Consulting with Biostatisticians

Quantitative Methods Core (U Mass Medical School)

1. Services offered
   1. Study design
   2. Help with statistical software for analysis
   3. Analysis of existing data sets
   4. Help with publications, answering reviewer questions, re-analysis
   5. Setting up infrastructure of studies (e.g., database, randomization)
   6. Grant applications
2. Study design
   1. Review research questions and discuss pros and cons of different designs
   2. Review sample sizes for different designs
3. Help with statistical software for analysis
   1. Work with investigator during meeting to review software and software-specific approaches for appropriate analysis
   2. Review software availability and recommend software for analyses
   3. Software supported: SAS, SPSS, GraphPad/Prism, Systat/MyStat, Stata, and even Excel
4. Analysis of existing data sets
   1. Please see separate **QMC Guidelines for Constructing Data Sets for Analysis**
   2. The QMC statisticians work primarily in SAS, so files are typically converted to SAS for analysis
   3. Questions? Please call or e-mail before you spend a lot of time on a data set that might be difficult to use
   4. Analyses will be discussed with you prior to proceeding
   5. If specific techniques are common in your field, please let us know
5. Publications/presentations
   1. Write stat methods, preliminary results sections
   2. Help with questions from reviewers
   3. Re-analysis as needed
   4. Design and create tables and figures
6. Help with infrastructure for studies
   1. Help with REDCap databases for larger studies or use stat software (like SPSS) to record data
   2. For randomized studies, create random treatment allocations
   3. Help set up forms/surveys and check coding approaches
7. Grant applications
   1. Typically develop five sections
      1. Sample size/power
      2. Statistical analysis plans
      3. QA/QC
      4. Data management plans
8. First meeting – things to remember
   1. Although a biostatistician typically knows a lot of content areas in both human and veterinary medicine (e.g., cardiovascular disease, oncology, orthopedics, ophthalmology, obesity, etc.), he/she may not be totally conversant in YOUR area
   2. Biostatisticians have areas of expertise – we have areas that we are experts in and others that we do not know well – so we may have to do some research before determining how best to help you with analysis
   3. Helpful to fill out a Statistical Consult Information Sheet prior to visit so that we have some background info and can think about your project before first meeting with you
9. Above all else, we look forward to meeting with you and discussing how we can help with your project