**The questions you and your group found interesting, and what motivated you to answer them**

1. Does an increase in opioid prescription lead to an increase in overdose deaths?(slide 3)
2. Does an increase in opioid prescription by a doctor or medical group increase patients ratings?(slide 3)

* During our initial interest finding period, there was a general interest in healthcare related data (claims, re-imbursement, sports injuries). We then noticed data sets incorporating opioid claims and a separate file with opioid related deaths. Given the significant impact of drug related deaths, we aimed to assess possible correlations between prescription of opioids and drug overdose deaths.

**Where and how you found the data you used to answer these questions**

1. Overdose deaths and total all cause deaths were accumulated from the CDC via National Center for Health Statistics (slide 4)
2. The Center for Medicaid and Medicare Services provided:
   1. number of opioid prescriptions by individuals &groups
   2. the patient satisfaction ratings for groups(slide 4).

**The data exploration and cleanup process (accompanied by your Jupyter Notebook)**

1. The CDC data required very heavy cleaning due to having many duplicated entries with slightly different number (i.e AK July 2015 332 , AK July 2015 335), the data was eventually cleaned and pruned of all irrelevant data (show original data frame from the uncleaned data and then the cleaned data side by side)(slide 5)
2. There were originally three tables, one with provider and group pac id, table 2 had NPI and opioid prescription data, and the third had group pac id and performance rating. These three were pruned and combined together into single annual data tables containing group pac id, performance rating, state, and then opioid claim counts. This made the data much easier to visualize in comparison with each other to determine clear correlation.(slide 6)

**The analysis process (accompanied by your Jupyter Notebook)**

We started by merging the clean data tables together in order to get a data table with all of our information on it for easier veiwing and began looking for patterns. Through the use of quick scatter plot graphs, we could check for correlations in the data very quickly.

Based on a comparison of both the opioid claim counts on overdose deaths by state and total deaths by state, we can conclusively say that an increase in opioid prescriptions leads to an increase in deaths in general, including overdose related. (slide 8)

(m) On a broad, national scale, a rise in years where there were more opioid claims, there were more drug deaths, however, the rate remained the same

**Your conclusions. This should include a numerical summary as well as visualizations of that summary**

**Discuss the implications of your findings. This is where you get to have an open-ended discussion about what your findings "mean".**

The proliferation of opioids is having an marked increase on the number of overdose deaths in the United States, however, they are currently not factor in how patients view the care they receive from their doctors. So the question may next be, why are these pills being perscribed? We’ve seen the increase of perscription, the next step would be to figure out what is pushing doctors in the direction of opioids