



PATIENT APPOINTMENT NO-SHOW ANALYSIS

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PROBLEM STATEMENT

CURRENT SCENARIO:

A HOSPITAL IS EXPERIENCING A HIGH RATE OF MISSED APPOINTMENTS, WHICH IMPACTS OPERATIONAL EFFICIENCY, PATIENT CARE, AND RESOURCE UTILIZATION. TO ADDRESS THIS ISSUE, AN IN-DEPTH ANALYSIS OF THE APPOINTMENT DATASET WAS REQUIRED TO UNCOVER TRENDS, PATTERNS, AND ROOT CAUSES OF NO-SHOWS.



PROJECT PROCESS



Data Set

- WE HAVE USE THE NO-SHOW.CSV DATASET CONTAINING PATIENT APPOINTMENT DATA (PATIENT DEMOGRAPHICS, APPOINTMENT DATES, TIMES, AND NO-SHOW STATUS)

Data Cleaning and Preprocessing

- WE HAVE USED EXCEL FOR DATA CLEANING, HANDLE MISSING VALUES AND OUTLIERS AND FOR CREATE PIVOT TABLES FOR INITIAL INSIGHTS
- USED PYTHON FOR PREFORMING EXPLORATERY DATA ANALYSIS (EDA)

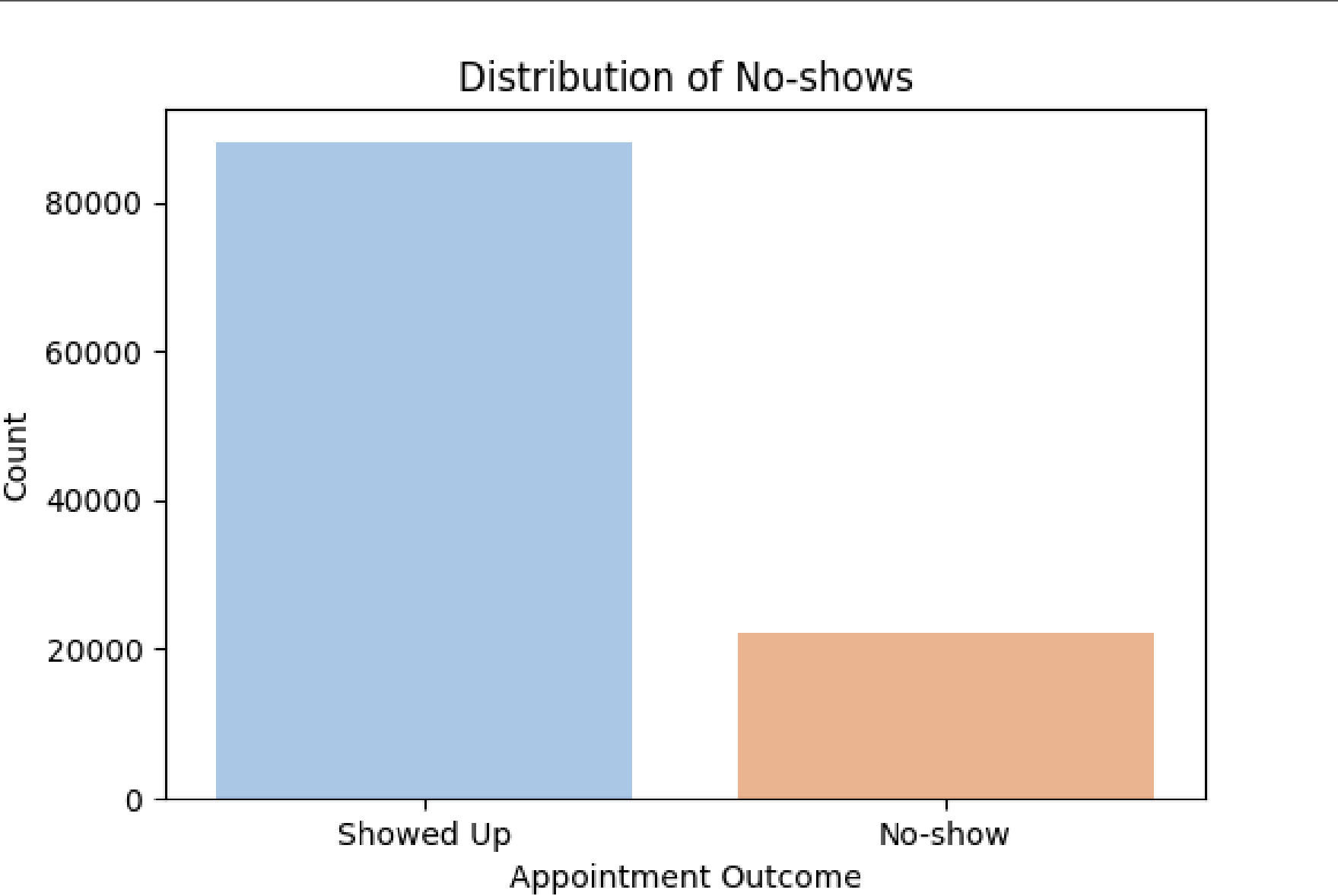
Data Visualization

- USED POWER BI AND PYTHON TO BUILD VISUALIZATIONS AND DASHBOARD SHOWING PERCENTAGE OF NO-SHOWS. FACTORS INFLUENCING NO-SHOWS.

KEY INSIGHTS

AFTER ANALYZING THE DATA FROM NOVEMBER 2015 TO JUNE 2016, WE OBSERVED THE FOLLOWING KEY TRENDS INFLUENCING PATIENT NO-SHOWS:

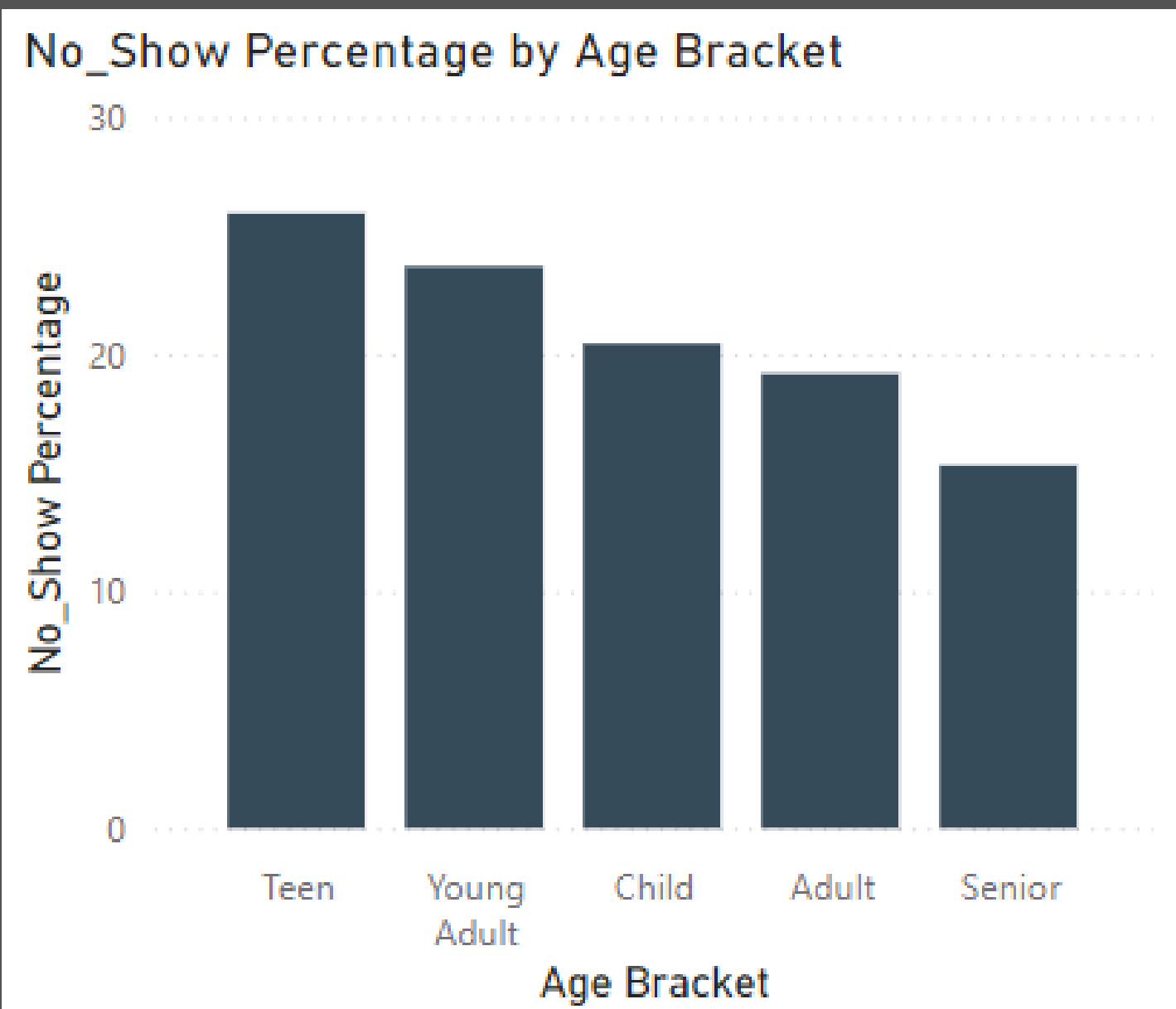
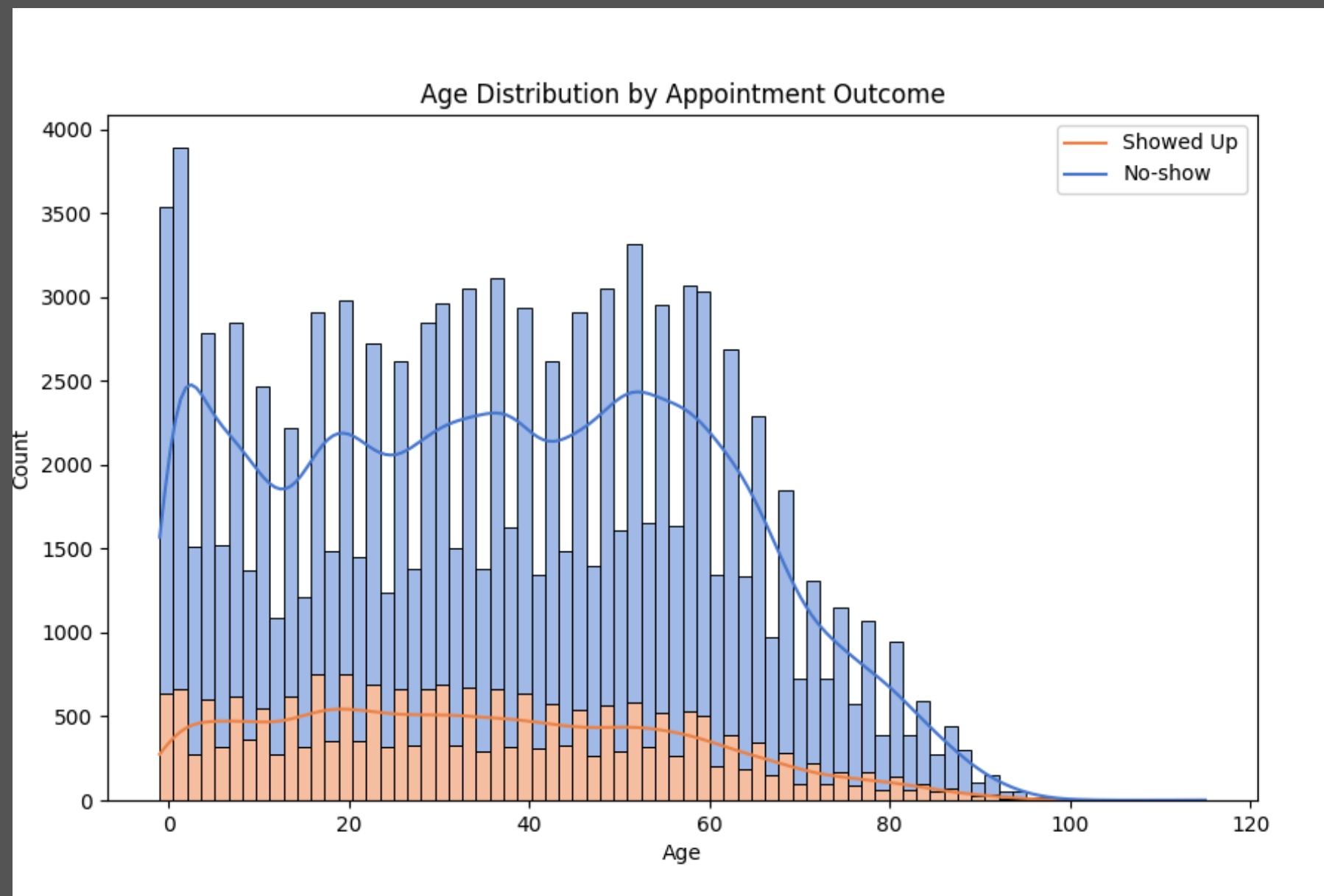
1. OVERALL APPOINTMENT STATISTICS:



THE HOSPITAL SCHEDULED OVER 1.1 LAKH APPOINTMENTS DURING THE PERIOD, WITH A NO-SHOW RATE OF 20.1%.

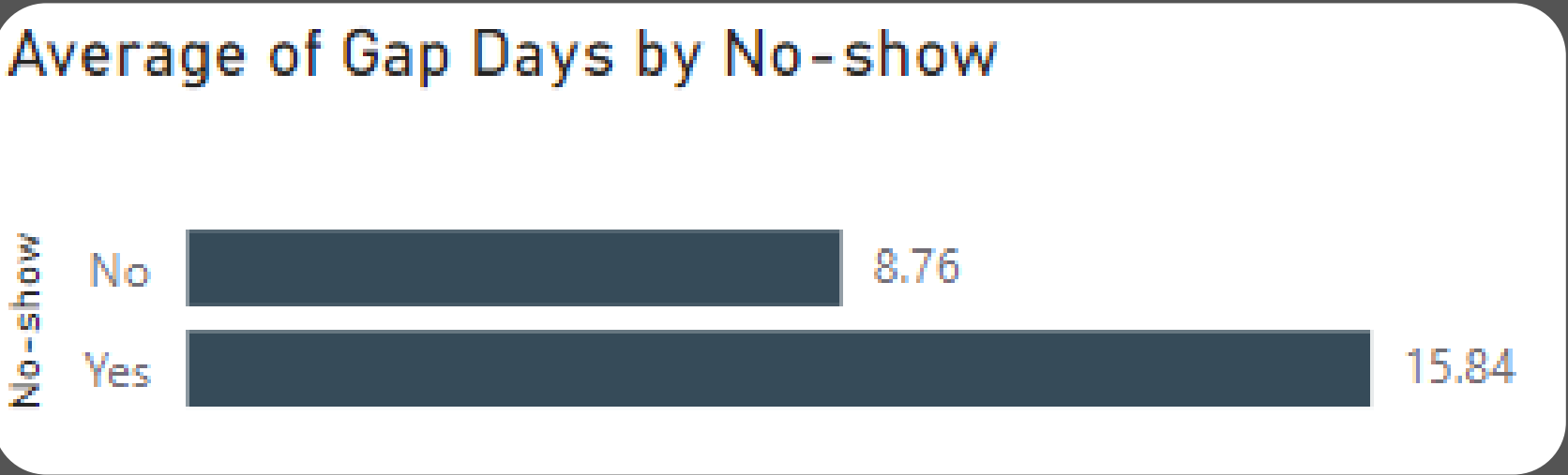
AGE GROUP ANALYSIS:

- YOUNGER INDIVIDUALS, INCLUDING TEENS AND YOUNG ADULTS, EXHIBIT HIGHER NO-SHOW RATES COMPARED TO OLDER AGE GROUPS LIKE ADULTS AND SENIORS.
- CHILDREN HAVE SLIGHTLY LOWER NO-SHOW RATES THAN TEENS AND YOUNG ADULTS.



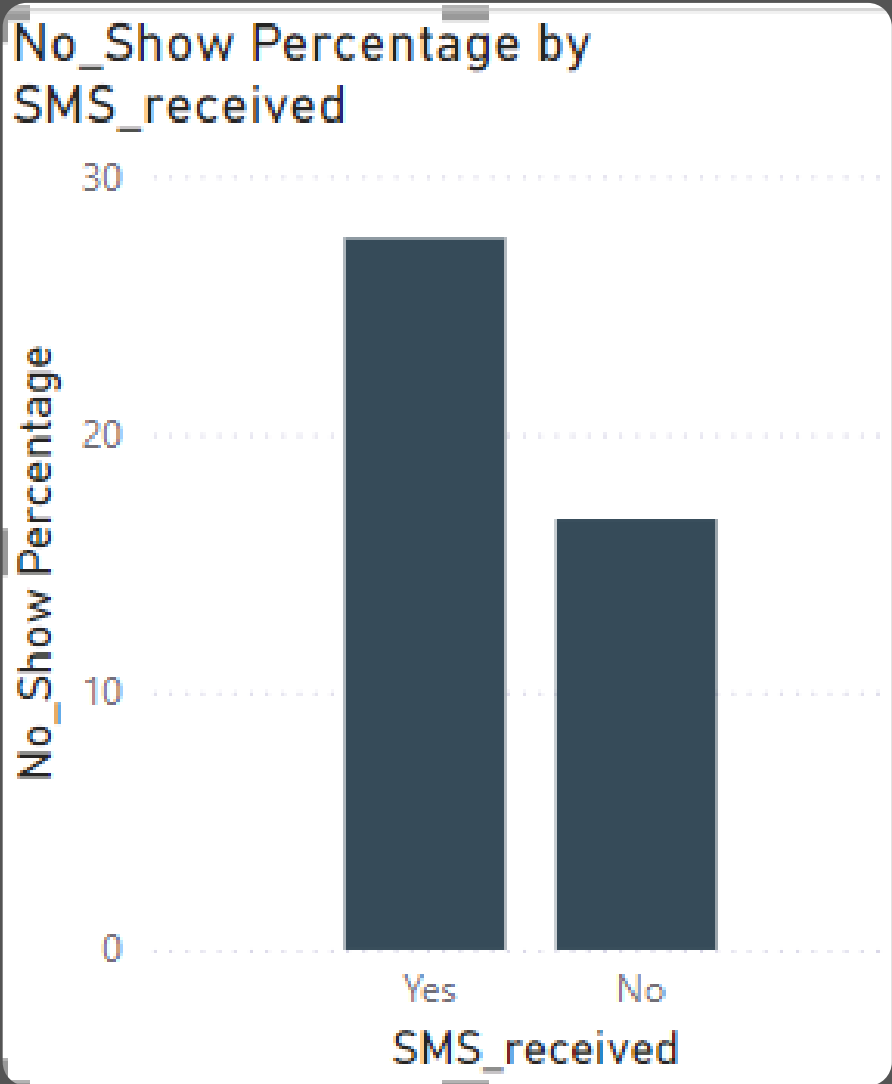
GAP DAYS :

- PATIENTS WHO SHOWED UP FOR THEIR APPOINTMENTS HAD AN AVERAGE GAP OF 8 DAYS BETWEEN SCHEDULING AND THE APPOINTMENT DATE.
- NO-SHOW PATIENTS HAD A SIGNIFICANTLY LONGER AVERAGE GAP OF 15 DAYS.



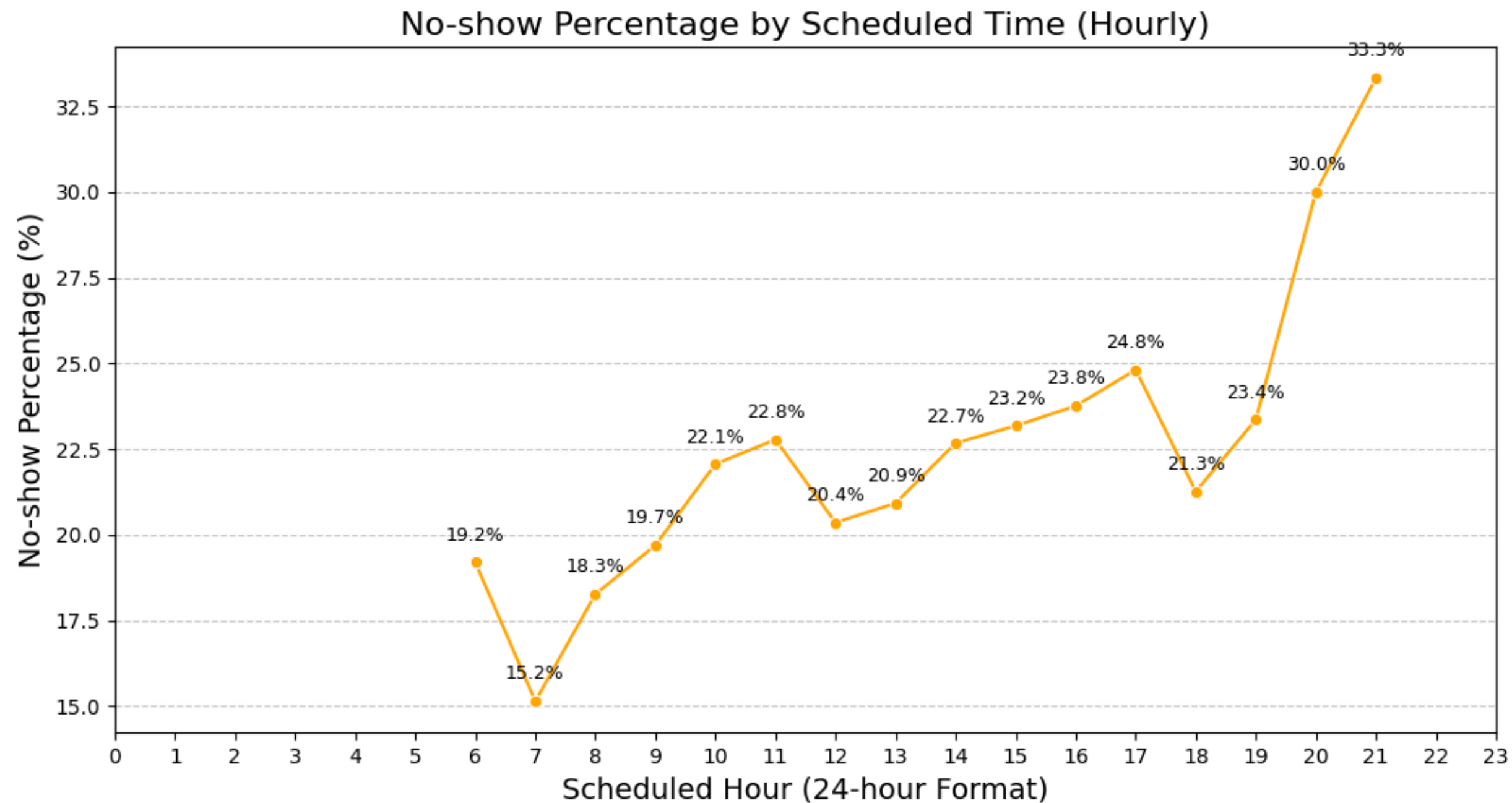
Impact of SMS Reminders:

- PATIENTS RECEIVING SMS REMINDERS HAD A NO-SHOW RATE OF 27%, COMPARED TO 16.7% FOR THOSE WHO DID NOT RECEIVE REMINDERS, SUGGESTING POTENTIAL ISSUES WITH THE REMINDER SYSTEM.



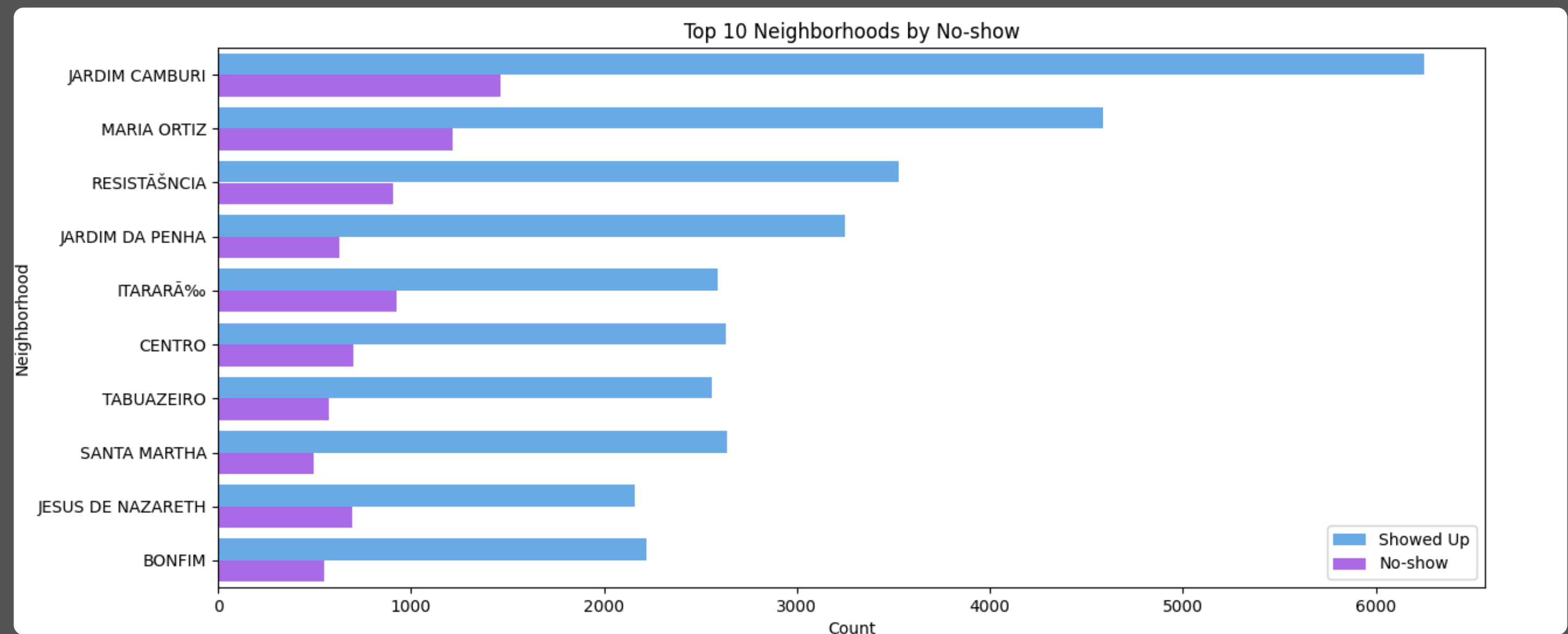
TIME OF APPOINTMENT:

- MORNING APPOINTMENTS (6:00 AM - 8:30 AM) HAD THE LOWEST NO-SHOW RATES AT 19%, MAKING THIS THE MOST OPTIMAL SCHEDULING WINDOW.
- NO-SHOW RATES WERE HIGHEST DURING LATE EVENING HOURS (7:30 PM - 9:30 PM), REACHING 20-30%.



GEOGRAPHICAL FACTORS:

- SOME LOCATIONS EXHIBITED HIGHER NO-SHOW RATES THAN OTHERS, INDICATING LOCATION-SPECIFIC CHALLENGES.

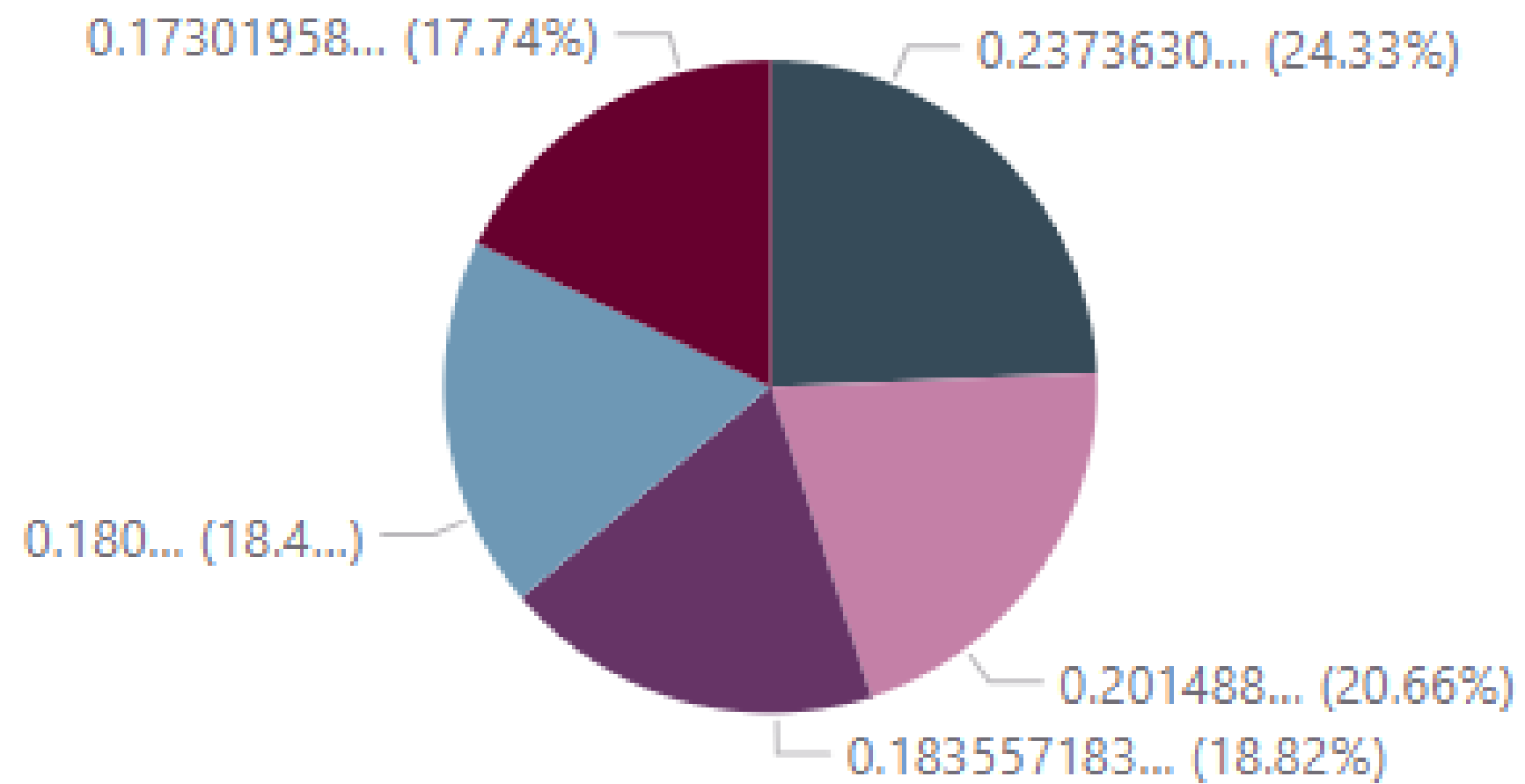


Health Conditions:

PATIENTS WITH SPECIFIC HEALTH CONDITIONS SHOWED HIGHER NO-SHOW RATES COMPARED TO OTHERS.

NoShow Percentage by Illness

Illness ● Scholarship ● Alcoholis... ● Handcap ● Diabetes ▶



RECOMMENDATIONS:

1. Optimize Scheduling:

- Reduce the gap between scheduling and appointment dates to 7-8 days to significantly lower no-show rates.

2. Improve SMS Reminder System:

- Investigate the current SMS reminder process to identify and address issues. Optimizing reminders could reduce no-show rates by up to 10%.

3. Engage Younger Age Groups:

- Proactively communicate with teens and young adults to understand and address their specific barriers to attending appointments.

4. Focus on Health-Specific Challenges:

- Identify and support patients with specific health issues or conditions contributing to higher no-show rates.

5. Prioritize Morning Appointments:

- Encourage patients to schedule appointments during morning hours (6:00 AM – 8:30 AM) to leverage lower no-show rates.

6. Address Location-Specific Challenges:

- Investigate areas with high no-show rates to understand and resolve location-specific barriers.

The background features four decorative geometric patterns in the corners. The top-left corner has a series of parallel diagonal lines in a light blue-grey color. The top-right corner contains a cluster of overlapping semi-circles in yellow, red, teal, and dark blue. The bottom-left corner also features a cluster of overlapping semi-circles in red, teal, and dark blue. The bottom-right corner has a series of parallel diagonal lines in a light blue-grey color, mirroring the top-left pattern.

THANK YOU