NO-SHOW, NO-GO! UNRAVELING THE MYSTERY OF MISSED APPOINTMENTS

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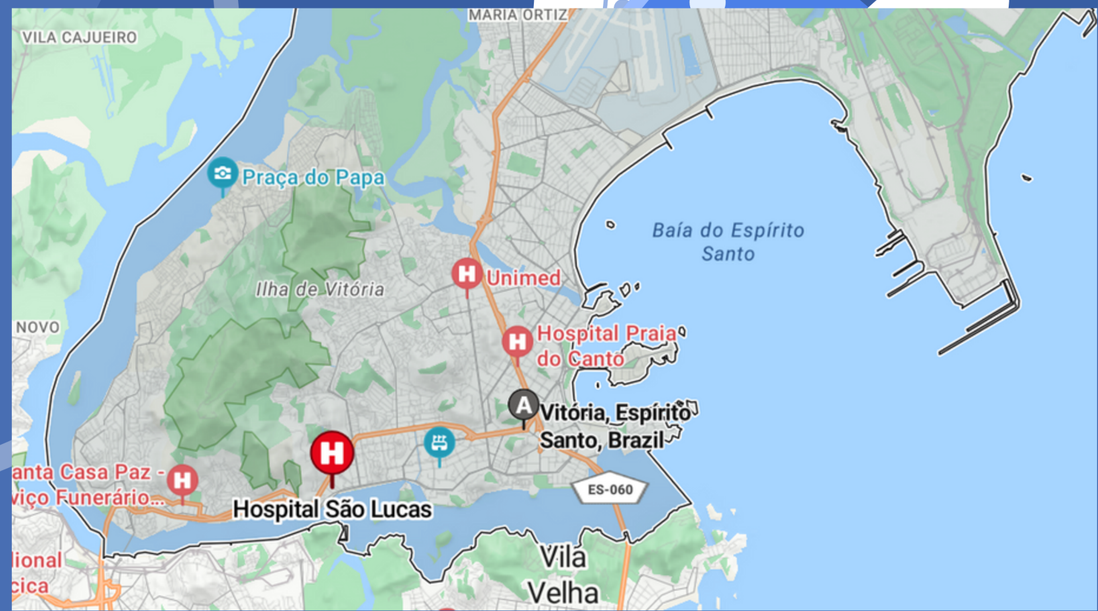
Introduction

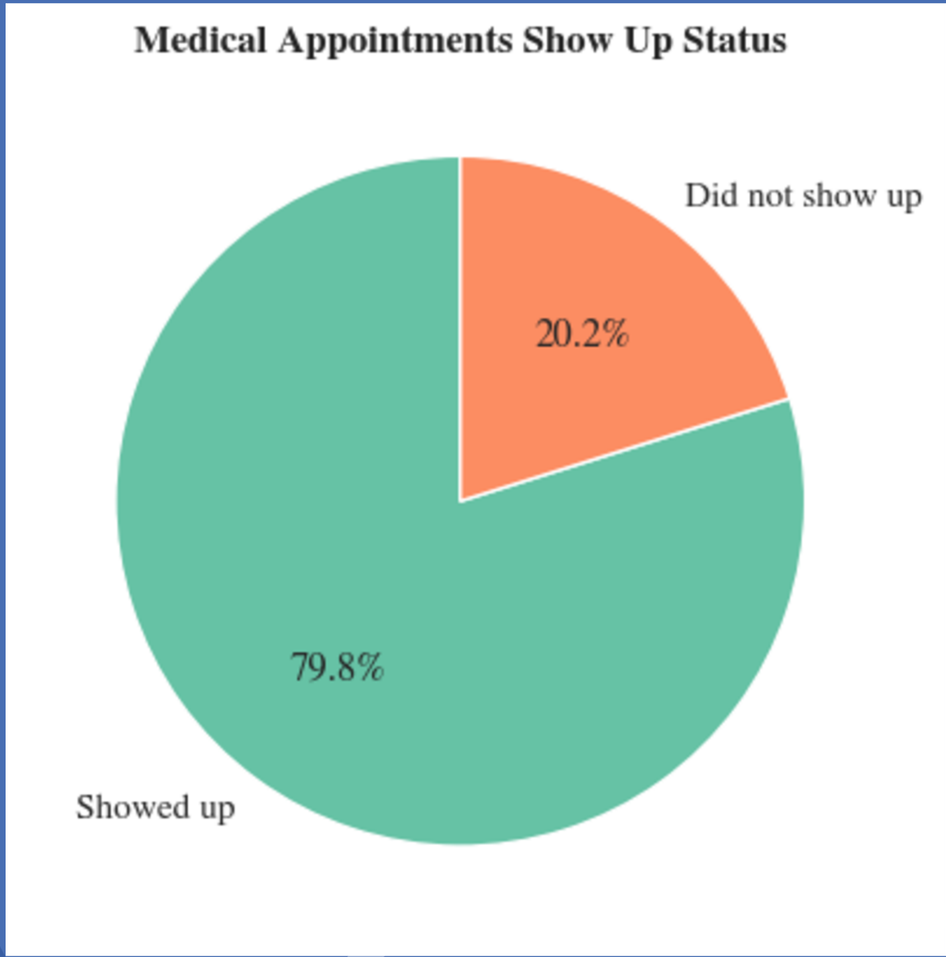
Hi! I am a doctor who works in São Lucas Hospital in **Vitória in Brazil**, and this is the third time this week a patient does not show up to their appointment.

I am wondering if there is a way to predict whether a patient will show up or not based on their **demographics, medical history, appointment scheduling, and SMS reminders**.

I can provide a list of **110,527 appointments** with patients information for this purpose.

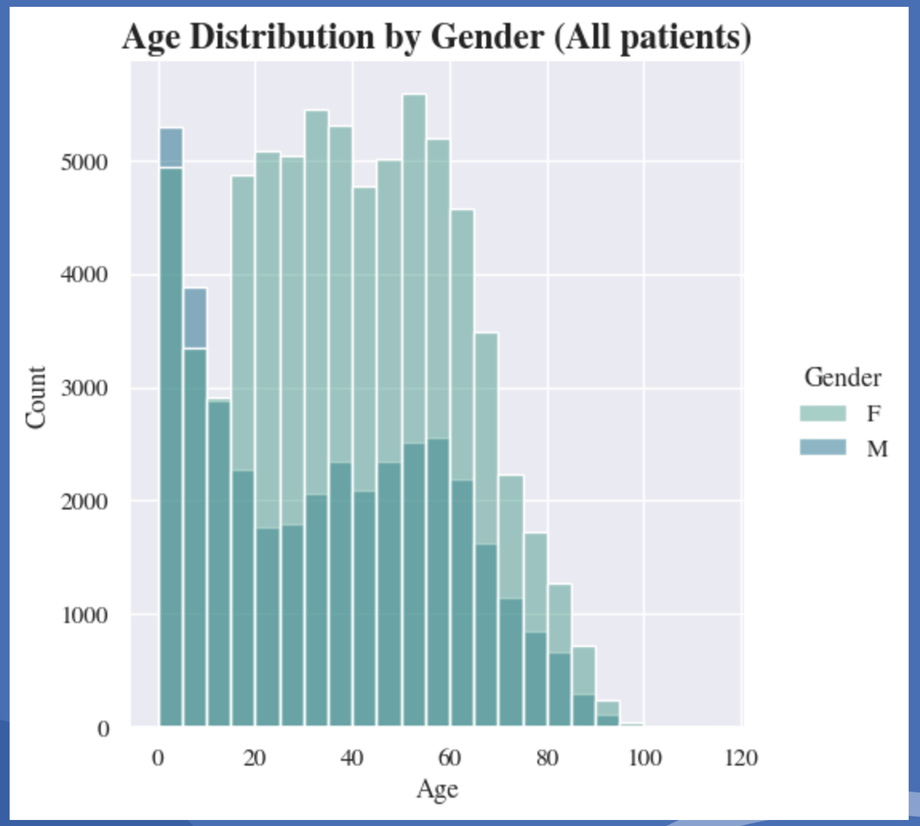


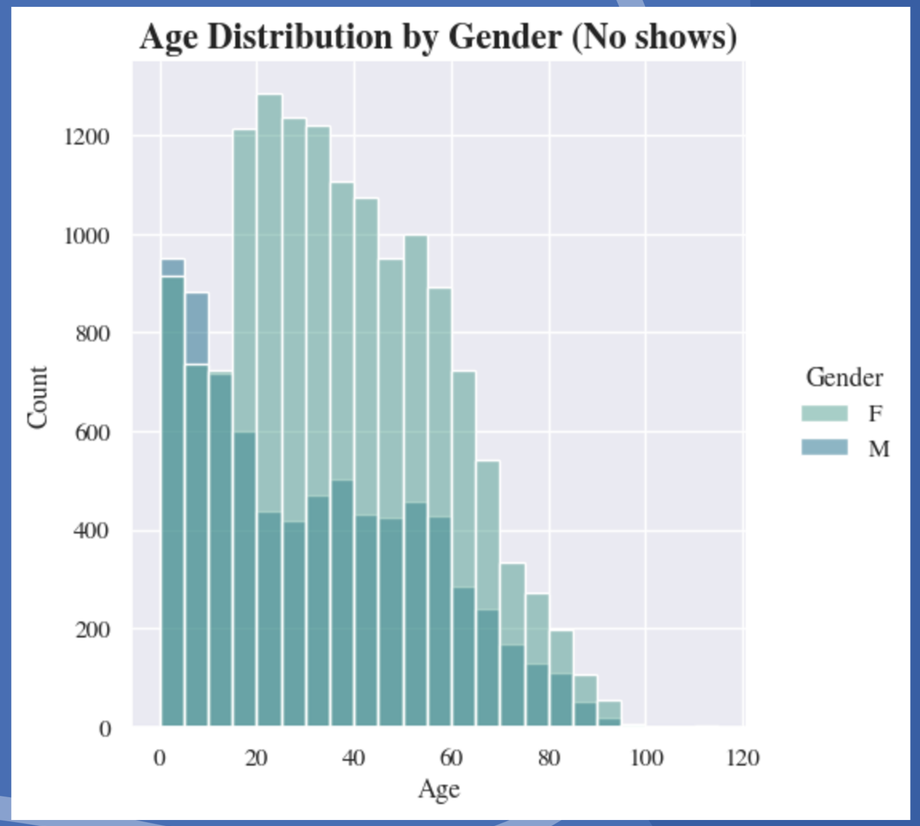
Data Overview



Age distribution

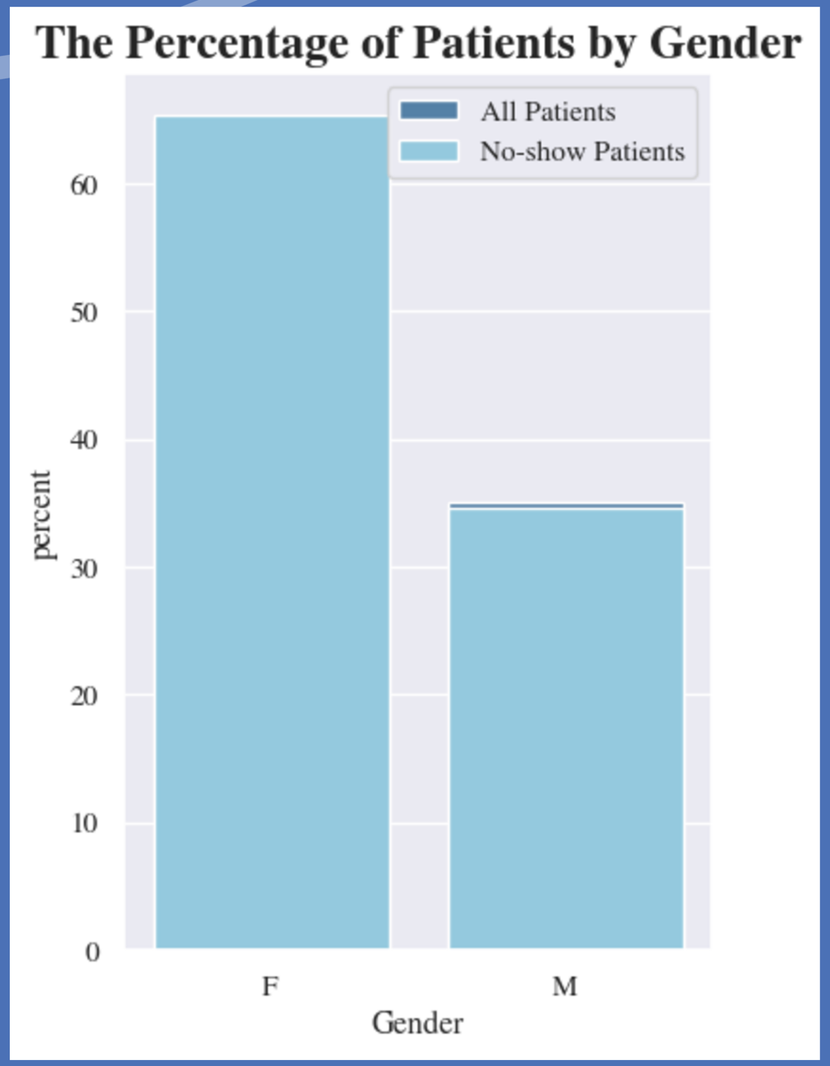
	All Patients	No Shows
Mean Age	37	34





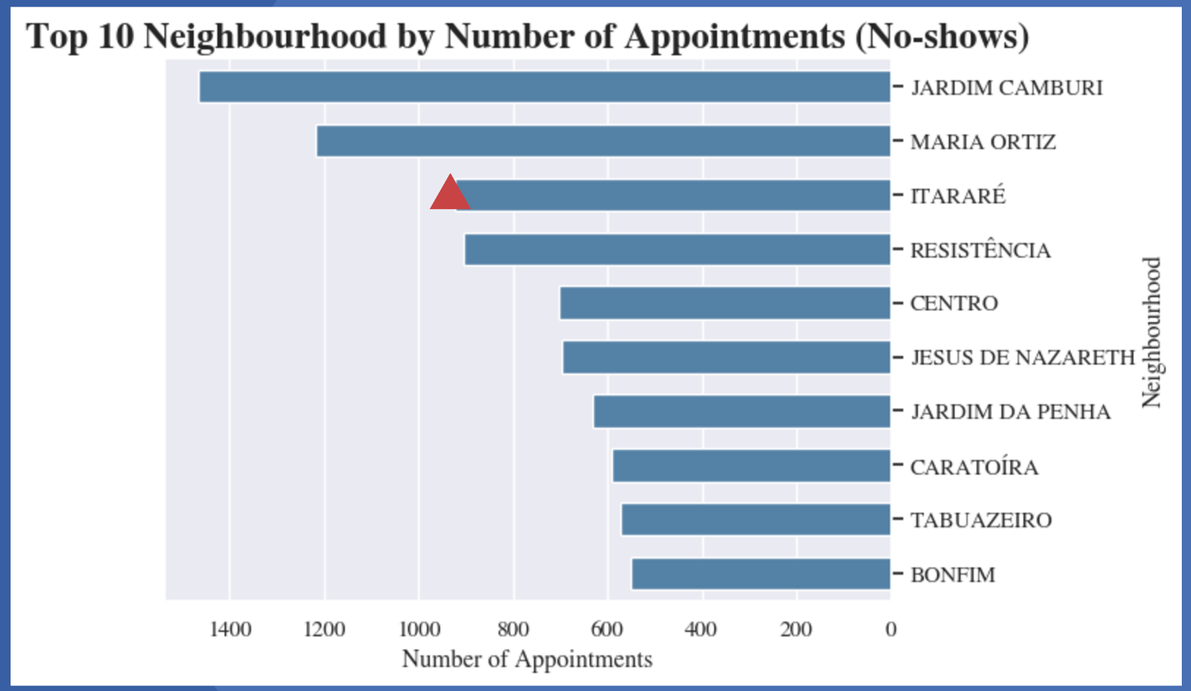
Patients who do not show up to their appointments tend to be younger especially female patients.

No difference in the ratio

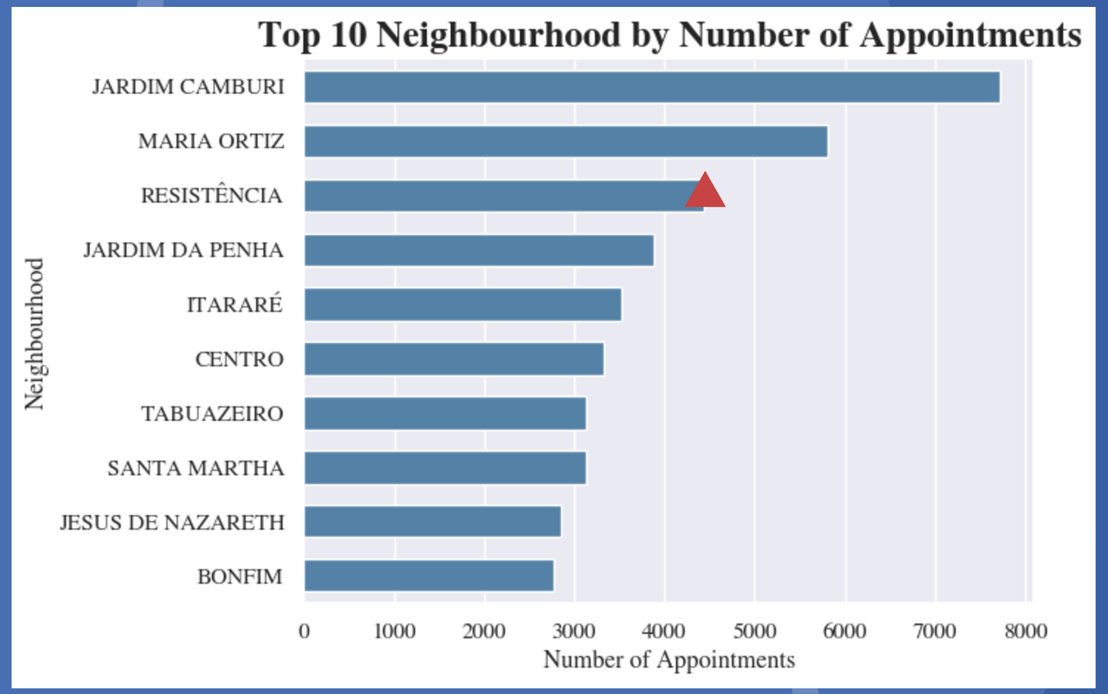


Patients Hometowns

No Shows

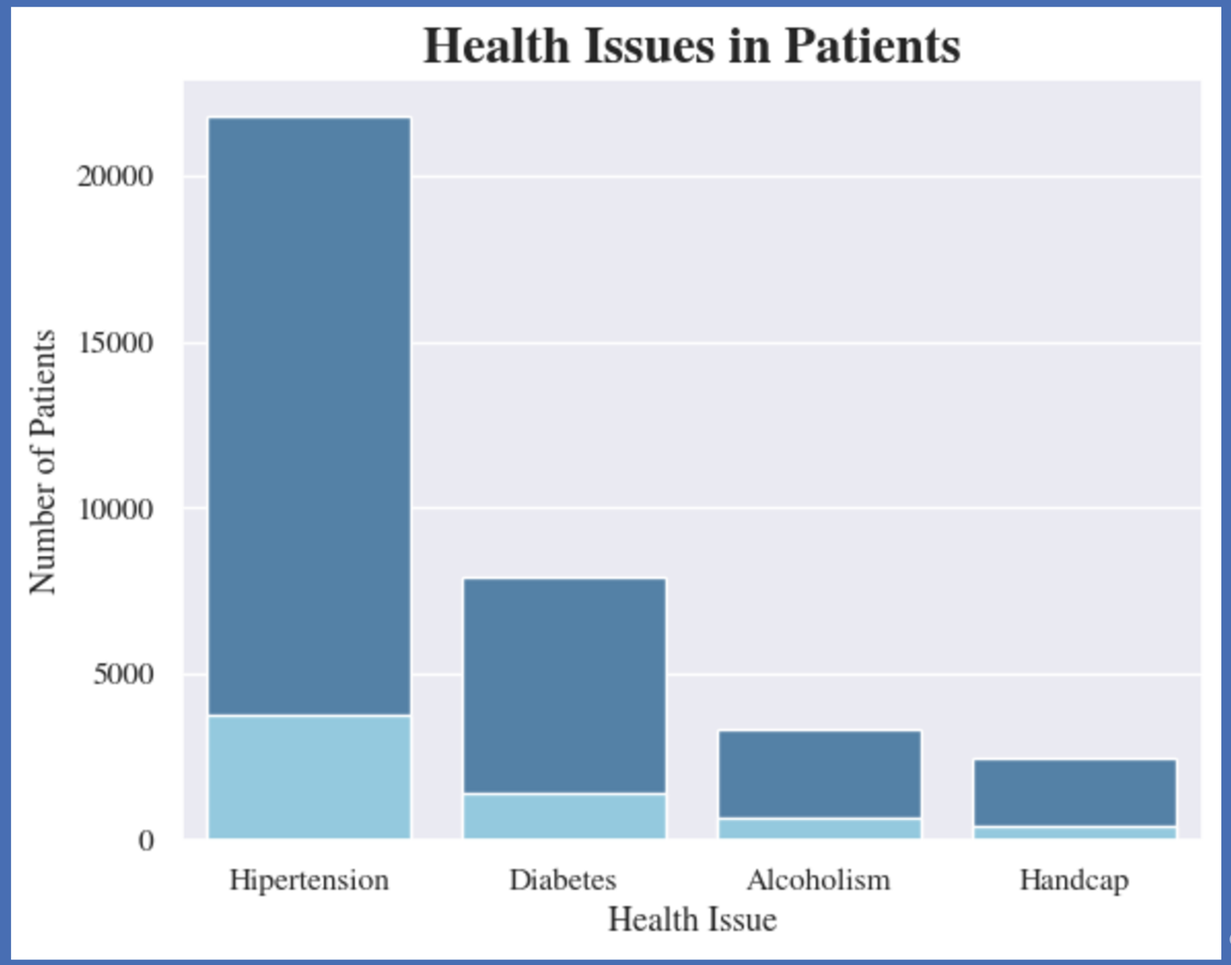


All Patients

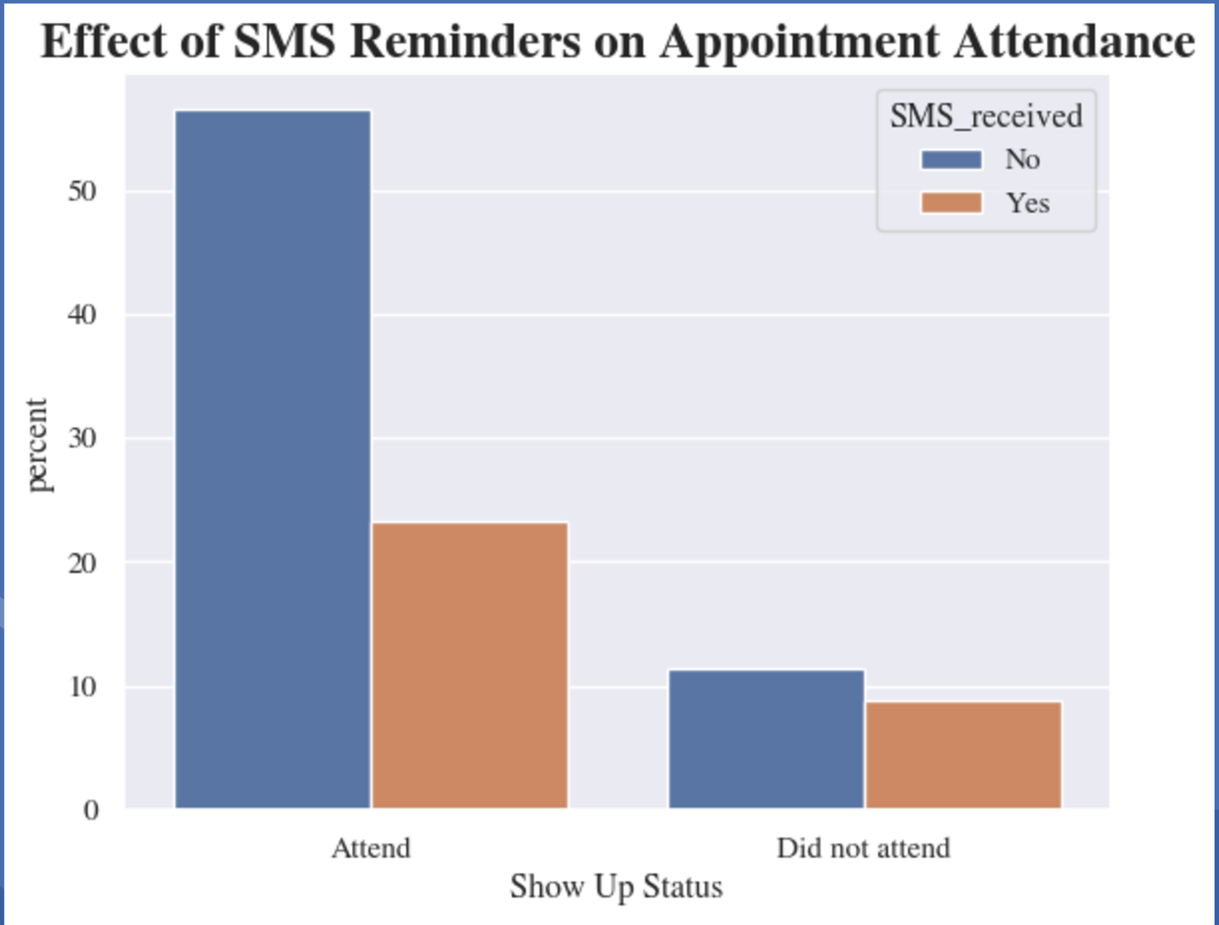


Most of the patients come from Jardim Camburi. The third top neighborhood is different between the two plots.

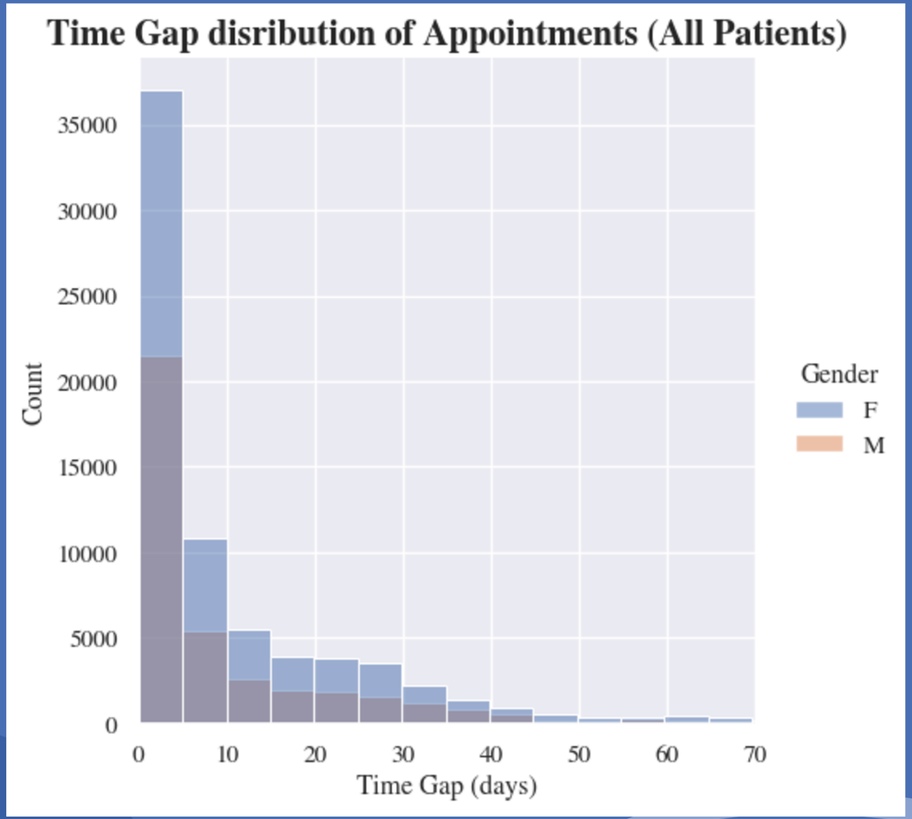
All Patients vs. No shows

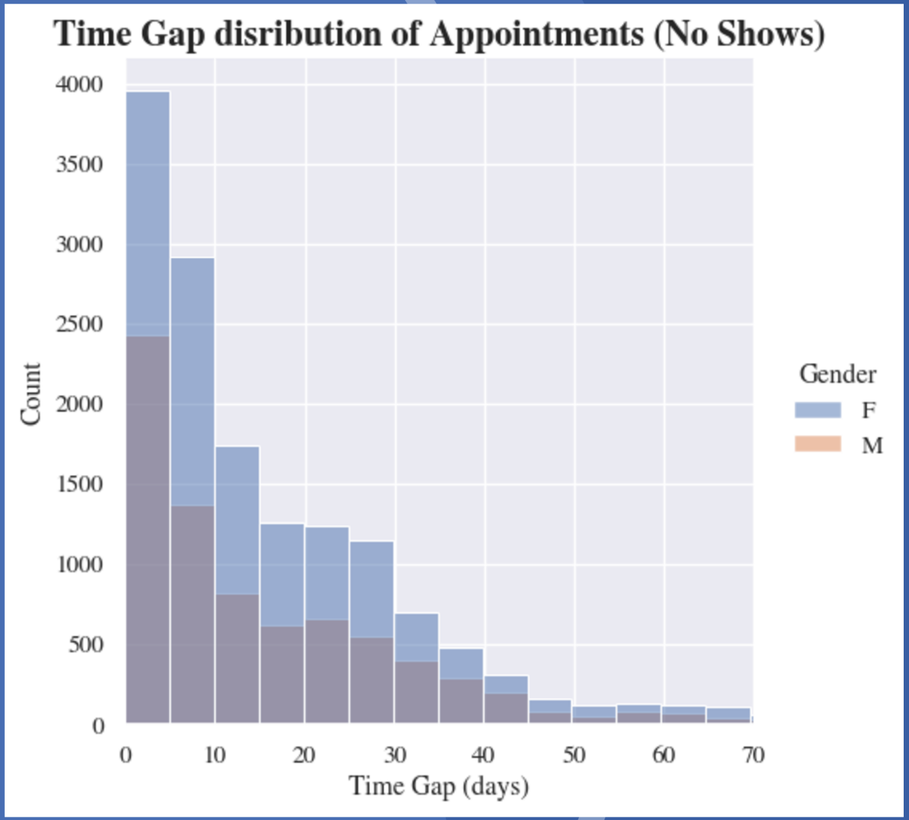


Does receiving an SMS affect the Attendance Rate?



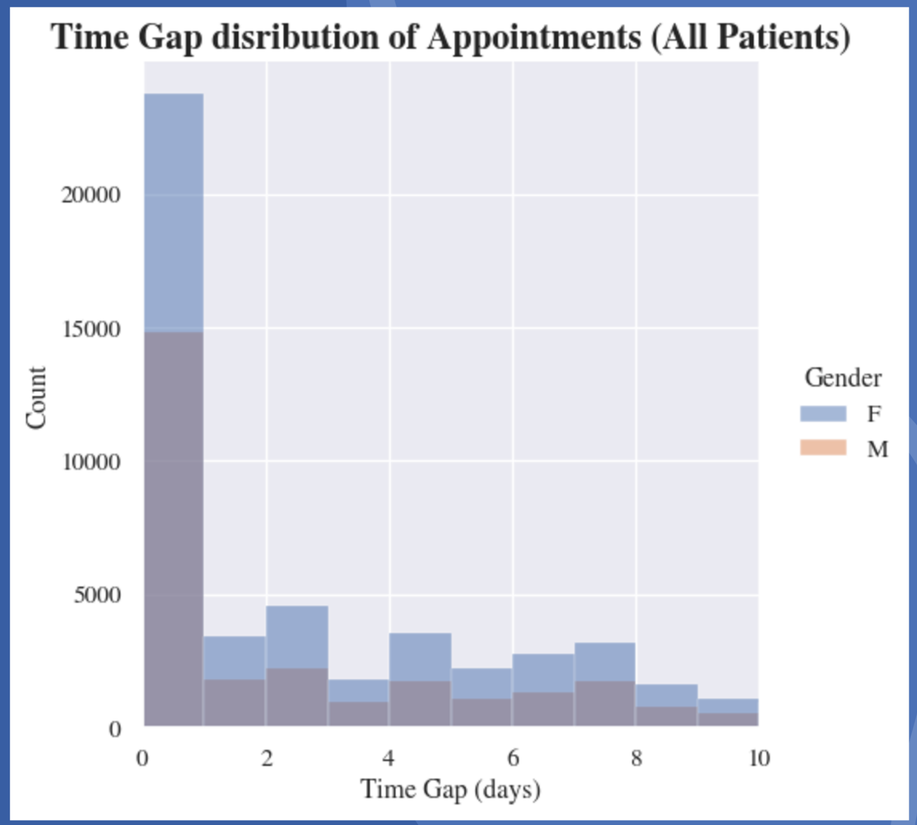
Does the Time Gap between the Schedule Day and the Appointmnet Day Affect the Attendance?

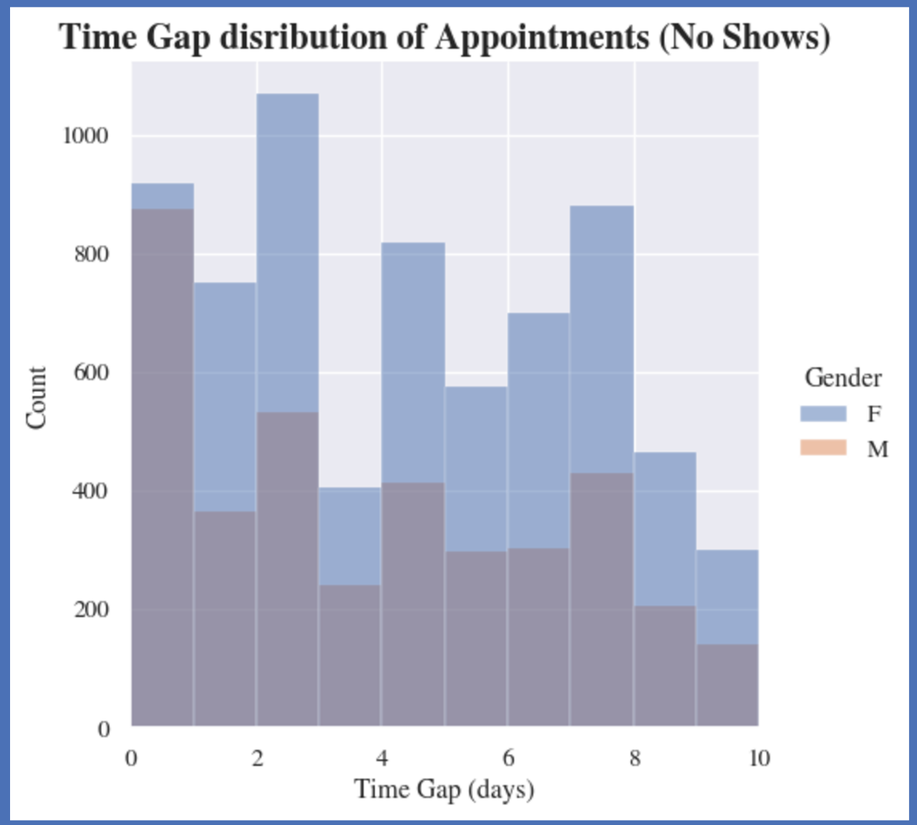




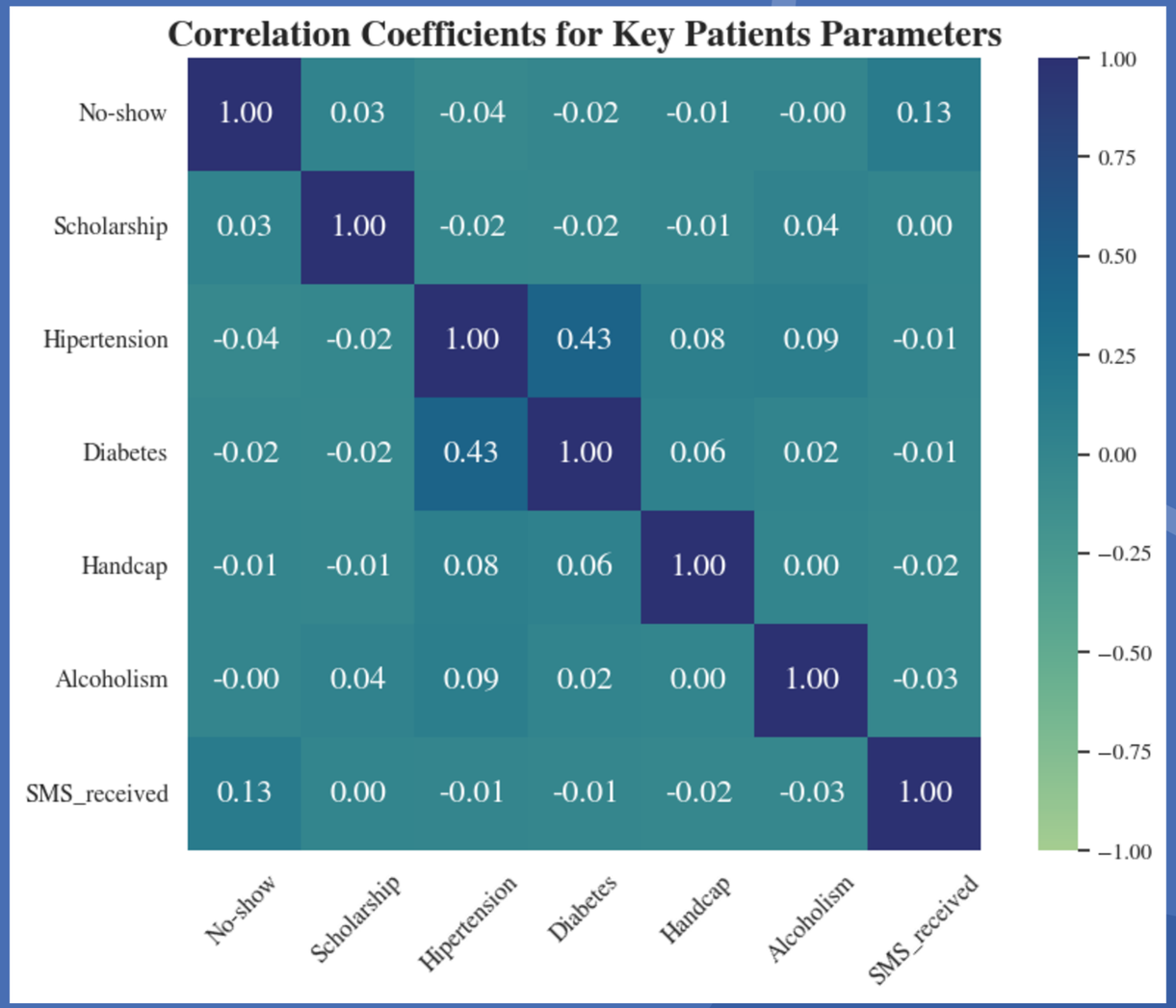
	All Patients	No Shows
Mean Time Gap (days)	10	15

10-Day Gap Investigation





Does Having a Health Issue and receiving an SMS reminder Affect the Show Up Status?



Short Answer: NO!

Future Work

- Geographical inspection of the no shows hometowns.
- Measure the effect of the appointment time on appointment attendance.
- Apply tetrachoric correlation test since the variables have binary values.

Conclusion

Based of the analysis, one can predict if a patient will miss their appointment or not. If the patient is a:

- female
- young (20-30 years old)
- Booked before the appointment day 2+ days

Healthcare providers can implement proactive measures to reduce no-shows, such as improved reminder systems, and flexible scheduling.

THANK YOU!