

Biostatistical Methods for Clinical Research III

Written Project

This will be a written report of a data analysis, similar to a brief, focused research manuscript but with more statistical detail than usual. Ideally, the project should be an original analysis of data relevant to your own research interests, potentially leading to a submitted manuscript. Address a single substantive issue or a few closely related issues; this **should not be** a comprehensive report of all findings from a study.

The report should:

- carefully define the key issues, questions, or hypotheses to be investigated
- describe the study design and the data that were collected
- explain the statistical methods used and why you chose them, including problems or difficulties and how you handled them
- provide valid and informative summaries of relevant results
- interpret the results appropriately, noting caveats
- discuss substantive conclusions and implications; this will often include noting what is different from the most relevant previous studies and explaining possible reasons, along with implications for further research

Text length should be **less than 2000 words**, with a total of **no more than four figures and/or tables**. Include a title and references, but no abstract. Details of non-statistical methods, such as laboratory or surgical techniques, should be omitted if possible, along with lengthy details of inclusion/exclusion criteria that are not essential for interpreting the results. Limit the background to the minimum necessary for understanding the key issues, avoiding extensive summaries of previous literature.

You will be assigned a mentor from the Biostatistics Division faculty to provide guidance for your project. Please make use of this resource.

Submission process: email electronic copy by 5PM on day of deadline to your advisor.

Project sessions will be scheduled with an advisor (not necessarily the one you have been working with).

Guidelines for Oral Presentation

Prepare a 25-minute talk. Each room will have a laptop available for presentation. It is ideal for you to arrive with your talk on a USB drive, or make arrangements to email it to your project advisor or Olivia DeLeon in advance.

Apportion the time approximately as follows

5 minutes on background
(the scientific question, available data)

5 minutes on statistical methods
(how you analyzed the data and why)

10 minutes on major results
(need not be as comprehensive as in the written report)

5 minutes for questions and reflections

The talk should have a methodological bent. You'll want to highlight any subtle or difficult choices you made in the analysis and explain why you made them. Nearly every project will present some issues that we haven't covered in class. Take the opportunity to explain to fellow students any novel issues you encountered and the techniques you used to address them.