT([Start of Hour], "HH")