# Plotting Means with Reps

HI Allison. Here is an example of a plot with several kinds of data. I couldnt find a simpler example from recent projects.

Mortality Boxplot Both Studies 2023-02-17.R  
  
The files are:   
    The R file used to create the plot  
    The Rdata file containing the data  
    The resulting graph.  
  
You can try to recreate the graph if you want but mainly you should compare the code and the graph and make sure you understand what is going on.  
  
The ggplot part of the code starts at line 24. In ggplot you first tell it what data set to use. That is usually for the raw data, or maybe data you want to do fancy things with like different colors or sizes or shapes for different attributes. In this case it is in a file called jagsSampWide. The geom is for a boxplot to be produced from the raw rata, so if you jump down to line 32 you will see a geom\_point that plots the data as circles (the variable xForPoints puts the data points in sequence as the data were collected, separating them along the x axis so they don't overlap.  You can also use geom\_jitter to separate the points if it doesn't matter what sequence they are in).  
  
geom\_linerange (line 29) is most relevant to your case of plotting the mean of the samples in the group. The mean values will be in a separate file, so you have to tell ggplot to look there for the data. In this case there are confidence intervals but the process is the same - you use a "data = " statement first before giving the aesthetics and other stuff.   
My code makes the vertical red bars, which are the CI of the mean.  I meant to color the mean a different color but didn't do it.    
  
As you can see from this example, there is no programming limit to the number of different things you can put on the graph, only limits  to what anybody can get out of that graph when you fill it up with info.  The attached plot is about at that limit.  
  
Is that all clear enough?