

Practical Optimization Recommendations-

Based on common patterns and the model outputs, some of the optimization techniques might be:

1. **SMS reminders targeted-** If SMS significantly reduces no-shows for some groups, set up automatic reminders targeted to high-risk patients (e.g., patients with prior missed appointments, longer waiting days, certain neighbourhoods).
2. **Reduce waiting days-** Appointments scheduled far out often increase no-show risk; offer more near-term slots or automated rescheduling windows.
3. **Overbooking by slot-** Use predicted no-show probability per slot/day to safely overbook (simulate expected load and service capacity). Start conservative (e.g., add 5–10% overbooking where predicted no-show high).
4. **High-risk patient outreach-** For patients with high predicted probability, use additional touchpoints (call, WhatsApp, or priority reschedule options).
5. **Flexible slots / standby lists-** Keep a short notice standby list for same-day or next-day fill-ins.
6. **Incentives-** Small incentives (e.g., easy rescheduling, reminder confirmations) for high-risk cohorts.
7. **Monitor and Iterate-** Continuously retrain the model monthly with new data to capture behavioural changes.