

# **HEALTHCARE APPOINTMENT NO-SHOW PREDICTION OPTIMIZATION RECOMMENDATIONS**

## **1. Enhance Reminder Systems (SMS/Call/WhatsApp)**

Observation: Patients who received SMS reminders had higher attendance.

Action:

Automate SMS reminders 1–2 days before the appointment.

Use WhatsApp or voice call follow-ups for high-risk patients.

Include options to confirm/reschedule directly in the message.

## **2. Utilize Predictive Model Scores for Scheduling**

Observation: The decision tree model can predict no-show probability.

Action:

Flag high-risk patients and schedule them during low-impact time slots.

Use scores to prioritize reminder efforts (focus more on 60%+ no-show probability).

Implement conditional overbooking for slots with 30–40% no-show probability.

## **3. Optimize Appointment Days and Times**

Observation: No-show rates vary by day of the week and time of day.

Action:

Minimize scheduling high-risk patients on Mondays, Fridays, and evenings.

Prioritize mid-morning slots on Tuesday–Thursday for patients with prior no-shows.

## **4. Segment Patients by Demographics**

Observation: Age groups like younger patients (18–30) showed higher no-show rates.

Action:

Create patient profiles: Low risk, Medium risk, High risk.

Offer teleconsultations or walk-in options for high-risk younger patients.

Consider tailored reminder content for different age groups.

## **5. Enable Real-Time Slot Reallocation**

Observation: No-shows leave appointment slots unutilized.

Action:

Build a waitlist system that notifies patients when earlier slots open.

Allow same-day rescheduling for nearby patients via app or call center.

## **6. Address Accessibility & Transportation Barriers**

Observation: Patients from certain locations may miss due to travel issues.

Action:

Offer transportation support or partner with ride-hailing services.

Highlight map directions and transport info in reminder messages.

## **7. Incentivize Attendance / Penalize Repeated No-Shows**

Observation: Behavioral factors influence attendance.

Action:

Provide small rewards or discounts for consistent attendance.

After multiple no-shows, restrict prime time slot access until reconfirmation.

## **8. Visualize & Monitor in Power BI**

Recommendation:

Display no-show heatmaps by weekday, age group, and location.

Create filters for SMS received, previous attendance, and lead time.

Use dashboards to dynamically adjust overbooking and follow-up strategies.

## **9. Feedback Loop for Continuous Improvement**

Action:

After each no-show, send a feedback form or call to understand the reason.

Update model input with reasons like forgetfulness, illness, transportation issues to improve prediction accuracy.

## **10. Integrate Model into Scheduling Workflow**

Action:

Use the model during booking to:

Predict likelihood of no-show

Auto-suggest optimal slots

Trigger custom reminders based on risk level