The dataset that I analyzed
No-show appointments

About the dataset and the analysis
A person makes a doctor appointment, receives all the instructions and no-show. Who to blame?

I analyzed and explored a dataset that contains 100k medical appointments in Brazil, where a number of characteristics about the patient are included in each row.

And after that, come up with possible conclusions as to why so many patients do not show up to their appointment.

Exploratory data analysis questions

- Does number of days between the scheduled day and appointment have an effect on if the patient will show up or not?
- Which features are related to whether the patient will show up or not?
- Which age groups are more likely to show up or not?
- Which appointment day of the week are patients more likely to show up or not?
- Are patients that received an SMS more likely to show up?

Conclusions

- In general, if a patient has a health condition, such as **diabetes**, **hypertension** or are **handicapped**, they are more likely to **show up** to the appointment. **Alcoholic** patients and patients that are enrolled in a **welfare program** are expected to **show up** to their appointments as well.

- The proportion of male and female patients that did not show up are pretty much the same. Therefore, **gender** is not one of the factors which determine if the patient will show up or not.

- Patients that call to schedule an appointment on the **same day** tend to **show up**, as well as if the patient scheduled **10 days or less** before the appointment.
  The average number of days between scheduling and appointment is **higher** for patients that did **not show up**

- People aged **65+** show up to the appointments the **most.**
  People aged **6-17** show up to the appointments the **least.**
  Ranking the age groups, from **most likely to least likely** to **show up** to appointments:
  - 65+
  - 0-5 and 35-64 are almost the same
  - 18-34
  - 6-17

- Most patients scheduled an appointment for Tuesday, and very very few scheduled for Saturday.
  This is most likely because Saturday is in the weekend.
  Patients that have an appointment on **Saturday** are most likely going to **show up.**
  Other than that, we **cannot really determine** if a patient will show up to an appointment or not **based on the other days** of the week.

- Most of the patients did not receive an SMS.
  However, if the patient **receives an SMS**, they are more likely to **show up** to the appointment.
  Healthcare centers should pay more attention to sending out an SMS to patients.

Limitations

- There was no time given for the appointment day, which could have been a great factor to determining whether a patient will show up or not.
- There were some records where the date of the appointment was before the schedule date.