**Preliminary Project Proposal**

For your preliminary project proposal, please first review the rubric I will use when assessing your finalized proposals, due next week. The closer you can get to meeting these criteria now, the less work you will have next week. :)  
For your preliminary proposal, I expect the following for your submission:

**Basics**

• Who is Team Lead this week?

Udumaga Onyeukwu (I propose that since we go with your submission, you start as lead)

• Who is Recorder?

Steven Uzupis

• A preliminary project title:

X

**Background & Question**

• A defined research question that serves a need or fills a niche

o What is the question?

How do social determinants of health affect the quality of life of seniors?

*Quality of life* is defined negatively as having two or more sicknesses and positively as having one or no sicknesses

1. What is the time frame of sicknesses, months-long illnesses that overlap, weeks-long overlapping?
2. Two illnesses or ailments – mobility issues that are temporary like a A. sprained ankle?
3. vBroken bone?
4. Arthritis
5. Are these health issues permanently debilitating?)

*Social Determinants of* *Health effects* will be predictors based on dataset used?

1. Close relations?
2. Family members?
3. Alcohol consumption?
4. Nicotine use?
5. Exercise habits?

o What need or niche does it fill?

A possible need fulfilled would be identifying social factors leading to a negative quality of life thus allowing individuals to adopt behaviors leading to a positive quality of life.

o Why is it worth your time/effort to explore this question?

Allowing more individuals to pursue a happy life by being able to identify social behaviors leading to a negative quality of life in their later years and taking actions to change those behaviors would be a net positive for society. A society where more people are happy and healthy would create a culture that should be pursued for both the joy of the individual and the lowered burden on that society by alleviating the burden on the health care system.

o Is your question novel/original? If not, why not? (Sometimes  
this is okay.)

There are studies previously done on similar issues (based on the final question and title, this could change)

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3150158/>
2. <https://www.nia.nih.gov/about/budget/behavioral-and-social-aspects-growing-older>
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3593634/>

• A hypothesis and prediction. Remember, these are not the same thing.  
Generating hypotheses and predictions can be tricky. You  
will not be penalized if you don't get it right the first time. We will  
work on this together.

Hypothesis: Social begaviors such as X (no or few friendships, no or few family members, drinking more than some amount, etc.) lead to a negative quality of life in the senior years)

Prediction: Spending less time with family/friends leads to negative qualtity of life, or drinking in excess of some amount or smoking some quantity has a negative impact on quality of life.

Data & Analysis  
• What data set(s) have you found that you think are a good match for your  
question. Why?

X  
o Make sure to provide a link to a data source.

• What response/outcome variable will you use?

Classification model where response is 2 or more sicknesses as measured by?

• What predictor variable(s) will you use?

X

• What is your tentative analysis plan?

Build classification model using X as predictors to determine quality of life in seniors as defined by… Model shoud have:

1. Loading and cleaning data
2. Data exploration
3. Simple analysis to understand relations
4. Subset selection?
5. Finding ideal model…
   1. Decision tree?
   2. Linear model?
   3. Quadratic?
   4. Neural network?
6. Analysis metrics?

Are there any pitfalls you can see with this plan?

X

Anything that could topple your idea?  
• How will you know if your question is answered?

X

• How will you know if your hypothesis is supported?

X

Technical Details  
• What language do you plan to code in? Are there any other resources will  
you need?

R or python

• What is the link to your GitHub repo?

X

Submission Details  
• Submit at least 2 pages, double-spaced, of writing without any graphs or  
tables.  
o If you choose to include any graphs or tables (not yet required),  
these will not count toward your page count.  
• Submit in 12-point font, preferably Arial or Times New Roman. But as long  
as it isn't Comic Sans or Wingdings, I will accept pretty much any font you  
give me.  
o I reserve the right to ask you to convert the document to a  
different font or format and resubmit.  
• Please submit as a Word, PDF, or Google doc link. If it is a Google doc,  
make sure it is from your Merrimack account.  
• Only one submission per group is required. Please remember that the  
Team Lead for the week is responsible for the submission.  
If any of these topics feel fuzzy or you're unsure how to answer them, that's  
okay! We're going to be talking about this as a group and diving deeply. Do  
your best to answer them. I encourage you to reach as you develop this and  
push past your comfort zones. Take chances. That's why it's preliminary.