[10:00 AM Start]

How will you identify Vitamin D microbes?

[10:05 AM]

1a: Identifying markers in the microbiome

- inferential analysis

- correlation analysis of markers and vitamin D intake

    - x = vitamin D intake

    - y = relative abundance

- come up with markers associated with vitamin D, disease severity

1b: Describing variables

- total scale, data's scale

- how did they collect data?

    - questionnaires

    - survey

- categorical variable: control is "household healthy control"

1c: Literature Review

- 16S and metagenomic data

    - some of the papers didnt use 16S data...

    - keep track of which used what

- HGT is a preprint of another paper

- important to keep in mind for manuscript!

[10:10 AM]

2d: Alpha rarefaction

- use a higher alpha rarefaction
    - include more features
    - check out rarefaction depth of the paper

[10:17 AM]

Literature Review

- alot of microbes!
    - corr analysis to find bacteria that are vitamin D associated
        - rephrase question
        - look at markers correlated with vitamin D intake
    - picrust to get an idea of predicted functional potential
        - stratified abundance table (base picrust)
            - give stratified flag
                - obtain taxon, function, contribution to function
    - look at species differentially abndant in each vitamin D group

[10:24 AM]

Taxonomy planning

- 16S analysis wouldnt go past genus level
    - difficult to get species (too much!)
    - family level has alot more research on classifying function
- firmicutes:bacteroides ratio = marker for disease
    - lower = worse
    - higher = better

- identify genes in a community using metagenomics

    - OR use 16S to get shallower sequencing for taxonomic classification

[10:33 AM]

look at confounding variables from literature search

- age of onset

- sex