

Final Project description

Telling Stories with Data (PUBHLTH 460)

Spring 2021

Project Assignment For the project you will create, in small groups, a thorough analysis of the datasets provided by the ASA Public Health Data Challenge. The goal is to tell a story using data about the ongoing opioid epidemic in the US, and to provide data-driven suggestions for how to combat it. The project will have components completed by the group and by each individual student.

The Public Health Data Challenge requires each group to hand in the following items by 11:59pm Eastern time on Monday, Nov 12, 2018: - A ten-slide presentation summarizing the key findings. - A 500 word technical write-up describing the details of your analysis.

You hand in the items by sending an email to the project organizers at the ASA. When you send your email, please CC the instructor, Nick Reich, as well.

Each team should also create a Google Drive folder and should submit the above materials to that folder in addition to submitting them officially to the challenge. Additionally, each individual student will hand in a separate detailed write-up that describes the analyses that they contributed to their group analysis (see below). All of these items should be placed in the shared Google Drive folder by the due date.

Guidelines for the group write-up As a team, you are encouraged to pay close attention to the judging rubric provided for the Data Challenge.

Your group should assemble an outline of the key elements of the story that you want to tell and which team member will be responsible for each element. The general idea is that each element should focus on one key observation or insight about the dataset. Tell a short, compelling story with a small number of elements. The elements should complement each other and together tell a coherent story about your dataset. Elements could be data visualizations, regression analyses, integrations from other datasets, or some other quantitative piece of the story.

Guidelines for the individual write-up Each member of the group will serve as the lead on one or more elements that tell a story about the assigned dataset. In addition to incorporating these elements into the final group deliverables, each individual student will produce a 3-page write-up (including tables and figures) about their individual analyses. These individual analyses should provide more technical detail about the analyses performed as well as giving a brief introduction and conclusion to the analysis. Each write-up should stand on its own, providing tables and figures as necessary.

The individual data analysis write-ups will be due Friday November 16th at 5pm, to be handed in via the student's Google Drive folder. Individual analyses should be handed in as PDFs knitted using RMarkdown. No code should be displayed in these reports, however, figures resulting from your analyses should be dynamically created.

Project grading Your project grade makes up 25% of your final grade for the class. The grading rubric for the group portion of the project will be evaluated based on the judging rubric provided for the Data Challenge with the following adjustment to the point scales:

- The final product produced by the group: 60 points
 - Strength of Story (15 pts)

- Evidence and Methods (10 pts)
- Clarity (10 pts)
- Visual Materials (5 pts)
- Graphical Aesthetics and Scales (5 pts)
- Graphical Depth and Impact (5 pts)
- Technical Document (5 pts)
- Use of External Data (5 pts)
- Individually prepared data analysis: 40 points
 - 30 points: overall quality of analysis (correct implementation and interpretation of method(s) used, appropriate use of equations to show what methods/models have been used, appropriate use of graphics/tables to support central results, succinct summary of key results)
 - 10 points: clarity and presentation (clear statement/summary of goals and central results, clear and accurate description of methods/models used, use of figures rather than text to illustrate central ideas, figures dynamically generated within the RMarkdown file, page limit adhered to)

To evaluate group participation and contributions, I will be using the following approach to evaluate each of your contributions to the project. Each student will be given 100 points to allocate among your teammates (excluding yourself). The more points you give to a teammate, the more you are indicating they contributed to the project. You cannot allocate the same number of points for any two team members. I reserve the right to intervene to correct gross imbalances in allocations if necessary. The number of points that you receive from your teammates will be summed, divided by 100, and then used as a multiplier on the final grade for the 60-point group component of the project.

As an example: Your group receives 50/60 points for the “final product produced by the group”. You have three teammates who give you scores of 35, 40 and 30, respectively. Therefore, you receive a total of 105 points from your teammates. So your final “group” grade is $(50/60) * (105/100) = 0.875 = 52.5/60$.

Milestones and deadlines

- Thurs Oct 11: Project announced
- Thurs Oct 18: Background paper discussions
- Thurs Nov 1: Group presentations of draft slides
- Tues Nov 6: Group presentations of draft slides
- Mon Nov 12: Group project submitted by 11:59pm
- Fri Nov 16: Individual project write-up submitted by 5pm