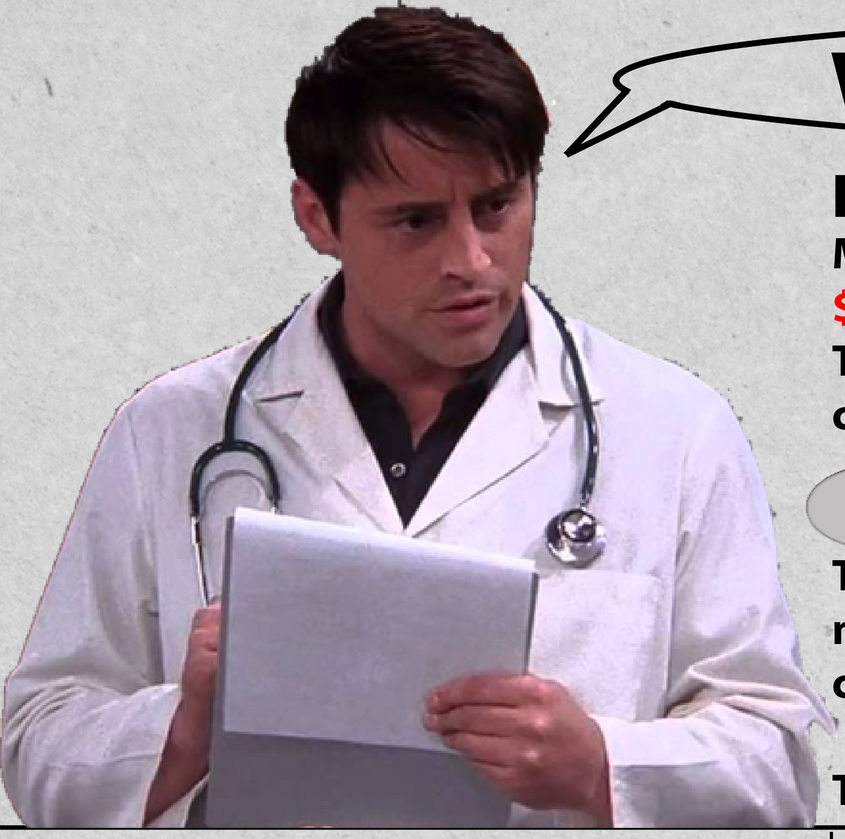


Why Didn't My Patients Show Up ???

Factors that affect Patient's Show-up Rate to the Appointments

Missing medical appointments cost the U.S. healthcare system more than a whooping $150 billion a year.

To lower the patient's no-show rate, I want to explore what factors that might contribute to the no-show problem, to see the possible causes of it.

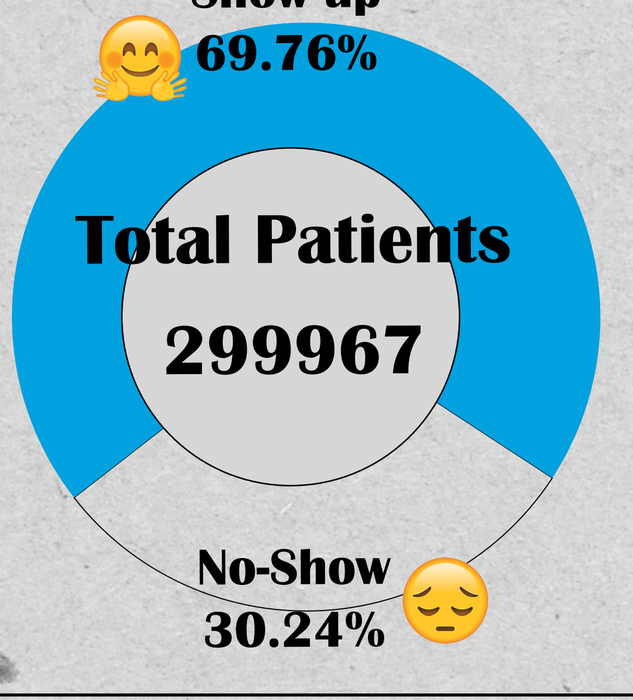
My audiences:

The healthcare providers like the guy on the left and the insurance companies as they might find something useful to decrease the appointments no-shows to control health care costs and improve quality.

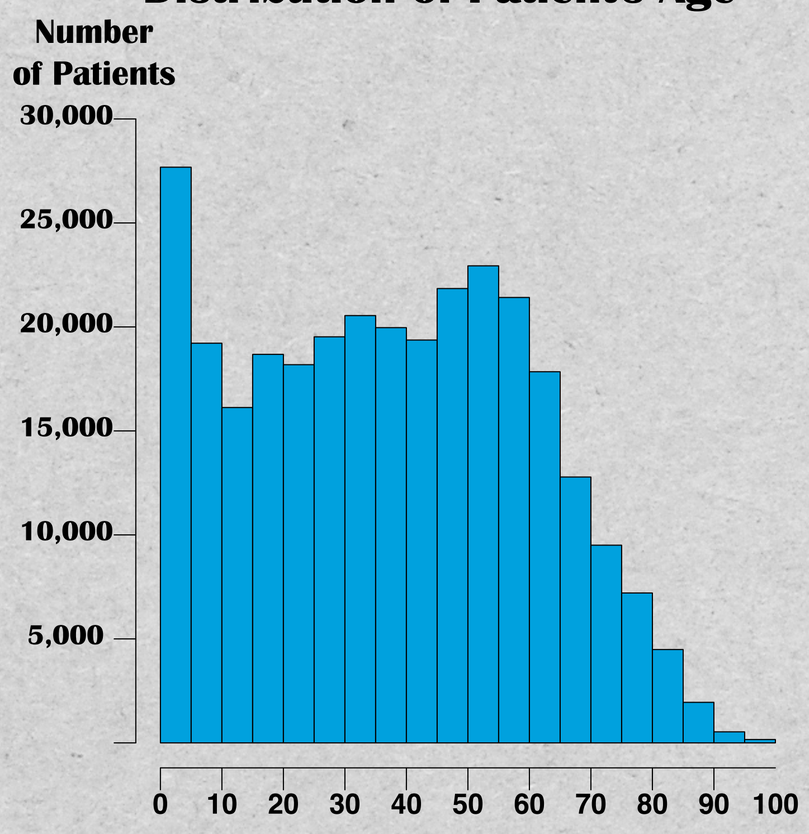
The factors I am going to look into are listed above each plot below.

My Dataset:

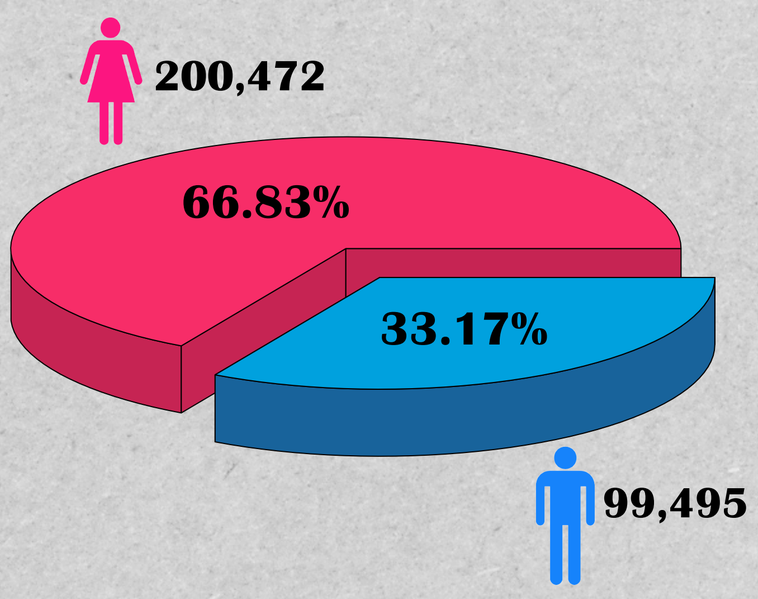
After clean-up, there are 299,967 medical appointment data as rows and their 15 characteristics as columns, which include the patient's gender, age, day of the week of the appointment, the patient's pre-existing conditions like diabetes or handicaps, etc. I have also grouped their age into 20 groups, and calculated the probability of no-show based on each selected criteria.



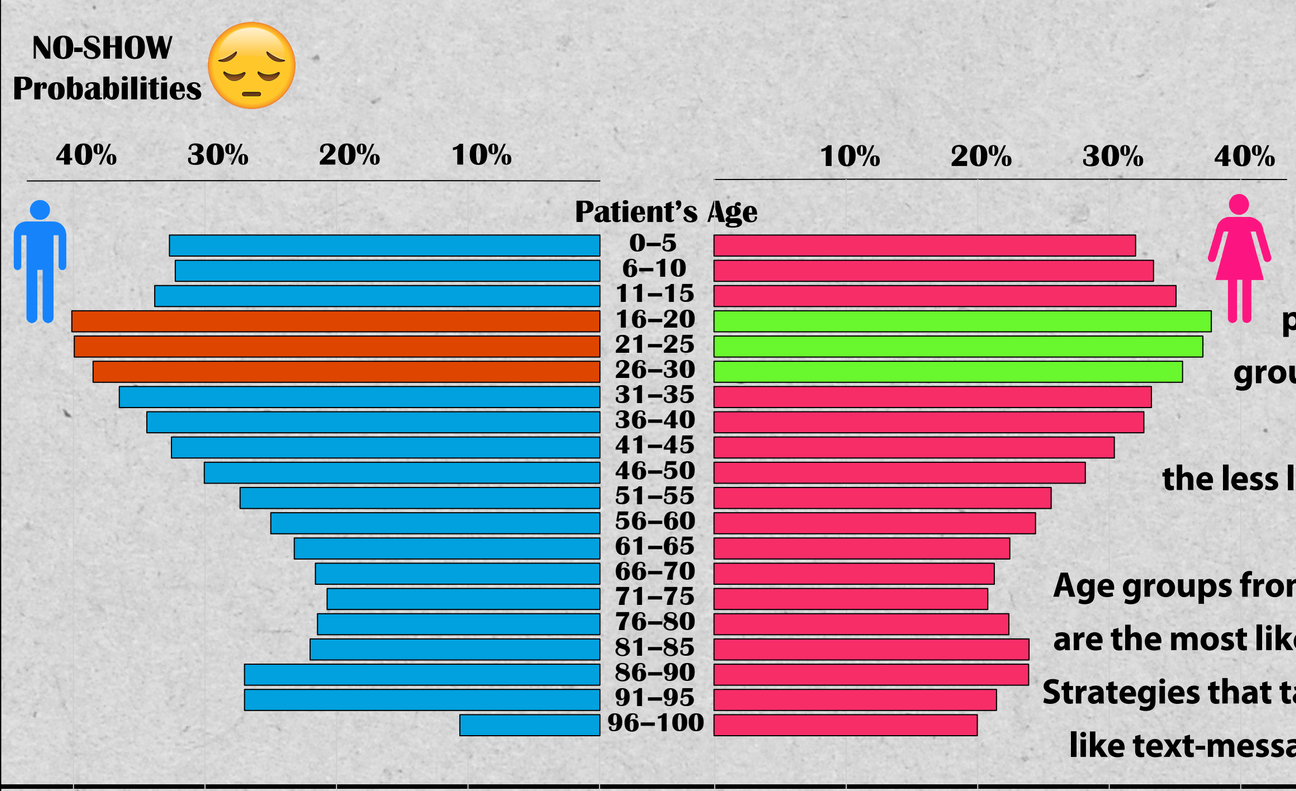
Distribution of Patient's Age



Patient's Gender



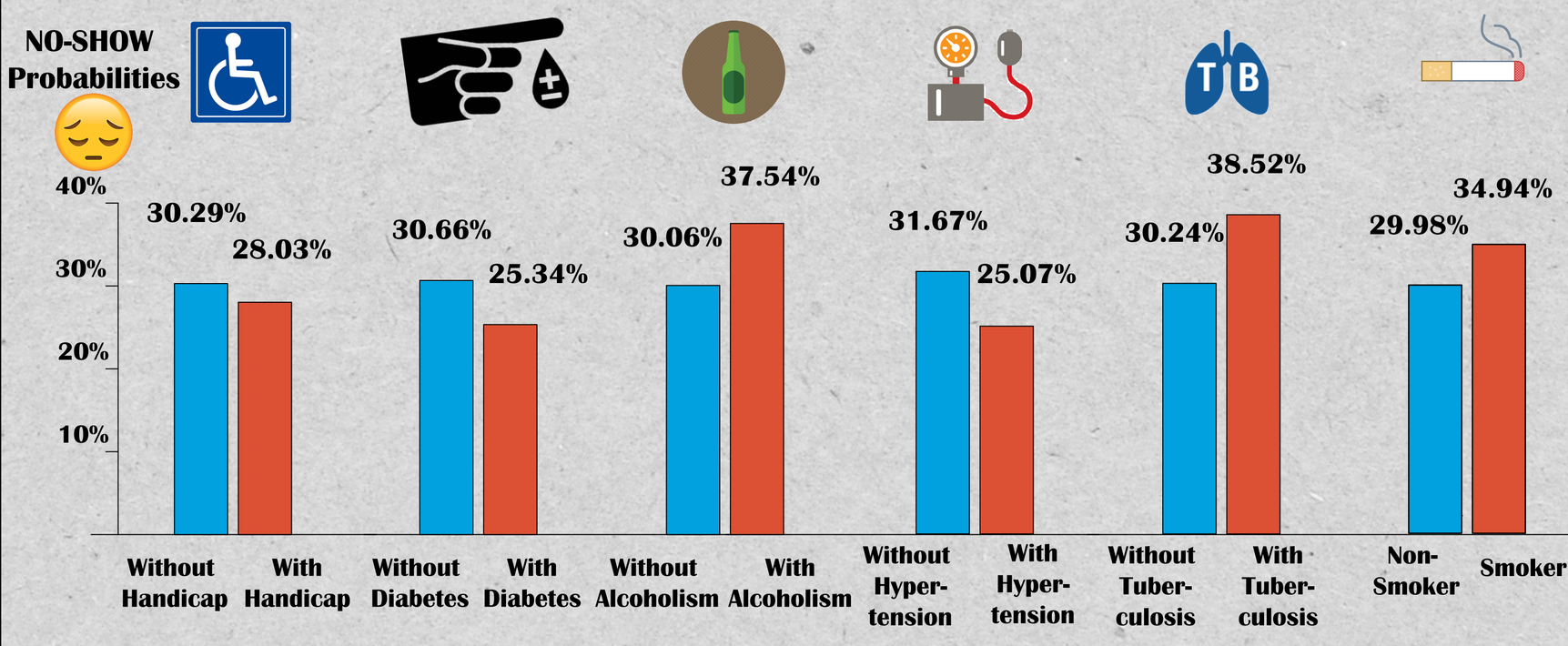
Does the Patient's Age and Gender Affect the No-show Rate?



As we can see, both male and female have similar patterns in terms of the age groups' no-show probabilities: the older a person gets, the less likely he/she would miss an appointment.

Age groups from 16-30 from both genders are the most likely to miss anappointment. Strategies that target those demographics, like text-message notification might help.

Does the Patient's Pre-existing Condition(s) Affect the No-show Rate?



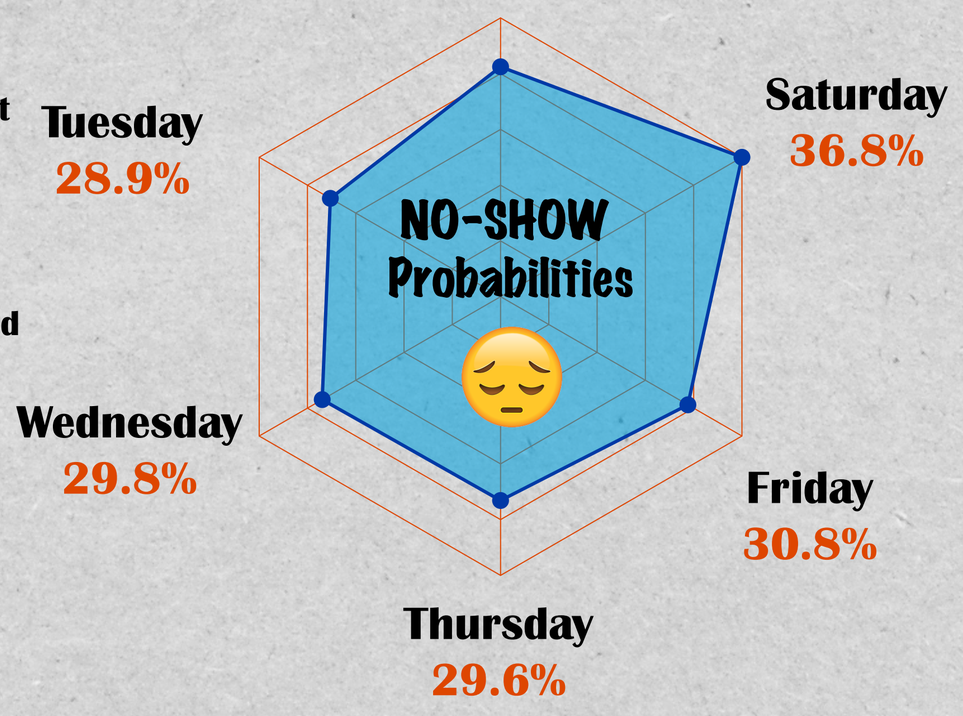
Those patients who have alcoholism, those who smoke cigarettes, and those who have TB are more likely to skip their appointments than their counterparts.

Speicial accomodation to the patients with those conditions might be helpful.

Does the Day of the Week of the Appointment Affect the No-show Rate?

Not surprisingly, Saturday has the highest no-show rate, with Monday and Friday being second and third most likely days to skip an appointment.

Maybe the healthcare professionals should schedule less appointments on these days.



R Package: core package, fmsb, plotrix
Image source: "Friends" TV Show
Data source: JoniHoppen from kaggle.com
https://www.kaggle.com/joniarroba/noshowappointments

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