

# Healthcare Appointment No-Show Prediction

## Introduction

This project analyzes patient appointment data to understand factors influencing no-shows in healthcare. The goal is to provide insights that can help reduce missed appointments and improve resource utilization.

## Abstract

The dataset includes 111K appointments with attributes like age, gender, medical conditions, and SMS reminders. Analysis focuses on no-show patterns across demographics, weekdays, and communication methods.

## Tools Used

Tools Used: - Power BI for data visualization and dashboard creation - Excel/Python for initial data cleaning and preprocessing

## Steps Involved in Building the Project

Steps Involved in Building the Project: 1. Data cleaning (handling null values, removing duplicates, formatting dates) 2. Importing dataset into Power BI 3. Creating calculated columns and measures (e.g., no-show %) 4. Designing visuals such as pie charts, bar charts, line charts, and KPIs 5. Adding slicers for interactivity (Gender, SMS Reminder)

## Conclusion

The dashboard highlights that no-shows are higher among younger patients, females, and when SMS reminders are not received. Quarterly and weekly trends also show patterns that can help hospitals plan better. This analysis can guide strategies to reduce missed appointments and improve healthcare delivery.

# Final Dashboard

## Healthcare Appointment No-Show Prediction

Total Appointments

111K

Average of age

37

Total No-Shows

22K

No-Show %

20.19%

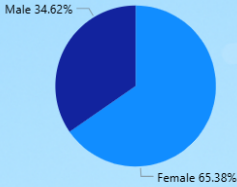
Gender

All

SMS\_Label

All

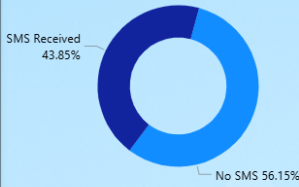
No Show Distribution by Gender



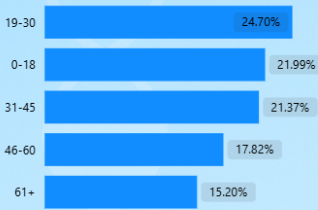
Patient Conditions and No Shows by Day/SMS

DayName	SMS_Label	Sum of diabetes	Sum of handicap	Sum of hipertension
Tuesday	No SMS	1481	491	385
Monday	No SMS	1215	388	328
Wednesday	No SMS	1165	386	314
Thursday	No SMS	930	297	247
Friday	No SMS	793	303	215
Friday	SMS Received	552	124	156
Total		7943	2453	2180

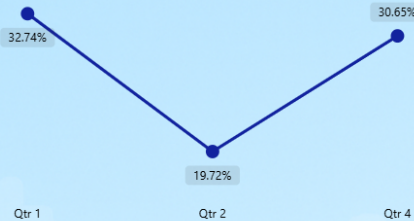
Impact of SMS Reminders on No Shows



No Show Rate by Age Group



No-Show % by Quarter



No Show % by Day of the Week

