# Healthcare Appointment No-Show Prediction

## Introduction

Missed appointments in healthcare can lead to wasted resources and disrupted schedules. This project focuses on identifying the key factors that influence patient no-shows using real-world data. The aim is to gain insights that could help reduce the number of missed appointments.

## Abstract

The dataset was cleaned using Python, and an interactive dashboard was created using Power BI. The dashboard highlights patterns such as no-show distribution by gender, neighborhood, weekday, and the impact of SMS reminders. Visualizing these insights enables better understanding and potential improvements in patient engagement.

## Tools Used

- Python - Used for data preprocessing and cleaning
- Power BI - Used for data visualization and dashboard creation

## Steps Involved in Building the Project

1. Data Cleaning (Python)
   - Removed unnecessary columns
   - Formatted date columns appropriately

2. Data Import & Formatting (Power BI)
   - Loaded the cleaned data
   - Set appropriate data types for each column

3. Dashboard Creation

- KPI Cards: Showed total appointments and no-show count
- Pie Charts: Displayed attendance distribution and SMS reminder impact
- Bar Charts: Compared no-shows across gender and neighborhood
- Line Charts: Showed no-show trends over time and by weekdays
- Slicers/Filters: Enabled interactive filtering by gender and neighborhood

4. Metric Calculations

- Created DAX measures to calculate no-show rate and other insights

## Conclusion

Analysis revealed:

- Females had a higher no-show rate compared to males
- SMS reminders had a positive impact on appointment attendance
- Certain neighborhoods had more no-shows
- No-show rates varied across weekdays, with some days performing better

The project demonstrates how simple data cleaning combined with effective visualization can uncover important trends. These insights can assist healthcare facilities in planning strategies to reduce no-shows and improve appointment systems.